Chirayu University

CHIRAYU COLLEGE OF NURSING, BHOPAL

(A CONSTITUENT COLLEGE OF CHIRAYU UNIVERSITY)

E-Souvenir 2024 - 25

RECONSTRUCTION OF ROBUST CHANGE :

Perpetual Process of a Dynamic Nurse

Chirayu Medical College and Hospital Campus, Near Bairagarh, Bhopal, Madhya Pradesh, PIN-462030, Website : cncbhopal.com, Email id - principalchirayu@gmail.com

ABOUT UNIVERSITY

To promulgate scholarly excellence in medical education; practice the acquired knowledge virtuously, safely and with quality; achieve imperative skills obligatory intertwined with compassion, values and gratitude to the citizens of our country and worldwide, Chirayu University, Bhopal was established by Chirayu Charitable Foundation, by an act of Govt. of M.P and published in State Gazette on 20th July 2023. The University is spread over more than 39 acres of land. The University has been approved by UGC under section 2(f) 1956."

Vision:

To promulgate scholarly excellence in medical education; practice the acquired knowledge virtuously, safely and with quality; achieve imperative skills obligatory intertwined with compassion, values and gratitude to the citizens of our country and worldwide. And to gradually diversify into various streams of education in order to become a top multi-disciplinary University.

Mission:

- To escalate our services to the top-ranking level in the country.
- To bestow with academic excellence of exorbitant quality in education, training, research and services.
- To build competent skills with precision, perfection and reliability to accomplish student satisfaction.
- To promote value driven education with a global outlook and demonstrate desirable values and attitudes towards self, others and profession.
- To extrapolate opportunities to conduct funding and non-funding research projects in the areas of education, administration and clinical practice.

Objectives:

- To organize state of the art facilities for education, training and research.
- To establish centre of excellence for efficient use of resources by providing quality assurance.
- To maintain the standard of degrees, diplomas, certificate and other academic distinctions in accordance with the norms laid down by the University Grants Commission and the related regulatory body or regulatory council.
- To afford towering levels of capacity and capability enhancement ability.
- To provide teaching and pedagogies in higher education and dispense advanced knowledge, research and its dissemination.
- To introduce welfare and charitable activities for economically backward section of the society.
- The benefit of the society shall be opened to all, irrespective of caste, creed or religion.
- To gain insight among students in the field of ethnicity, physical and mental education.
- To furnish career counselling and guidance to students for employment.
- To collaborate curricular activities with co-curricular and extra-curricular activities of the students dynamically.
- To accommodate students inside the campus.
- To serve as a liaison between international universities and promote exchange programs for students and faculty.
- To engage the students diligently in the independent learning activities.
- To render sound guidance and counselling to the students community to build vibrant mental health.
- To impart E-learning even to the remote areas through Tele Medicine and Tele Nursing.

Philosophy:

Chirayu University, Bhopal believes in this philosophy and has taken steps forward in that direction to provide quality education for holistic development of the student. We offer vide range of professional programs for the development of youth in the area of health education.

The University provides unique learning opportunities to the students by combining pedagogically sound and comprehensive professional courses for a variety of subjects. It also incorporates innovative teaching and learning methodologies supported by state of the art library resources, focusing on all-round development of the student.

ABOUT COLLEGE

Chirayu College of Nursing belongs to Chirayu Charitable Foundation that was established in the year 2001. the society marched its step towards accomplishment of their vision with Medical College and Hospital. The society further added their feathers with a College of Nursing in the year 2012 with two programs B.Sc Nursing and Diploma in Nursing and Midwifery. Chirayu College of Nursing has taken its growth gradually by offering another two programs: M.Sc. Nursing and P.B.B.Sc Nursing from the academic year 2016-17. our college is affiliated to Madhya Pradesh Medical Science University, Jabalpur and recognised by Indian Nursing Council and Madhya Pradesh Nursing Registration Council.

Our college is committed in providing nursing education and services standard knowledge and skills blended with desirable attitude our goal is to prepare students to take up any situation and manage skilfully with sound knowledge base.

Vision

The College of Nursing's vision is to strive for outstanding educational outcomes exemplified by graduates whose actions, discoveries and voices strengthen and advance the health of individuals, families and communities worldwide.

Mission

1. Advance health through excellence in nursing and interdisciplinary teaching, research, practice and service.
2. Provide quality patient care based on our strong commitment to practice, education, innovation and collaboration.
3. Inspire students to become passionate healers who demonstrate integrity, caring and excellence.
4. Train nursing aspirants for leadership to cater the health care needs of the society.
5. Promote professionalism by quality and value driven education with a global outlook.
6. Demonstrate desirable values and attitudes towards self, others and the profession.

Core Values

In pursuit of its mission Chirayu College of Nursing will:

- Develop Human resource to serve the nation.
- A healthy body is a guest house for the soul.
- Recognize teaching as a unifying activity.
- Nurture integrity, creativity and academic freedom.
- Retain a willingness to experiment with new paradigms.

Philosophy

The college believes that the progress of nation is very much depends upon the health of its citizens and the educational preparation of nurses contributes tremendously towards pursing this goal. The college believes in training professional nurses from all states of India to meet the great demand in the field of Nursing. Professional nursing is a lifelong service to the people. College prepares its students to develop ability to analyze situations and problems critically and take responsibility for their higher education to maximize professional effectiveness throughout their career. College believes that degree course in nursing prepares nurses for first level position both in the hospital and in the community. Our concept of health as per WHO i.e "Health is a state of complete physical, mental and social well being and merely absence of disease or infirmity.

CHIRAYU CHARITABLE FOUNDATION
Reg. No BPL/ H. Bad Division/9410/2001

Dr. Ajay Goenka (PRESIDENT)
Dr. Aniket Goenka (SECRETARY)
Neelam Goenka (TREASURER)

MESSAGE

I am truly inspired to witness the relentless dedication of Chirayu College of Nursing, as it continues to thrive and grow, much like flourishing tree, nurturing excellence and advancement in nursing education. The release of yet another powerful e-souvenir, themed "***Reconstruction of Robust Change: A Perpetual Process of A Dynamic Nurse***," stands as a testament to the institution's unwavering commitment to fostering continuous learning and innovation.

In today's rapidly evolving world, nursing is not just a profession; it is an ongoing journey of transformation- a dynamic force constantly evolving to meet the ever-changing needs of modern healthcare. The advent of digital health has revolutionized patient care, integrating cutting-edge technology to improve efficiency, accessibility and accuracy. The role of the nurse, once limited to traditional care giving, is now being reimagined through the use of digital tools, demanding adaptability, creativity and a constant commitment to learning growth.

Since its inception in 2012, Chirayu College of Nursing has made extraordinary strides, each milestone laying the foundation for its legacy of excellence. Today, as we stand at the threshold of Chirayu University, we are filled with vision and optimism for a future of global distinction- an institution that will empower both student and faculty to lead transformative change in healthcare and education.

As we celebrate this remarkable journey, I extend my heartfelt congratulations to the Principal and the Editorial Committee for their tireless efforts in bringing this e-souvenir to life. May this initiative spark a flame of inspiration in future generations, encouraging them to embrace change as the catalyst for progress in the ever – evolving realm of nursing.

With my unwavering support I congratulate the Principal, all the Faculty and Students of Chirayu College of Nursing, Bhopal.

For Chirayu Charitable Foundation

President

Dr. Ajay Goenka
President, Chirayu Charitable Foundation

Chirayu University

Neelam Goenka
Chancellor

P: 0755 2709601/602
E: chancellor@chirayuuniversity.ac.in

Message

As we celebrate this special occasion the Chirayu College of Nursing is releasing their Ninth edition Souvenir in 2025, with the Theme: Reconstruction of robust change: perpetual process of a dynamic nurse. It is a profound honor to extend my warmest greetings to all of you on the occasion of this remarkable souvenir publication. The theme, **"Reconstruction of Robust Change: Perpetual Process of Dynamic Nurse,"** resonates deeply with the evolving role of nurses in today's world—an era defined by rapid advancements in healthcare, complex patient needs, and global health challenges.

Nursing is not merely a profession; it is a commitment to compassionate care, lifelong learning, and adaptive leadership. The journey of becoming a dynamic nurse involves continuous growth, embracing change, and leading innovations that enhance patient outcomes. This perpetual process of reconstruction empowers nurses to rise above challenges and deliver holistic, patient-centered care with resilience and empathy.

As a beacon of excellence, our Nursing College has exemplified these values, nurturing dedicated professionals who make a profound difference in countless lives. Let us work together to reconstruct a future where nurses are empowered to drive innovation, improve patient care and inspire a new generation of healthcare leaders.

May this publication mark yet another milestone in our shared commitment in advancing healthcare and upholding the highest standards of nursing education.

Best wishes to the editorial committee, faculty of CCON and the students!

Mrs. Neelam Goenka
Chancellor
Chirayu University, Bhopal

Prof. (Dr.) **Sudesh Kumar Sohani**
B.Tech., M.E. (CEG-Chennai), PhD (IIT Delhi)
Vice Chancellor

Chirayu University

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Bhopal, M.P.
May 9, 2025

Vice Chancellor's Message

It gives me immense pleasure to emphasize that the 'Chirayu College of Nursing' has been doing very well in terms of imparting nursing education in a most effective way, enabling the students to become a highly proficient nursing professionals. I very clearly see that the college has immense potential and a promising future.

Higher education in the country is at the threshold of major institutional reforms targeted towards cutting edge R&D and innovations. The major challenges before the upcoming and emerging Universities apart from quality of teaching and learning process are the need of experienced and enlightened faculty. Network of knowledge management, creative teaching, research and development, strong industry interface and innovative curriculum are the need of the day.

Chirayu University is marching towards meeting these challenges to become a 'Global Knowledge Hub'. We are also striving to create knowledge network and connections with the national and global professional bodies, international centres of higher learning, industries for skill development and also with the society for sharing fruits of knowledge with the masses.

We, the Chirayu Faculty Members and the Staff along with our Learned Management are committed to build this University a real knowledge hub and, to work towards shaping the top class career of our students.

Let me express my gratitude to the Principal and the staff for bringing out the Ninth Edition Souvenir, with the Theme: Reconstruction of Robust Change - Perpetual Process of a Dynamic Nurse. The perpetual process of a dynamic nurse involves continuous learning, professional development, and adaptation to changing healthcare environments. I consider 'Nursing' as one of the most powerful profession as it helps supporting life on the earth.

I do extend my best wishes to the Principal, Faculty Members, Staff and the Students!

9.5.2025

Prof. (Dr.) Sudesh Kumar Sohani
Vice Chancellor
Chirayu University, Bhopal

Chirayu University

Message

I am pleased to know that Chirayu College of Nursing, Chirayu University, Bhopal is releasing its 9th e-souvenir with the theme "Reconstruction of Robust Change: Perpetual Process of a Dynamic Nurse".

The theme chosen for this souvenir is of topical interest. Advancements in digital health, artificial intelligence, and automation are reforming the way through which nurses deliver care, with innovation versus compassionate care. The challenge for nursing is to navigate this connection in a way that enhances the human connection rather than replaces it.

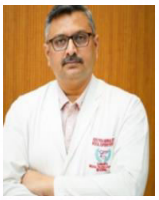
Over the past few years, Chirayu College of Nursing has grown exponentially and provided quality and holistic education to its students. I am confident that under the leadership of Prof. (Dr.) Pramilaa R., Principal, the College will achieve newer heights in the future. I also congratulate the entire team for their valuable contribution. I hereby extend my best wishes on this occasion.

Dr. Ravi KS Pippal
Registrar
Chirayu University
Bhopal
Registrar
Chirayu University, Bhopal

CHIRAYU MEDICAL COLLEGE & HOSPITAL

(A Unit of Chirayu Charitable Foundation)

Chirayu Medical College & Hospital



MESSAGE

I am truly delighted to learn that Chirayu College of Nursing is releasing e-Souvenir in 2025, Theme ***"Reconstruction Of Robust Change: Perpetual Process Of A Dynamic Nurse."*** This theme not only provides a platform for showcasing the creative abilities of students but also proudly reflects the remarkable achievements the college has made in advancing nursing education.

A souvenir is more than just a record of events and accomplishments; it is a valuable compilation of ideas, innovations, and aspirations from both students and faculty. Fostering creativity and driving innovation, an educational institution plays a vital role in shaping students into empowered individuals, ready to make a positive difference in the world.

I strongly believe that excellence is not a final destination, but rather a continuous process of striving to improve. This aligns perfectly with the college's motto, ***"In Pursuit of Excellence."*** Chirayu College of Nursing is dedicated to instilling in its students a passion for learning & empowering. The knowledge and skills they acquire will equip them to make a lasting impact in healthcare and society.

I would like to extend my appreciation to the Principal, faculty, and students of Chirayu College of Nursing for their continued commitment and dedication to excellence in nursing education. May this souvenir stand as a testament to the relentless pursuit of knowledge, compassion, and innovation.

With Best Wishes

Dr. Ashutosh Mangalgiri
Medical Director
Chirayu Medical College & Hospital, Bhopal

MESSAGE

It is a matter of immense pride and pleasure to know that Chirayu College of Nursing is publishing it's 9th souvenir with a theme "Reconstruction of robust change: Perpetual Process of a Dynamic Nurse."

Providing comprehensive, evidence based and continuous training will definitely help in reconstructing a nurse and will make her dynamic which is a call of this hour.

I wish all the success to complete the mission.

02.05.25

Date:- 02.05.2025

Dr. Ulka Srivastava
Medical Superintendent
CMCH, Bhopal

CHIRAYU MEDICAL COLLEGE & HOSPITAL
(A Unit of Chirayu Charitable Foundation)
Chirayu Medical College & Hospital

MESSAGE

It's a matter of immense joy to see the 9th e-souvenir of Chirayu College of Nursing being published on the theme of "Reconstruction of Robust Change: A Perpetual Process of a Dynamic Nurse". The theme of this souvenir speaks to the very heart of nursing; a profession built on resilience, adaptability, and compassion.

The world around us is constantly and rapidly changing. The pace of innovation and scientific development has resulted in the rapid modernization of healthcare. The use of modern technology has impacted every aspect and department of healthcare services. We as healthcare providers have to adapt, accept, and implement these changes so as to provide state-of-the-art services to our patients.

Robust change is the lifeblood of nursing. It's about embracing the dynamic nature of healthcare, where every patient interaction presents a new challenge. Robust change requires creativity, critical thinking, and a willingness to challenge the status quo. As dynamic nurses, you're constantly evolving, staying up-to-date with the latest research, technologies, and best practices.

The perpetual process of growth and transformation is what sets nursing apart. Every experience, every patient encounter, and every challenge shapes you into a more compassionate, competent, and confident nurse. You are lifelong learners, innovators, and leaders who will redefine the future of healthcare.

The healthcare landscape is constantly shifting, and nurses must be prepared to adapt, innovate, and lead. So, be bold, be fearless, and be unapologetic about your passion for nursing. Challenge assumptions, push boundaries, and collaborate with colleagues. Listen to patients, advocate for those who need your voice, and strive to make a difference in the lives of those you care for.

I am glad that Chirayu College of Nursing, under the guidance of nursing principal Dr. Pramila R. is preparing the students with these values, which will help them to navigate their career with boldness and confidence.

Dr Aniket Goenka
Consultant Medical Oncologist
Chirayu Cancer Hospital, Bhopal

Chirayu Medical College & Hospital

CHIRAYU MEDICAL COLLEGE & HOSPITAL

(A Unit of Chirayu Charitable Foundation)

MESSAGE

I am utterly delighted to know that Chirayu college of nursing is releasing its 9th e-souvenir on the theme of "Reconstruction of Robust Change - A Perpetual Process of a Dynamic Nurse".

This theme beautifully encapsulates the core essence of modern nursing practice. It is a powerful and accurate description of the essential qualities and ongoing commitment required for effective and impactful nursing practice in today's dynamic healthcare.

Healthcare is constantly evolving with new research, technologies and new patient needs; adaptation and learning cannot be a one-time event, it is an ongoing and integral part of nursing profession. As healthcare providers you have to be adaptable and flexible, proactive and engaged, resilient, focused on excellence and a lifelong learner.

A dynamic nurse actively seeks out new knowledge, embraces challenges and adapts their practice to provide the best possible care. You are the "heart" and "soul" of healthcare.

I congratulate the principal, faculty and all the students for their relentless efforts to come up with this e-souvenir. A special word of appreciation for Prof. Dr. Pramila R, Principal for her unwavering commitment and for ensuring a high quality of education here, at Chirayu College of Nursing.

Dr Sneha Goenka
Assistant professor
Dept of Obstetrics and Gynaecology
Chirayu Medical College and Hospital, Bhopal

THE TRAINED NURSES ASSOCIATION OF INDIA

FOUNDED IN 1908

Registered under the society Act XXI of 1860 in 1917, Registration No. 199, Incorporated in it:
Students Nurses' Association of India, Health Visitors' League and Auxiliary Nurse-Midwives Association
Affiliated to Commonwealth Nurses and Midwives Federation
Headquarter: L-17, Florence Nightingale Lane, Green Park, New Delhi-110016. INDIA
Website: www. tnaionline.org

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Official Organ:
The Nursing Journal of India
TNAI Bulletin

The TNAI is moving ahead with commitment and dedication since 1908

Message

Theme: "Reconstruction of Robust Change: Perpetual Process of a Dynamic Nurse"

It is a delighted to extend my warm greetings to all faculty members, students, and contributors of the 9th e-Souvenir – 2025. The chosen theme, "Reconstruction of Robust Change: Perpetual Process of a Dynamic Nurse," aptly reflects the evolving nature of the nursing profession and the continuous advancements required to meet the ever-changing healthcare landscape.

Nurses serve as the backbone of the healthcare system, adapting to new challenges, technologies, and patient needs with resilience and dedication. The journey of a nurse is not just about acquiring knowledge and skills but also about embracing transformation with an open mind and a compassionate heart. In an era where healthcare is witnessing rapid advancements, the ability to reconstruct, innovate, and lead change is what defines a truly dynamic nurse.

I commend the efforts of the institution in fostering such insightful discussions and encouraging students to explore their potential. May this e-Souvenir serve as a testament to the dedication and hard work of the nursing fraternity, inspiring many to strive for excellence.

Wishing the entire team great success in their endeavors!

Mrs. Annie Kumar
National President, TNAI

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TAMIL NADU NURSES AND MIDWIVES COUNCIL

(Constituted Under Tamil Nadu Act III & XXVI of 1926 & 1960)

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All communications to be addressed to the 'Registrar' and not by Name

90th ANNIVERSARY
1928 - 2018

03/04/2025

MESSAGE

Warm Greetings from Tamil Nadu Nurses and Midwives Council !!!

It is with immense pride and honour that I extend my heartfelt greetings on the **9th e-Souvenir-2025**, themed *"Reconstruction of Robust Change: Perpetual Process of a Dynamic Nurse"*.

Nursing, as a profession, has continually evolved, adapting to the ever-changing healthcare landscape. In today's world, where advancements in technology, education and research redefine the standards of patient care, nurses remain at the heart of transformation. The ability to embrace change with resilience, agility, and vision is what makes a **Dynamic Nurse** a catalyst for progress.

This theme underscores the **continuous evolution** of nursing, emphasizing that transformation is not a one-time event but a **perpetual process**—a commitment to **lifelong learning, innovation and leadership**. As we navigate through new challenges, we must **reconstruct our approaches, reinforce our competencies and redefine our roles** to create a **robust and sustainable** healthcare future.

Let this e-Souvenir be an inspiration for all to **embrace change, strive for excellence and lead with unwavering determination.**

Wishing everyone a successful and enriching experience.

3/4/25

Prof.Dr.(Mrs).S. Ani Grace Kalaimathi
RN, RM, Ph.D., D.Sc.,MBA (H.A), BGL.,
Registrar, TNNMC, Chennai

To
The Principal
Chirayu College of Nursing,
Bhopal.

/np

MESSAGE

I am delighted to know that Chirayu College of Nursing, a constituent of Chirayu Charitable Foundation, Bhopal is publishing its 9th e - Souvenir-2025 on **the theme:**

"Reconstruction of Robust Change: Perpetual Process of a Dynamic Nurse"

The theme selected is reflecting the need for looking afresh at the nursing profession and exploring the field of nursing in the new light of rapid advances in the health care scenario.

Nurses are pivotal in delivering health care services to the people in community as well as in health care settings, as important members of team of health-care professionals.Health care organizations, already multidisciplinary by nature, are subject to a wide variety of rules and regulations as well as scientific, technical and ethical standards. **Research** makes it possible to assess and evaluate our performance and to shed light on the strengths and weaknesses within the network.

Nurses must develop an attitude of questioning , " what I am doing as a nurse, is it evidence based, can I do it in a different/better way?" We are looking for dynamic nurses. The process towards dynamism is through research and innovation. Nursing profession in order to show its visibility must evolve. It has been seen that, "Failure to conduct research in a given field means that it will fail to evolve, it is likely to stagnate, and possibly even regress".

Therefore, nurses must get involved as interveners in order to take the pulse of society and of the health care system and to evolve with it.

Nurses are the major spokes in wheels of the system of health-care. Our profession is this essential to research: its conduct, its development and its progress.

Many nurses today are focused on developing and formalizing their knowledge even further so that they can offer better quality, more professional services to patients and meet modern-day requirements and ethics. It is a good sign and the topics included for publication in the e-souvenir also reflect this.

I am indeed happy that Chirayu College of Nursing is contributing in a big way to improve the nursing education and nursing practice through innovations in these areas and is also establishing a 'benchmark'.

As we know "Bench marking" is a continuous research process in which comparing oneself to others helps draw out best practices. I am confident that leaders of nursing in this institution will come up with new ideas and inspire and guide nursing professionals of the country and beyond.

All the Best!

Dr. Usha Mullick Ukande
R N R M, PhD (N)
Founder Director, Edu. Serum College of Nursing, Indore
President, Society of Midwives India

MESSAGE

It gives me an immense pleasure to know that, the Chirayu College of Nursing, Bhopal is releasing an E-Souvenir for 2025 with the theme: **Reconstruction of robust change: perpetual process of a dynamic nurse.** The theme is opt and need based in the current scenario which will help health professionals to provide evidence-based quality nursing education and service.

In today's fast evolving world, technology, environmental factors, disease patterns, including people's mindsets are changing rapidly. Nurses must recognize that adaptability is no longer optional but it is essential. To remain effective and relevant, nurses must continuously reconstruct their knowledge, skills, and attitudes in par with changes.

Nurses should be updated with emerging technologies such as AI in healthcare, telemedicine, and electronic health records, respond to new and evolving diseases such as cancer, rare infections, adjust to changing environment and adopt lifelong learning with self-directed professional development to stay ahead.

Nurse leaders should implement the change by continuous learning while integrating evidence-based practice in curriculum reforms, skill-based training, adopting mentoring and collaborative approach to strengthen the working environment with quality initiative for continual improvement in the organization.

Thus, the dynamic nurse must continually rebuild and strengthen her working style and service delivery to meet the demands of a constantly changing healthcare landscape.

I conclude with Swami Vivekananda saying: Arise, awake, and stop not till the goal is reached.

Sincerely,

Dr. G. Vijayalakshmi
Principal,
Sri Devaraj Urs College of Nursing
Tamaka, Kolar-563103

MESSAGE

RNTU Rabindranath TAGORE UNIVERSITY

Ref. No. RNTU/NURSING/2025/05/570 **Date: 01-05-2025**

Dear Dr. Pramilaa R,

Hearty congratulations to you and your team!

I extend my heartfelt congratulations to Chirayu College of Nursing for bringing out this insightful E-souvenir on the thought-provoking theme, ***"Reconstruction of Robust Change – Perpetual Process of a Dynamic Nurse."***

In today's rapidly evolving healthcare environment, the role of a nurse transcends traditional boundaries. It is through continuous learning, adaptability, and a commitment to excellence that a nurse becomes a true agent of change. This theme beautifully captures the essence of nursing as a profession that is ever-transforming, yet firmly rooted in compassion and resilience.

I commend the faculty, students, and editorial team for their dedication and creativity in compiling this souvenir. May this publication serve as a source of inspiration, reflection, and motivation for all nursing professionals to embrace change with courage and competence.

Wishing Chirayu College of Nursing continued success in nurturing dynamic nurses who will lead the way in shaping a healthier tomorrow.

With warm regards,

Prof. Daisy Thomas
Principal
RNTU Institute of Nursing

PRINCIPAL
Rabindranath Tagore University
Institute of Nursing, Bhopal (M.P.)

MESSAGE

I congratulate Dr. Prof. Dr. Pramilaa. R for publishing the 9th e-souvenir. This is a remarkable achievement that reflects your passion, and creativity. Your dedication and hard work have culminated in this exciting venture, and it's truly inspiring to see your vision come to life. May your great idea flourish, attracting learners and teachers from near and far who appreciate the unique offerings you've curated. As you embark on this journey, remember that every great work starts with a dream and the courage to pursue it. Your commitment to excellence sets the foundation for a prosperous future.

Wishing you endless success, growth, and fulfillment in your endeavor. Congratulations once again on this significant milestone!

Dr. Judie Arulappan, MSc (N), PhD, DNSc, CHSE
Certified Healthcare Simulation Educator,
Director: Nursing Laboratory and Simulation Unit (NLSU),
Associate Professor, Department of Maternal and Child health, College of Nursing,
Sultan Qaboos University, Al Khoudh, Muscat, Sultanate of Oman
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MESSAGE

Warm Greetings from Sri Sathya Sai Institute Of Higher Medical Sciences – College of Nursing.

I am pleased to learn that Chirayu College of Nursing, Bhopal is publishing a souvenir centred on the theme: Reconstruction of Robust change: Perpetual Process of a Dynamic Nurse. The Nursing profession is currently experiencing a transformative phase characterized by substantial changes and challenges within the healthcare sector. This reconstruction emphasizes critical areas such as enhancing nursing leadership, cultivating a supportive work environment, and integrating technology to elevate patient care while meeting the increasing demands for nursing professionals.

Strengthening nursing leadership involves promoting the idea that every nurse is a leader, incorporating leadership training into educational programs, and advocating for transformative leadership practices. Additionally, creating a positive work atmosphere by mitigating burnout and effectively utilizing nursing expertise, alongside leveraging technology, is essential. Advancing nursing practice through evidence-based approaches, fostering cross-sector partnerships, and broadening the roles of nurses are vital steps forward.

The future of nursing hinges on the adoption of technology, addressing issues of equity and access, and committing to on-going education and professional development.

I extend my congratulations to everyone involved in the creation of this souvenir and wish Chirayu College of Nursing continued success and recognition in the years ahead.

Dr. A. R. Manjjuri
Principal
SSSIHMS-CON
Bangalore

CHIRAYU COLLEGE OF NURSING

A Unit of Chirayu Charitable Foundation

Chirayu College of Nursing

Recognized by Indian Nursing Council, New Delhi and State Nursing Council & Affiliated to Barkatullah University, Bhopal and MPMSU, Jabalpur

Ref. No. 1073 /CCON/PO/2025

Date: 02/05/2025

Message

Chirayu college of Nursing is all set to release its ninth e-Souvenir. The theme is "Reconstruction of robust change: Perpetual process of a Dynamic Nurse". The theme elucidates that creating a future in which opportunities to optimize health are more equitable will require disrupting the deeply entrenched prevailing paradigms of health care, which in turn will require enlightened, diverse, courageous, and competent leadership. Nurses have a rich history of both advocacy and the provision of holistic care that includes meeting social needs of individuals. If nurses are to build on this rich tradition, it will not be enough for them to see themselves as leaders; the organizations that employ them will have to provide them with ample opportunities, resources, and mentorship to fully realize their leadership potential. Today's nurses are called on to lead in the development of effective strategies for improving the Nation's health.

Leaders set direction, build an inspiring vision, press for change, and create new ways of thinking and doing. Before nurses can lead others, they need to be able to lead themselves. They must understand and manage their own emotional responses, invest in their own physical and mental health, serve as role models for others, and continue their personal and professional development. Leading others may occur in a wide range of contexts, including working with clinical nurse managers, community organization leaders, nurses engaging in policy development, and educators and research teams. The need to engage in change management can come from many different elements. It can come from a new piece of technology that can improve operational efficiency, such as electronic health records. It can also be the result of an internal philosophical switch, such as a transition to an evidence-based practice model to improve cost efficiency. These elements can cause different forms of change; addressing and managing these changes in a way that minimizes disruption is essential.

We provided the opportunity to students and faculty to showcase their talents and potential and make this memorandum add memories to their existing stock.

Many thanks to my faculty members and students who have contributed generously to this souvenir which led to this size.

I wish good luck to all and we remain positive to engrave millions of milestones on our way!

Principal

Prof Dr. Pramilaa R.
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Message from Editor- in-Chief

An editorial team was constituted on January 6, 2025. The theme of ninth e- souvenir is "Reconstruction of robust change: perpetual process of a dynamic nurse". We stood with the decision of releasing e- Souvenir like we did in the past for the four years considering the advantage of more number of viewers. The theme reflects the necessity of nurses to adapt to the changes occurring in the health care in terms of technology and update themselves to deliver a quality patient care.

My faculty members and students have contributed generously to this souvenir that led to the good shape.

My deep sense of gratitude is expressed to my Editorial members for their untiring hard work, cooperation, collaboration, synergy and understanding. The patience, resilience, compromise, adaptability they took to compile this deserves huge amount of appreciation, admiration and laudation. They were involved in taking photographs, editing and exercised their IT skills as well.

My sincere thanks are emanated from my heart to Dr Ajay Goenka, our Patron, President of Chirayu Charitable Foundation who is a source of inspiration, encouragement, and tower of strength, motivation and enthusiasm. The liberty given by him help us to explore more and more and stretch our creativity and innovation matching the updates in nursing and equip the nurses to meet the needs of the changing society in the health care point of view.

All those who have directly or indirectly contributed to this souvenir come into my respect.

Prof. Dr. Pramilaa R
Editor – in-Chief

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Effectiveness of simulation based learning on self confidence, satisfaction and knowledge acquisition among nursing students: a quasi experimental study

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Abstract:

Introduction: Simulation-based nursing education is an increasingly popular pedagogical approach. It provides students with opportunities to practice their clinical and decision-making skills through various real-life situational experiences. Simulation-based clinical education in nursing refers to a variety of activities using patient simulators, including devices, trained persons, life like virtual environments, and role-playing, not just handling mannequins [1]. A number of research studies in nursing have evaluated the effectiveness of simulation-based educational interventions [2]. **Objectives**: The objectives of the study were: i) to assess the scores of students of self confidence, satisfaction and knowledge in terms of pre-test; and ii) to compare the effectiveness of simulation based learning between pre-test and post-test scores. **Methodology**: The research design adopted for this present study is quasi experimental of quantitative type. The setting of the study was simulation centre, Chirayu Medical College and hospital, Bhopal involving B.Sc nursing final year students. The target population was B.Sc nursing students. The accessible population is B.Sc nursing students pursuing final year at Chirayu College of Nursing, Bhopal. The sampling technique selected for this study was simple random sampling technique using lottery method. The inclusion criteria were B.Sc Nursing students who were pursuing final year and doing internship and students those who were willing to participate in the study. The exclusion criteria were B.Sc Nursing students who have attended the seminar /workshop/conference on simulation based learning and students who do not provide consent for the study. The sample size obtained was 53. The tools utilized for the present study consisted of four parts. Part One: Socio demographic data; Part Two: Self confidence scale: it was developed by NLN (Jeffries 2005). It was used to measure nursing students feeling of self confidence. The instrument is an 8 item survey that uses a 5 point scale and scores range from 8 to 40. (30 or above – high self confidence; 20-29 moderate, 19 or less - low); Part Three: Satisfaction scale- it was developed by Jeffries & Rizzolo (2006). It consists of 5 items on a 5 point direct scale. The score range from 5 to 25; Part Four: Multiple choice questionnaire- The researchers developed a multiple choice questionnaire to assess the knowledge component. The questionnaire consists of 5 questions based on the simulated scenario. The data collection was done after obtaining ethical clearance from the ethical committee. The selected participants using simple random sampling method were gathered in a separate room. B.Sc Nursing final year students meeting the inclusion criteria were formed as five groups (ten in first two groups and 11 in three groups) and a pre-test was administered using confidence scale, satisfaction scale and knowledge questionnaire. Subsequently five groups and prepared simulated scenario (neurological assessment) was applied for the description of 45 minutes as they completed, a post-test were administered in a separate room using the same tools. The same cycle were repeated for about five times to complete 53 participants. Adequate

measures were taken that the participants who complete post test were sent out of the simulation lab in order to prevent contamination. **Results**: The results of the study revealed that mean of the pretest and post test of knowledge, student self satisfaction in learning and satisfaction with simulation experience scale were 1.91, 4.81; 12.98, 34.81 and 33.15, 78.21, respectively. The effectiveness was analyzed using‘t’ test and found that knowledge, student self satisfaction and satisfaction with simulation experience were significant (P<0.000).**Conclusion**: The study findings reveal that simulation-based nursing educational interventions have strong educational effects, with particularly large effects in their level of confidence and satisfaction in learning.

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"A Descriptive Study to Assess the Knowledge Regarding Biomedical Waste Management Among Paramedical Students in Chirayu Paramedical College, Bhopal".

Dr. Prof. Thamarai Selvi. P, Professor, Chirayu College of Nursing, Bhopal

Introduction - Biomedical waste of hospital waste is any waste produced during the diagnosis , treatment and immunization of human or animal research activities. Pertaining there to or in the production or testing of biological or in health camps . It must be properly managed to protect the General public , specifically healthcare and sanitation workers who are regularly exposed to biomedical waste as an occupational hazard. **Objectives** of the study were to : assess the knowledge score regarding biomedical waste management among paramedical students. 2. to find out significant Association between knowledge level of students with their selected demographic variables. **Materials & Methods**: A quantitative approach with descriptive research design was used in this study. The study was conducted among paramedical students of Chirayu paramedical college, Bhopal. Probability simple random sampling technique was used among 50 paramedical students who met inclusion criteria. The tool consisted of two parts: Part I: Demographic variables and Part II: Structured knowledge questionnaire which consisted of 30 items. Each correct answer was given a score of one and the wrong answer was assigned a score of zero. Prior permission was obtained from school Principal to collect data. On an average time taken for data collection was 45 minutes. The collected data were coded, tabulated and interpreted according to the objectives. **Result:** Findings related to knowledge score the study reveals that mean knowledge score is 16.66 and standard deviation of knowledge score is 10.21. The 10% (5) participants had poor knowledge, 42 % (21) participants had average and 48 % (24) had good knowledge. The data analysis revealed that there is no significant association between gender and source of information and significant association between age , course of study and previous knowledge regarding biomedical waste management. **Conclusion** The study highlights that while a majority of paramedical students possess prior knowledge of biomedical waste management, there are still significant gaps in understanding. The findings indicate that age, course of study, and previous knowledge significantly influence the knowledge levels of students, whereas gender and source of information do not show a significant impact. These results underscore the importance of incorporating targeted educational interventions into paramedical curricula to enhance awareness and ensure safe handling of biomedical waste, thereby protecting both healthcare workers and the public from potential health hazards.

Keywords: Biomedical, Waste Management.

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"Comparative Study of Awareness Regarding Maternal and Child Health Welfare Schemes Among Women in Rural and Urban Communities of Bhopal".

Prof. Neelofur Ibran Ali, Professor, Chirayu College of Nursing, Bhopal

Introduction:

Maternal and Child Health (MCH) welfare schemes play a vital role in increasing healthcare accessibility and reducing maternal and infant mortality. Despite these benefits, disparities in awareness and access remain, particularly between rural and urban populations in developing countries like India.

Objectives:

To assess the level of awareness of MCH welfare schemes among mothers in rural and urban communities of Bhopal.

To compare awareness levels and identify key demographic factors influencing awareness in rural versus urban settings.

Review of Literature:

Study 1: A study conducted in rural Tamil Nadu found that only 30% of mothers were aware of MCH welfare schemes. Awareness was strongly associated with educational attainment and socioeconomic status (Raj et al., 2019).

Study 2: A similar study in urban Maharashtra reported that 50% of urban mothers had moderate awareness, with higher awareness levels among those with secondary education and above (Sharma & Verma, 2020).

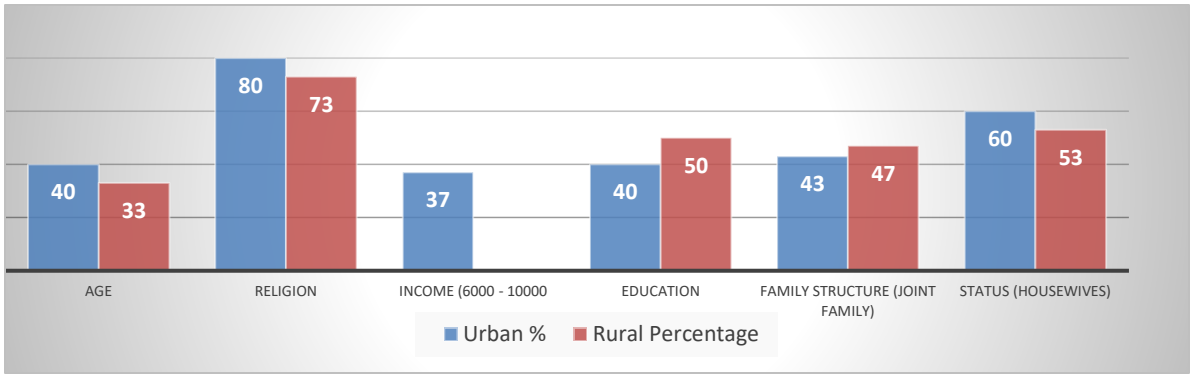
Need and Significance:

Achieving the Sustainable Development Goals (SDGs) by 2030 requires reducing the global maternal mortality ratio (MMR) to below 70 per 100,000 live births and eliminating preventable deaths in newborns and children under five. Enhancing awareness of MCH schemes is essential for ensuring that mothers, particularly in under-resourced communities, can fully utilize these services.

Methodology:

Design	Comparative survey study.
Participants	60 mothers (30 each from Berasia (rural) and an urban area of Bhopal).
Data Collection	Structured questionnaire assessing awareness levels
Inclusion Criteria	Mothers aged 18-33, with at least primary education, willing to participate
Sampling Technique	Convenience sampling.

Findings and Interpretation:



Awareness Level	Urban (%)	Rural (%)
Moderate Awareness	40	26.7
Good Awareness	0	0

Awareness of MCH welfare schemes remains low, with only moderate awareness in a small percentage of both urban (40%) and rural (26.7%) mothers. No participants in either community demonstrated good awareness, signaling a major knowledge gap.

Conclusion:

Awareness of MCH schemes is insufficient in both rural and urban communities of Bhopal, likely limiting healthcare utilization and impacting maternal and child health outcomes. Education level was significantly associated with awareness in both settings, indicating that educational interventions are necessary

Implications:

The findings underscore the need for targeted educational efforts to increase awareness of MCH schemes, especially in rural areas where educational attainment is typically lower.

Recommendations:

Implement community-based educational programs focusing on MCH welfare schemes.
Collaborate with local health authorities to enhance information dissemination about MCH services.
Develop outreach programs tailored to the unique needs of rural and urban mothers to increase MCH scheme awareness.

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"A Study to Evaluate the Effectiveness of Cabbage Leaves Application on Breast Engorgement Among Post-Natal Mothers in Sultaniya Hospital, Bhopal".

Mrs. Anjita Ojha, Assistant Professor, Chirayu College of Nursing, Bhopal

Abstract: Introduction: Motherhood-The only act that manifests in human form the cosmic wonder of creation. Child birth is a process beautifully designed by nature and the care following the birth of the baby also essential for the maintenance of health of both mother and child. Child birth is a transcendent event with meaning far beyond the actual physiologic process. The common breast complications are breast engorgement, cracked and retracted nipple leading to difficulty in breast feeding, mastitis, breast abscess and lactation failure. Breast engorgement and infection are responsible for puerperal pyrexia. Breast fullness is a normal part of lactation which nearly all women experience when their milk comes in' 2 – 5 days after birth. This feeling of fullness, which may be accompanied by a feeling of heaviness, tenderness, and warmth, is caused by swelling of the breast tissue as blood, lymphatic fluid, and milk collect in the ducts as the process of milk production begins. With this normal fullness, the breast tissue is compressible, and generally feel well·

Need for The Study: Personal experience of the research in taking care of postnatal mothers and thinking about the serious side effects of the drugs used in treatment of breast engorgement, the investigator is motivated to analyze the effectiveness of cabbage leaves as a non-pharmacological method in prevention and relief of breast engorgement. There are many pharmacological and non-pharmacological measures for treating engorgement. Although the pharmacological measures are widely used many medications like bromocriptine is found to have serious side effects like suppression of lactation, strokes, seizures, cerebral edema and heart attack. Thus, pharmacological cessation of lactation has been discouraged. The use of cabbage leaf compresses has the advantage of being disposable, inexpensive and convenient. Breast feeding should be initiated within an hour of birth instead of waiting several hours as is often customary. Although there is little milk at that time, it helps to establish feeding and a close mother-child relationship is known as bonding.

Objectives: 1. Assess the level of breast engorgement among post-natal mothers before the application of cabbage leaves application in experimental and control group. 2.To evaluate the effectiveness of cabbage leave application in experimental group. 3. To compare the level of breast engorgement among post-natal mother in experimental and control group by post test score. 4. To find out the associate between the selected demographic variables and effectiveness of cabbage leaves in experimental and control group. **Research Methodology**: **Research design:** Quasi experiment with Two group experimental group control group. Experimental group- pre- test□ intervention-□ post test, Control group-------post **test Research approach:** Experimental research approach. **Dependent variable:** Breast engorgement during post-natal period. **Independent variable:** Application of cabbage leaves. **External variables:** It consist of baseline characteristics of post-natal mothers such as age, religion, education, occupation, income, type of family, parity, type of delivery and previous occurrence of breast engorgement. **Setting:** The study will be conducted in

post-natal wards of sultaniya hospitals, Bhopal. **Population**: All the post-natal mothers with breast engorgement. **Sample size**: Post-natal mothers who fulfil the inclusion criteria will be considered as a sample, and the sample size is 60. The age group of postnatal mothers is 18-35 year. Researcher selected sample by ran-dam chit-method.30 experimental, 30 control. **Sample-technique:** Purposive sampling method Group I–Samples who will receive the intervention of cabbage leaves application. Procedure: Time-30min.Duration-3 days **Sample External variables:** It consist of baseline characteristics of post-natal mothers such as age, religion, education, occupation, income, type of family, parity, type of delivery and previous occurrence of breast engorgement. **Setting:** The study will be conducted in post-natal wards of sultaniya hospitals, Bhopal. **Population**: All the post-natal mothers with breast engorgement. **Sample size**: Post-natal mothers who fulfil the inclusion criteria will be considered as a sample, and the sample size is 60. The age group of postnatal mothers is 18-35 year. Researcher selected sample by ran-dam chit-method.30 experimental, 30 control. **Sample-technique:** Purposive sampling method Group I–Samples who will receive the intervention of cabbage leaves application. Procedure: Time-30min.Duration-3 days **Sample Criteria**: **Inclusion criteria:** 1. Post-natal mothers with breast engorgement.2. Post-natal mothers within 3 days of post-natal period.3. Post-natal mothers who are available at the time of data collection. **Exclusion criteria:** 1. Post-natal mothers who are already getting some treatment for breast engorgement.2. Post-natal mothers who not having breast engorgement.3. Post-natal mothers who are not willing to participate in the study. **Intervention**: 1. Take one cabbage leaves and steam by the hot water at last 5mint and after that apply the cabbage leaves on engorgement present. 2. Application of cabbage leaves will be given to the postnatal mothers for an interval of 30 minutes thrice a day. 3. Researcher will take per day 6 sample, 3 experimental ,3 control. On per sample the researcher will be spend $1^{1}/_{2}$ hrs. /day.: Obtain permission from the concerned authority and informed consent from the respondents, the investigator personally, assess the effectiveness of application of cabbage leaves .2. Samples who will receive the intervention of cabbage leaves application.3. Cabbage leaves will be applied to the breast for 30 minutes with 3 applications at 30 minutes interval. 4. 3rd application of cabbage leaves breast engorgement will be assessed using the same. Duration of data collection-4 weeks per day 3 sample of experimental and 3 sample of control group. **Plan for data analysis**: The data collected will be analyzed by means of descriptive and inferential statistics**. Major Finding:** Pilot study confirm partibility and provided confidence to the research for the main study. After the pilot study the tool was to found to be feasible partible and acceptable. There will be significant difference between pre and post test. At the level or p>0.005. 1.13 which is highly significant. There will be no significant association with demographic variable. There will be significant difference between pre test and post test level of pain scale or breast engorgement scale of day-1st and day-3rd.**Pain scale mean:** Day1st mean= 4.5 experimental group and control group day 1st mean= 5,After the giving intervention day 2nd mean= 3.5 and control group day $2^{nd}{}_{=4.5}$ **Breast engorgement scale (n-36):** Day1st mean= 25.75 experimental group and control group day 1st mean= 30, After the giving intervention day 2nd mean= 21 and control group day $2^{nd}{}_{=16.5}$**Pain scale standard deviation:** Day1st S.D= 2.70 experimental group and control group day 1st S.D= 2**,**

After the giving intervention day 2nd S.D= 1.49 and control group day 2nd = 2.66 **Breast engorgement scale standard deviation (n-36),** Day1st S.D= 5.3 experimental group and control group day 1st S.D= 19.7**,** After the giving intervention day 2nd S.D= 1.4 and control group day 2nd = 10.8**. Pain scale mean:** Day 3rd mean is 1.5 experimental group and control group mean is 3.5. Pain scale standard deviation: Day 3rdstandard deviation is 1.41 experimental group and control group S. D= 2. Breast engorgement scale standard deviation (n-36). Day 3rd S.D is 6 experimental group and control group S.D is 10.6.

Descriptive statistics: Frequency, percentage distribution will be used to describe the distribution of demographic variables. Mean, range and standard deviation will be used to assess the level of breast engorgement before and after the intervention. **Inferential statistics:**T-test will be used to compare the post-test level of breast engorgement between group I and group II. Chi-square will be used to analyze the association of level of breast engorgement among post-natal mothers with their selected demographic variables.

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"A study to Assess the Effectiveness of Awareness Programme on Knowledge Regarding Ayushman Bharat Scheme Among People in Selected Rural Area at Bhopal M.P."

Mr. Harigovind Dhangar, Lecturer, Chirayu College of Nursing, Bhopal

Background of the study: The cabinet of the Indian government approved the ambitious Ayushman Bharat Pradhan Mantri Jan Aushdhi Yojana **March, 2018.** The scheme colloquially referred to as **"modicare"** after Indian **prime minister Narendra Modi**, aims to build on existing scheme to provide publicly funded health insurance cover of up to 500,000 Indian rupees (over 7,000) per family per year to about 100 million families (500 million people, 40% of Indian population). The Ayushman Bharat scheme is a government health insurance program that will cover about 100 million poor and vulnerable families in India providing up to International Normalized Ratio 0.5 million per family per year for secondary and tertiary care hospitalization services. In addition, it also proposes to establish 150,000 health and wellness canters all over the country providing comprehensive primary health care. The beneficiaries of the hospital insurance scheme can avail health care services from both public and empanelled private health facilities.**Objectives of the study:** 1. To assess the pre-test level of knowledge regarding Ayushman Bharat Scheme among people. 2. To assess the effectiveness of Awareness programme on knowledge regarding Ayushman Bharat Scheme among people comparing pre-test and post-test knowledge score. 3. To find the association between the pre-test level of knowledge people with their selected demographic variables. **Methodology:** The study was evaluative in nature. A convenient sampling technique was used for the study. A total of 120 peoples were selected from the rural area. A tool was prepared with the expert guidance and literature review. Pilot study was conducted and tool was found to be feasible and reliable. The data collection was done by interview method by using a structured questionnaire. Data collected was analyzed by using descriptive and inferential statistics. **Major finding/result of the study:** The mean pre-test score was found to be 7.83, mean percentage was 13.05% and standard deviation was 3.93 and the mean post-test score was 14.46, mean percentage was 24.1% and standard deviation was 4.58, mean difference 11.05.the Paired 'test value was found to be 8.72 which is greater than the table value (E) (2.0010) with a significance level of 0.05 which is highly significant which showed that is Awareness Programme effective to improve knowledge. **Conclusion:** This study has also proved that Awareness programme improved the knowledge of the people regarding Ayushman Bharat Scheme among. The community health nurse could play the role of health educator, counsellor, coordinator, supervision, environment modifier, and consultant etc. And help the community peoples improve their knowledge and manage to education in community.

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AI in Nursing: Revolutionizing Patient Care and Empowering Professionals

Mrs. Nisha Divakaran, Professor, Chirayu College of Nursing, Bhopal

Introduction: The healthcare landscape is undergoing a significant transformation fueled by artificial intelligence (AI). Nurses, the backbone of patient care delivery, are at the forefront of this exciting change. AI tools are no longer science fiction; they're revolutionizing how nurses work, streamlining workflows, and empowering them to deliver exceptional care. Let's delve deeper into how AI is impacting various aspects of the nursing profession**.**

The healthcare landscape is undergoing a significant transformation fueled by artificial intelligence (AI). Nurses, the backbone of patient care delivery, are at the forefront of this exciting change. AI tools are no longer science fiction; they're revolutionizing how nurses work, streamlining workflows, and empowering them to deliver exceptional care.

Artificial Intelligence (AI) has seen a meteoric rise in popularity in recent years, transforming industries across the board. Its potential to revolutionize healthcare, a field intrinsically linked with human well-being, is especially promising . Nursing, at the frontline of patient care, stands to benefit considerably from the integration of AI technologies. AI has catapulted into the spotlight due to its multifaceted capabilities. AI involves the development of computer systems that can emulate human intelligence, encompassing tasks such as problem-solving, pattern recognition, and decision-making

In the context of nursing, AI represents an amalgamation of cutting-edge technologies, promising to redefine the way healthcare is delivered. AI in nursing entails the utilization of AI-powered tools, algorithms, and systems to assist nurses in their multifarious roles, spanning clinical care and administrative duties. These AI applications encompass a wide spectrum, including but not limited to electronic health record (EHR) management, medication administration and predictive analytics such as predicting falls and pressure injuries . One of the primary motivations driving the integration of AI into nursing is its potential to elevate the quality of patient care. Let's delve deeper into how AI is impacting various aspects of the nursing profession.

Enhanced Decision-Making: A Powerful Ally: Imagine a world where nurses have a tireless assistant capable of analyzing vast amounts of medical data in seconds. This is the reality with AI-powered decision support systems. These systems analyze a patient's medical history, vital signs, lab results, and even medication interactions. This analysis helps nurses in several ways:

Accurate Diagnosis: AI can identify patterns in patient data that might be missed by the human eye. This can lead to earlier and more accurate diagnoses, allowing for timely interventions and improved patient outcomes. For instance, AI algorithms can analyze a patient's vital signs and lab results in real-time to identify those at high risk of developing sepsis, a potentially life-threatening condition.

Predicting Patient Outcomes: AI can analyze past medical data to predict a patient's potential course of treatment. This information empowers nurses to anticipate complications, adjust treatment plans proactively, and optimize patient care.

Personalized Treatment Recommendations: AI can consider a patient's unique medical history, allergies, and genetic makeup to recommend personalized treatment plans. This data-driven approach ensures each patient receives the most effective course of treatment for their specific needs.

The Power of Prediction: Preventing Problems before They Arise: Imagine being able to anticipate a potential health crisis before it happens. AI-powered predictive analytics makes this a reality in nursing. These systems analyze vast datasets to identify patients at risk of:

Complications: AI can analyze a patient's medical history and current condition to predict potential complications after surgery or during treatment. Early identification allows nurses to take preventive measures, minimizing complications and improving patient safety.

Deterioration: AI can monitor a patient's vital signs and other health indicators to predict potential deterioration in their condition. This enables nurses to intervene early, preventing a minor issue from escalating into a serious health problem.

Readmission: AI can analyze data from previous hospitalizations to identify patients at high risk of being readmitted. This allows nurses to develop targeted discharge plans and follow-up programs, reducing readmission rates and improving overall healthcare efficiency.

Streamlining Workflows: More Time for What Matters Most: Nurses often juggle multiple tasks, leaving less time for direct patient care. AI can automate many of these time-consuming administrative tasks, allowing nurses to focus on what they do best: caring for patients. Here's how:

Scheduling: AI can streamline appointment scheduling by considering staff availability, patient needs, and insurance limitations. This reduces administrative burden and allows nurses to spend less time managing appointments and more time with patients.

Documentation: AI can analyze voice recordings or dictation from nurses and automatically generate detailed and accurate medical records. This frees nurses from time-consuming documentation and allows them to focus on providing care.

Billing and Coding: Extracting accurate billing codes from medical records can be a tedious process. AI can analyze patient data and automatically generate accurate billing codes, reducing errors and streamlining the billing process for nurses and hospitals.

Personalized Care: A Tailored Approach to Healing: Every patient is unique, and their care needs to be as well. AI allows nurses to provide truly personalized care by:

Analyzing Patient Data: AI can analyze a patient's medical history, lifestyle habits, and genetic makeup to create a comprehensive picture of their health. This allows nurses to tailor care plans to each patient's specific needs and preferences.

Developing Personalized Education Plans: AI can create customized education materials for patients based on their diagnosis and learning style. This empowers patients to take an active role in their own health and recovery.

Monitoring Treatment Response: AI can monitor how a patient responds to a particular treatment plan. This allows nurses to adjust the plan as needed, ensuring optimal patient outcomes.

Remote Patient Monitoring: Care Beyond the Hospital Walls: Chronic condition management often requires ongoing monitoring even after a patient is discharged from the hospital. AI empowers nurses to remotely monitor patients through:

Wearable Devices: AI can analyze data from wearable devices like smart watches and fitness trackers to monitor a patient's vital signs, activity levels, and sleep patterns. This allows nurses to identify potential health concerns early on and intervene remotely.

Telehealth Platforms: AI can be integrated with telehealth platforms for virtual consultations. This allows nurses to connect with patients remotely, answer questions, and provide ongoing support without the need for an in-person visit.

Advanced Training: Imagine practicing complex medical procedures in a safe, virtual environment before performing them on real patients. AI-powered simulation tools and virtual reality (VR) are revolutionizing nursing education and training by offering:

Realistic Scenarios: AI can create realistic simulations of various clinical scenarios, allowing nurses to practice decision-making, communication skills, and critical interventions in a safe, controlled environment. This prepares them for real-world situations and improves their confidence.

Personalized Learning: AI can tailor training modules to a nurse's specific skill level and learning needs. This personalized approach ensures nurses are adequately prepared for the challenges they may face in their specific practice area.

Enhanced Skill Development: VR simulations allow nurses to practice complex procedures in a virtual environment. This hands-on learning experience helps them refine their technical skills and improve their overall competence.

Reduced Training Costs: Traditional simulation training can be expensive and resource-intensive. AI-powered tools offer a cost-effective alternative, allowing for more frequent and accessible training opportunities for nurses.

Improved Documentation: Maintaining accurate and up-to-date medical records is crucial for patient care and communication between healthcare professionals. AI is transforming medical documentation through:

Natural Language Processing (NLP): NLP technology can analyze voice recordings or dictation from nurses and automatically generate detailed and accurate medical reports. This reduces errors and inconsistencies in documentation, improving patient care quality.

Automating Data Entry: AI can extract relevant information from various sources, such as lab results and imaging reports, and populate it into electronic health records (EHRs) automatically. This reduces manual data entry tasks for nurses, saving them valuable time.

Improved Note Review: NLP can analyze medical notes and highlight potential inconsistencies or missing information. This allows nurses to review their notes more efficiently and ensure they are complete and accurate.

The Road Ahead: Challenges and Considerations: While AI holds immense potential for the future of nursing, there are challenges to consider:

Ethical Concerns: Protecting patient privacy and data security is paramount. Robust data security measures and clear ethical guidelines are necessary to ensure responsible use of AI in healthcare.

Integration Challenges: Seamless integration of AI systems with existing healthcare infrastructure can be complex. Hospitals and healthcare institutions need to invest in upgrading their infrastructure to support AI integration effectively.

Training Needs: Nurses require proper training to understand AI tools, utilize them effectively, and recognize their limitations. Educational institutions and healthcare facilities need to develop comprehensive training programs to equip nurses with the necessary skills for the AI-powered healthcare landscape.

Bias Mitigation: AI algorithms are only as good as the data they are trained on. It's crucial to ensure that AI algorithms are developed and used in a way that minimizes bias and ensures fair treatment for all patients.

Challenges and Limitations: While the merger of AI and nursing heralds numerous benefits, it's not without its set of challenges. Recognizing and addressing these concerns is crucial for the seamless integration and ethical use of AI in healthcare. Some of the primary challenges include:

Balancing AI and Traditional Nursing Tools: One of the significant challenges is finding the right balance between AI-driven tools and traditional nursing practices. While AI can enhance many aspects of nursing, it cannot replace the human elements of empathy, judgment, and patient interaction. Nurses need to strike a balance where AI is used as a complement to their skills and knowledge, not as a replacement.

Addressing Privacy and Job Security Concerns: The use of AI in healthcare raises important questions about patient data privacy and security. Nurses must be vigilant in ensuring that patient information handled by AI systems is secure and complies with all legal and ethical standards. Additionally, there's a concern about AI impacting job security in nursing. However, rather than replacing nurses, AI is more likely to shift their roles towards more complex and patient-centric tasks.

Overcoming Resistance to Technological Change: Change is often met with resistance, and the integration of AI in nursing is no exception. Some healthcare professionals may be skeptical or apprehensive about relying on AI for patient care. Overcoming this resistance requires education, training, and demonstrations of how AI can enhance, rather than hinder, nursing practice.

A Brighter Future for Nursing with AI: AI is not a replacement for nurses; it is a powerful tool that empowers them to deliver exceptional patient care. By enhancing decision-making, streamlining workflows, and providing advanced training opportunities, AI is transforming the nursing profession. As AI applications continue to develop in areas like clinical decision support, predictive analytics, and personalized care, the future of nursing is poised for even greater advancements in healthcare delivery. By embracing AI and addressing the challenges responsibly, nurses can continue to be the heart and soul of patient care, ensuring a brighter future for both the profession and the patients they serve.

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Benefits of Yoga

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Introduction: Yoga' formed from the sanskirit word "Yog" and "Yuj" meaning "to attach, join, harness, yoke. It is union of different sutras. Its an ancient Indian system of group of physical, mental and spiritual practice or an discipline. It is believed to be the sixth Astika (orthodox) schools of Hindu philosophical traditions **(Feuerstein, 2008).** Yoga is exclusively practiced by our Rishis and Munnis and is now quite popular among our youth and had become popular in Western world as well. Yoga composes a group of formation of many asanas or postures that are desingned in such a way that involves the different body parts and as a result strengthens the vital physiological systems of our body. Some of these are; Surya Namaskar, Vakrasana, Padmnasana etc. When we talk about the benefits of Yoga remember the words of Lord Krishna in the Bhagavad Gita, says, "Samatvam Yoga Uchyate"– equanimity in the mind is a sign of yoga. Yoga is that ability to remain centered in adverse situations. Whatever takes us back to our original, joyous and harmonious nature is yoga.

Definition: According to the Sage Patanjali in India around 500 BCE and 400 CE the one who wrote 196 "Yog Sutras Of Patanjali" said Yoga aims at achieving union of human spirit to the divine whole. The evidences of existence of Yoga and its practice were found in the Vedic Period and later during Pre classical era (500–200 BCE) **(Feuerstein, 2008)**.

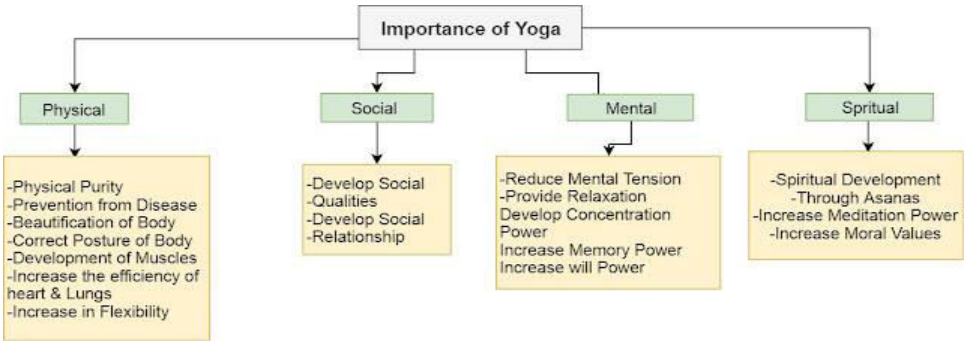
Systematic Yoga practices begin to emerge in around 500–200 BCE in the Early Buddhist texts, the middle Upanishads, the Bhagavad Gita and Shanti Parva of the Mahabharata **(Bryant, 2009) .**

"Yoga is union of the individual self (jivātma) with the supreme self (paramātma)" **-Yoga Yajnavalkya**In the 20th century yoga was first introduced by Swami Vivekananda.

Importance of Yoga In Individual Life:

1. **Yoga helps in all-around development** : As **Gurudev Sri Sri Ravi Shankar(2015)** puts it, "Health is not a mere absence of disease. It is a dynamic expression of life – in terms of how joyful, loving, and enthusiastic you are." Yoga poses, pranayama (breathing techniques) and meditation are different ways to achieve physical, mental and spiritual well being **(Iyengar, 2008).**
2. **Yoga detoxify the body and promotes loss of extra weight:** Surya Namaskar and Kapal Bhati pranayama are beneficial for losing weight by burning out extra calories (NCCIH, 2021).
3. **Yoga is best for stress management:** A few minutes of yoga daily can spell magic of on both body and mind eg. pranayama, and meditation are effective techniques to treat stress.
4. **Yoga contributes to inner peace**: Yoga is also one of the best ways to calm a disturbed mind. Yoga practice helps in release of a hormone called serotonin which balances the emotional aspects of health promoting peace of mind (International Journal of Yoga, 2022).

5. **Yoga boosts Immunity:** Yoga postures promote stretching and strengthening of muscles increasing drainage of lymph cotributiing in improvement of cellular functions resulting in increased immunity.
6. **Practice of Yoga Offers Greater Awareness:** Yoga and pranayama help create awareness ie. bringing the mind to leave in the present moment, not worrying about past and future so that individual can stay happy and focused (Feuerstein, 2008) .
7. **Yoga improves relationships and quality of life:** A mind that is relaxed, happy and content is better able to deal with sensitive issues of daily life in relation to materialistic things and human relations. Yoga keeps the mind happy and peaceful improving in your relations with things and beings around us.
8. **Yoga Increases Energy:** A few minutes of yoga every day helps us in keeping our energy level and keeps us fresh.



9. Yoga improves Flexibility and Balance: Regular yoga postures practice helps in stretching and toning of the body muscles and strengthens them. It also helps improve our body posture by strengthening the spine, the nervous system. It also maintains proper flow of blood in body. Thus Yoga helps in balance of body.
10. Yoga promotes quality sleep : Many research supports that a sound sleep is important for healthy body as equal to a balance diet. Lack of proper sleep may cause health issues like hypertension, diabetes, thyroid malfunctions, and other disorders etc. Therefore Yoga helps in improving quality of sleep by practicing different forms of it.

Conclusion:

Yoga is an ancient technique that has evolved for centuries giving a holistic approach to individual life physical, mental and spiritual wellbeing. It is a powerful tool for achieving inner peace, health, stress management, emotional stability and self awareness. It is a holistic practice that benefits individuals of all ages and can be integrated into various aspects of life. Yoga encourages overall health and wellness of people of all age group. We should make it habit of practicing Yoga in our day to day life. Irrespective of our busy schedules and tiresome journey of life.

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Medication Error

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Medication Error:

A medication error is any mistake that happens in the process of prescribing, dispensing, or giving medicines, which can lead to harm — or could potentially cause harm — to a patient. These errors can occur at any stage of medication management, from when a doctor writes a prescription to when a nurse gives the medication to a patient.

Incidence of Medication Error:

Global Overview:

According to the World Health Organization (WHO), **medication errors** cause at least **1 death every day** and injure approximately **1.3 million people each year** in the United States alone. Globally, medication errors are a significant problem, especially in low- and middle-income countries.

- **Key Statistics:**
  - WHO estimates that medication errors cost around US$ 42 billion annually worldwide.
  - In hospitals, studies suggest 5–10% of hospitalized patients experience at least one medication error during their stay.
  - In primary care settings, error rates can range from 5% to 25% of prescriptions written.
  - In ICUs (Intensive Care Units), the error rate can be even higher — up to one error per patient per day has been reported.

National Estimates:

- Approximately **5.2 million** medical errors occur annually in India, encompassing a range of issues from incorrect prescriptions to administration mistakes.

Hospital-Based Studies

- In a tertiary care hospital in South India, a study reviewing 20,796 medication orders over 11 months found **1,710 medication errors**, representing an **8.5% error rate**. The most common errors were transcribing (3.29%) and prescribing errors (2.11%).
- Another study in four intensive care units (ICUs) reported a medication error prevalence of **334.1 per 1,000 patient observation days**. Prescription errors were the most frequent, accounting for 38.7% of total errors.

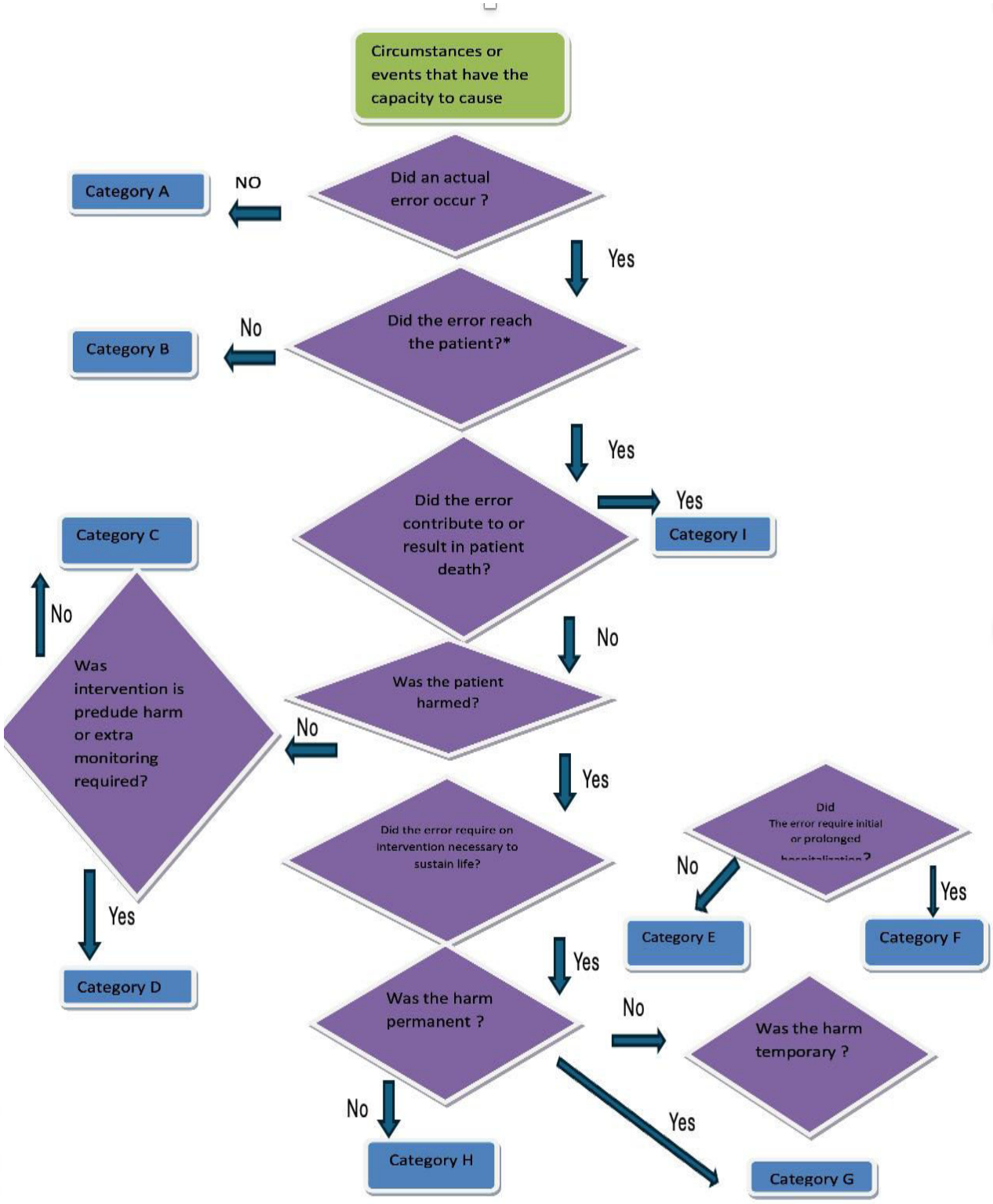
Estimated Incidence of Deaths Due to Medication Errors in India

- **Annual Deaths**: Estimates suggest that approximately **5 million deaths** occur each year in India due to medical errors, with a significant portion attributed to medication-related mistakes.
- **Types of Errors**: These errors encompass various stages of the medication process, including prescribing, transcribing, dispensing, administering, and monitoring. Common causes include:
  - Incomplete or illegible prescriptions
  - Incorrect dosages
  - Use of look-alike/sound-alike (LASA) drugs
  - Communication breakdowns among healthcare providers
  - Lack of standardized protocols

NCC MERP Index for Categorizing of Medication Errors

LEVEL OF HARM	CATEGORY OF ERROR	EXPLANATION OF EVENTS/ ERROR
NO ERROR	Category A	Circumstances or events that have the capacity to cause error
ERROR, NO HARM	Category B	An error occurred but the error did not reach the patient (An "error of omission" does reach the patient.)
	Category C	An error occurred that reached the patient, but did not cause patient harm.
	Category D	An error occurred that reached the patient and required monitoring to confirm that it resulted in no harm to the patient and/ or required intervention to preclude harm
ERROR, HARM	Category E	An error occurred that may have contributed to or resulted in temporary harm to the patient and required intervention
	Category F	An error occurred that may have contributed to or resulted in temporary harm to the patient and required initial or prolonged hospitalization
	Category G	An error occurred that may have contributed to or resulted in permanent patient harm
	Category H	An error occurred that required intervention necessary to sustain life
ERROR , DEATH	Category I	An error occurred that may have contributed to or resulted in the patient's death.

Algorithm for Categorizing of Medication Error



Methodology for Auditing Medication Error

1. Chart review
2. Audit and self reporting of medication error

Formula

Total Number of error identified. X 100
Total Number of opportunities

Sample Size

The population can be calculated from the running average of the previous three months

Analysis

•Categories of error
•Personnel involved in error

Distribution of Medication Error by Category Wise

	A	B	C	D	E	F	G	H	I	TOTAL
Doctors										
Nurses										
Pharmacists										
Total										

Common Causes of Medication Error

Category	People	Environment	Equipment	Process
Human Factors	Not experienced Staff	Poor Pharmacy infrastructure	Syringe pump failure	Rights of Medication not followed
	Untrained Staff	Staff shortage	Wrong labeling	Dispensing error
	Shift change	Poor light/Ventilation	Wrong dispensing	Wring dilution
	Emotional unfitness	Less space	Drug stock out	Lack of cross check
	Physical problems	Wrong indent	Unauthorized drug replacement	Look alike and Sound Alike error
	Casual Attitude	Poor drug storage	Machine failure	Wrong Stock
	Patient Identification Fault			

Corrective Actions

1. Training
2. Manpower recruitment
3. Pharmacy Drug Audit for Stock Verification
4. Equipment calibration (preventive maintenance)

Audit tool for medication error

Auditor ***Date of Audit*** ***Location***

UHID ***DOA***

Consultant ***Drug Allergy Documented***

Error Perpetuation (Write Category of error from A to 1)
In case of no error, kindly write 0; if a particular parameter is not applicable, kindly write NA

		Drug 1	Drug 2	Drug 3	Drug 4	Drug 5	Drug 6	Drug 7	Drug 8	Drug 9	Drug 10
DOCTORS											
1. Incorrect drug selection											
2. No/wrong dose											
3. No/wrong unit of measurement											
4. No/wrong frequency											
5. No/wrong route											
6. No/wrong concentration											
7. No/wrong rate of administration											
8. Illegible handwriting											
9. Non-approved/error-prone abbreviations used											
10. Non-usage of capital letters for drug names											
11. Non-usage of generic names											
12. Non-modification of drug dose keeping in mind drug-drug interaction											
13. Non-modification of time of drug aministration/dose/drug keeping in mind food-drug interaction											
Doctor and/or Nurse											

		Drug 1	Drug 2	Drug 3	Drug 4	Drug 5	Drug 6	Drug 7	Drug 8	Drug 9	Drug 10
14. Wrong formulation transcribed/indented											
15. Wrong drug transcribed/indented											
16. Wrong strength transcribed/indented											
	Error Perpetuation (Write Category of error from A to 1) In case of no error, kindly write 0; if a particular parameter is not applicable, kindly write NA										
Pharmacist											
17. Wrong drug dispensed											
18. Wrong strength dispensed											
19. Wrong formulation dispensed											
20. Expired/Near-expiry drugs dispensed											
21. No/wrong labelling											
22. Delay in dispense > defined time											
23. Generic or class substitute done without consultation with the prescribing doctor											
NURSES											
24. Wrong Patient											
25. Dose Omission											
26. Improper Dose											
27. Wrong Drug											
28. Wrong Formulation Administered											
29. Wrong Route of Administration											
30. Wrong Rate											
31. Wrong Duration											

		Drug 1	Drug 2	Drug 3	Drug 4	Drug 5	Drug 6	Drug 7	Drug 8	Drug 9	Drug 10
32. Wrong Time											
33. No documentation of drug administration											
34. Incomplete/Improper documentation by nursing staff											
35. Documentation without administration											
Others											

For Example

1. Sampling Strategy

Number of Wards:

- 50 wards total

. Sample Size per Ward:

- Randomly select **7 medication administration records** (MARs) or 7 patients receiving medication per ward.

c. Sampling Method:

- Use **Systematic Random Sampling** or **Simple Random Sampling**:
  - List all patients in the ward receiving medication.
  - Use a random number generator or fixed interval selection to pick 7 samples.

4. Data Collection Process

a. Preparation:

- Notify the ward in charge.
- Carry ID cards and audit tools.
- Ensure confidentiality and minimal disruption.

b. Audit Each Sample For:

- Correct patient identification
- Right medication, dose, time, route
- Expiry date checks
- Documentation accuracy in MAR
- Storage and labeling
- Allergies and contraindications
- Any adverse drug reaction documentation

c. Observe Administration (if applicable):

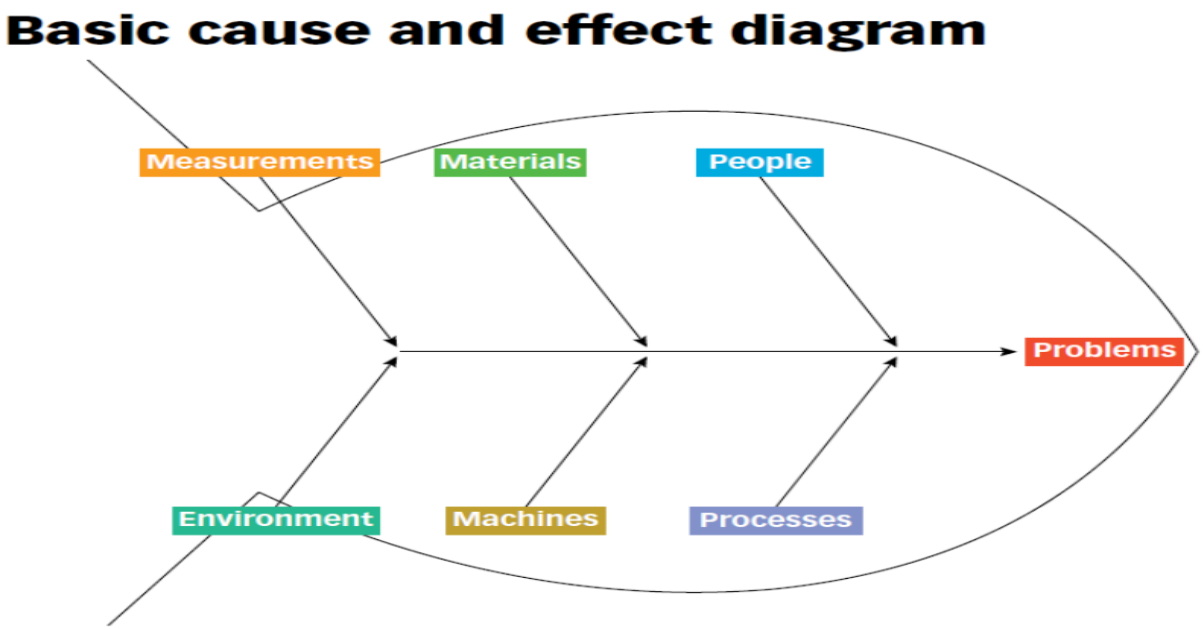
- Verify nurse practices via direct observation (with consent)
- Cross-check with patient feedback

5. Data Entry and Management

- Use Excel or a hospital audit software.
- Code samples anonymously (e.g., Ward01_Sample01).
- Enter data within 24 hours of audit for accuracy.

6. Analysis and Reporting

- Analyze trends ward-wise and hospital-wide.
- Compare with previous audit cycles (if applicable).
- Identify areas of non-compliance.
- Can use Fish bone as quality tool for Root cause Analysis



7. Feedback and Action Plan

•Present findings to nursing heads and hospital quality team.
•Recommend training or corrective actions.
•Set timeline for re-audit if compliance < threshold.

MEDICATION ERROR ACTION PLAN						
S. No.	Identified Issue/Error	Action to be Taken	Responsible Person/Department	Resources Required	Target Completion Date	Status/Remarks
1						
2						
3						
...						

8. Documentation and Archival

- Store filled checklists and reports in a secure folder.
- Keep backup digital copies with restricted access.

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Education Brief: Behaviour for Learning

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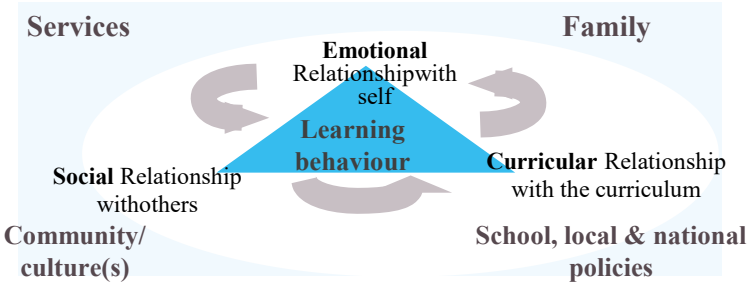
Behaviour for learning is an approach to understanding and developing children and young people's behaviour that focuses on their relationship with their self, with others and with the curriculum, and promotes readiness for education.

What is behaviour for learning?

Behaviour for learning is an approach developed by Dr Simon Ellis and Professor Janet Tod. It is based on a conceptual framework that emerged from a systematic review (Powell and Tod 2004) commissioned by the Teacher Training Agency (TTA) in the UK and conducted by a research team at Canterbury Christ Church University. The conceptual framework (Figure 1) sets out three relationships for learning: relationship with self, relationship with others and relationship with the curriculum. These three relationships represent respectively the emotional, social and cognitive/curricular factors that influence the development of learning behaviour.

Figure 1: The behaviour for learning conceptual framework (based on Ellis and Tod 2018)



The arrows connecting the three relationships are a reminder that these relationships are not experienced in isolation by the learner. For example, a difficulty in forming friendships (social) may adversely affect how an individual feels about themselves (emotional). Similarly, a poor relationship with a subject teacher (social) may impact negatively on the learners' relationship with that curriculum area. More positively, improvements in one relationship area have the potential to impact positively on another.

The circle surrounding the central triangle reflects the influence of the school ethos on the three relationships and learners' behaviour. A range of other external influences are also acknowledged. The behaviour for learning approach can be used flexibly:

•School leaders can use its principles to support the development of an inclusive whole-school behaviour policy.

•Classroom teachers can use it as a consistent reference point when selecting and subsequently evaluating behaviour management strategies.

•Pastoral, counseling and special educational needs staff may find the approach useful in informing decisions about support and intervention required by groups or individuals.

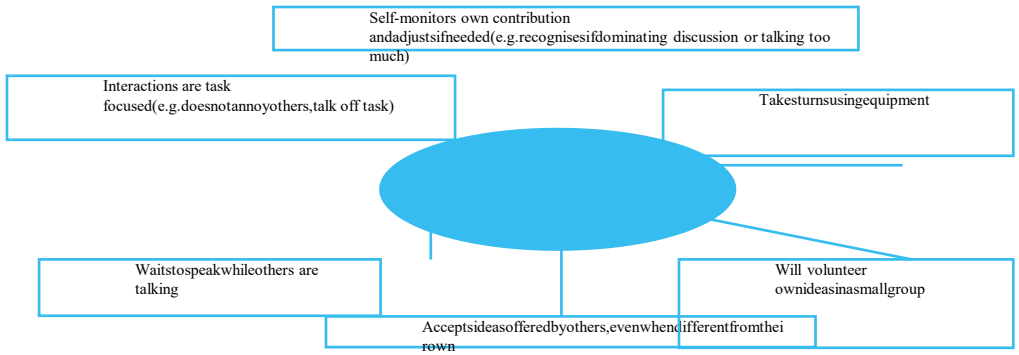
What is learning behaviour?

The term 'behaviour for learning' reflects the key principle that the priority of a teacher1 is to promote learning. Therefore, even when selecting a behaviour management strategy, consideration should be given to its contribution to the development of learning behaviour. The Evidence for Policy & Practice Information (EPPI) review (Powell and Tod 2004) identified a set of learning behaviours drawn from the Qualified Teacher Status (QTS) professional standards (DfES/TTA 2002) in place at the time. These were:

•Engagement
•Collaboration
•Participation
•Communication
•Motivation
•Independent activity
•Responsiveness
•Self-regard
•Self-esteem
•Responsibility.

The term 'teacher' is used throughout for brevity but should be interpreted as referring to any practitioner working with children and young people in an educative capacity

Figure 2: Examples of learning behaviours associated with collaboration



A learning behaviour can be thought of as any behaviour necessary for effective learning. Within this broad definition there are some important considerations when identifying a learning behaviour to develop:

• The learning behaviour should be positively expressed, rather than referring to the reduction or absence of an unwanted behaviour (e.g. 'uses class conventions to ask for help or make a contribution' rather than 'doesn't call out').

• The learning behaviour should be assessable – the teacher should be able to identify specific indicators that would evidence progress in the development of the learning behaviour.

• If the learning behaviour identified represents a disposition (e.g. 'is more confident') it should still be possible to identify some behaviours that would indicate its development. For example, an indicator of improving confidence might be 'initiates interactions with a familiar adult.

The three behaviour for learning relationships:

The three relationships that underpin the development of learning behaviour are likely to be familiar to teachers and others working with children, even though the terminology may be different.

The term relationship with the curriculum refers to the cognitive or curricular aspects of learning. It encompasses, but is not limited to, factors such as the learner's ability to tackle the task, how they organise themselves and their learning and their motivation for the task.

Relationship with others refers to the social aspects of learning. This relationship can be thought of as representing the interpersonal or social skills necessary for learning in a school environment.

Relationship with self refers to the emotional aspects of learning and can be summarised as referring to the learner's emotional health and wellbeing.

A distinctive feature of the behaviour for learning approach is its awareness of the combination of social, emotional and cognitive factors brought by the learner to their learning to support the development of learning behaviour.

A distinctive feature of the behaviour for learning approach is its awareness of the combination of social, emotional and cognitive factors brought by the learner to their learning to support the development of learning behaviour. The term 'relationship' is deliberately used by Ellis and Tod (2018) to encourage teachers to draw parallels with relationships they are already familiar with, such as those with partners and friends. The quality of these everyday relationships is dependent on the actions of both parties. A relationship may be positive or negative, it can break down and it can be repaired, which may require one or both parties being prepared to change. In thinking about the behaviour for learning relationships, similar principles can be applied. To take the example of the learner's relationship with the curriculum, the individual may bring to their learning a low level of ability, limited motivation for the subject and poor learning organisation. From their 'side' of the relationship, the teacher brings their professional knowledge, skills and understanding in relation to teaching and learning. The teacher can differentiate and employ exciting, engaging ways of presenting and provide checklists or other scaffolds to support learning organisation. Thinking in this way encourages the teacher to reflect on all variables within their control that can be positively used to develop the child's relationship with the curriculum. The same way of thinking can be applied to the other two behaviour for learning relationships.

In fostering and maintaining a positive relationship with self the teacher can consider how, through factors within their control, they create an environment that contributes towards protecting and promoting children and young people's mental health and wellbeing.

In fostering and maintaining a positive relationship with others, a teacher might consider the style of their own interactions with their students: strategic use of seating plans, planning lessons that provide opportunities for collaborative activities and direct and indirect teaching of social skills.

Monitoring and evaluation:

The effectiveness of any strategies, adaptations to standard practice, interventions or support is always evidenced by development of learning behaviour. Even if the intention is to strengthen one of the three relationships, the measure of success would be the emergence of learning behaviours associated with that relationship. Self-esteem is an important component of an individual's relationship with self. It is a term widely used in schools, and regularly appears in policy and guidance documents as a focus for intervention. If the aim is to improve self-esteem as a means of improving relationship with self, then the teacher would look for learning behaviours associated with healthy self-esteem as indicators of improvement.

How can schools promote behaviour for learning?

Figure 3: Increasingly personalised response

Extended Focusing on strengthening one or more of the three relationships Core Identifying specific learning behaviours to develop Day to day Through general teaching and approach to behaviour management:

•Protect and enhance the three relationships.

•Encourage the development of positive learning behaviours.

Day-to-day use

At the day-to-day level of use, the teacher ensures their practice in relation to both learning and behaviour protects and enhances the three relationships and encourages the development of positive learning behaviours. For example, the teacher would consider:

• How they phrase positive feedback on learning or behaviour in order to highlight positive learning behaviours.

•The language they use when addressing misbehaviour.

•Opportunities to practise social, emotional and curricular/cognitive learning behaviours.

•Opportunities to directly teach social, emotional and curricular/cognitive learning behaviours.

•The demand placed on learning behaviours by specific activities within the lesson and the implications of this if an individual or group does not have these learning behaviours within their repertoire currently.

•How to maintain an inclusive classroom environment that reduces barriers to learning for those individuals with weaknesses or difficulties in one or more of the three relationships.

Core use:

At the core use level, the assumption is that positive change will be achieved by developing a limited number of target learning behaviours. If working at this level, the teacher would:

•Identify one to three learning behaviours the individual needs to develop or exhibit more frequently.

•Identify adaptations to standard practice and any additional or different strategies and approaches that will contribute to the development of these learning behaviours.

Some strategies and approaches may need to be provided by, or involve actions from, another person. Schools should monitor and evaluate the emergence of one to three learning behaviours originally identified.

Extended use:

At the extended use level, the assumption is that positive change will be achieved by developing one or more of the behaviour for learning relationships. If working at this level, the teacher would:

•Identify the relationship area ('curriculum', 'others', 'self') that the individual needs to develop.

•Identify a cluster of learning behaviours (or specific significant learning behaviour) that need to be promoted in order to have a pervasive, positive effect on the target relationship.

•Identify adaptations to standard practice and any additional or different strategies and approaches that will promote this cluster of learning behaviours (or specific significant learning behaviour).

It may be necessary to seek additional advice, guidance and support from within school or from multi-agency partners. Schools should monitor and evaluate developments in the target relationship by looking for the emergence of the cluster of learning behaviours (or specific significant learning behaviour) originally identified.

Flexibility in practical use:

Once familiar with the basic principles of the behaviour for learning approach, teachers are likely to recognise that they can move flexibly between a focus on the learning behaviour and focus on relationships rather than maintaining a rigid distinction between core and extended use.

The Education Endowment Foundation (EEF) 2019 report Improving Behaviour in Schools provides a useful example of the interplay between the three relationships and learning behaviour and the opportunities this offers. In the example described, the teacher has judged that a learner's problematic behaviour relates to coping when they struggle with the task or make mistakes. Based on this, the target learning behaviour is to deal more effectively with setbacks. The target learning behaviour can be viewed as emotional as it relates to managing a feeling of disappointment, frustration or failure in response to setback. However, as the EEF (2019) report acknowledges, the current behaviour may also be influenced by social and cognitive factors. For example, the learner may feel embarrassed in front of peers and so prefer to give up (a social factor), or limited experience of success (a curricular factor) may cause them to give up more quickly.

In responding to the scenario described by the EEF (2019) report, a teacher adopting a behaviour for learning approach can seek to bring about positive change via strategies focused on each of the three behaviour for learning relationships.

Supporting learners' relationship with the curriculum:

The teacher needs to check the level of challenge, ensuring that the task set is appropriate to the learner's abilities and will allow them to experience success if they persevere. Descriptive positive feedback can be provided, identifying effective learning behaviours the student displayed. Importantly, this feedback should pay particular attention to strategies the student employed when difficulties were encountered.

The learner could also be taught strategies to use when stuck, and even provided with a checklist of steps if felt to be helpful. Setting tasks that allow for multiple outcomes and methods of achieving may help in reducing perceptions by the learner that there is always a single right answer or method.

Supporting learners' relationship with others:

The teacher can reflect on classroom culture and consider how the difficulties in tackling tasks and making mistakes are typically viewed. Students need to feel that acknowledging that a task was difficult at first is not a weakness, and talking about difficulties and how these were overcome is valued. Claxton (2002: 17) refers to the need to develop 'tolerance of the feeling of learning'. It may be helpful to make explicit to students that learning is sometimes difficult. It may be experienced as frustrating because of the number of mistakes made when tackling something new or boring due to the repetition sometimes required to achieve competence.

Learners should not be afraid to make mistakes and instead see these as learning opportunities. The teacher plays an important role in contributing to the classroom climate by how they respond to mistakes made by learners or requests for help with a task. Where a task allows for multiple outcomes and methods of achieving these, it can be made explicit in the instructions that it is expected that learners will need to try out different approaches. In the lesson plenary, feedback on these unsuccessful methods and the learning resulting from them should be valued.

Supporting learners' relationship with self:

The teacher could work with the learner to explore their appraisal of the experience of making a mistake, attempting to develop the more positive interpretation that mistakes are expected and normal when learning something new. The learner might also be encouraged to think about times when they have dealt effectively with a setback and supported to explicitly identify the strategies they used. This could contribute to the learner's sense of self-efficacy by building belief that there are actions they can take that can positively influence outcomes (Bandura 1997).

A metacognitive approach may be useful in support of all the relationships described.

How is Cambridge International supporting schools with behaviour for learning?

We understand learners' educational experiences as being holistic; inclusive of their cognitive, social and emotional development. This is reflected in our Cambridge learner attributes, as we aim to support schools to develop learners who are confident, responsible for themselves and respectful of others, and engaged intellectually and socially, ready to make a difference.

In partnership with Cambridge University Press, we have published a Brighter Thinking podcast episode with Dr Simon Ellis, who has co-authored three books on behaviour for learning in 2009, 2015 and 2018.

Dr Simon Ellis was also our keynote speaker for the Cambridge Schools Conference 2023. A recording of his keynote speech on behaviour for learning is available on our Conferences page.

We have a range of additional education briefs which provide teachers with new ideas and approaches that link theoretical understanding with practical classroom application. The topics of these include: Learner wellbeing, Inclusive education, Oracy, Active learning, Metacognition and Promoting a positive school climate.

We focus on the importance of an inclusive classroom and regularly partner with experts in learner wellbeing, neurodiversity and inclusive education.

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Human Metapneumovirus (HMPV)

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Introduction: Human metapneumovirus (HMPV) is a common cause of respiratory tract infections in children, adults, elderly, and immunocompromised patients. In 2016, it was reclassified from the Paramyxovirdae family to the Pneumoviridae family. This virus is comprised of genetic groups A and B that are each divided into subclasses consisting of A1, A2, B1, B2 with year to year variability. HMPV was initially discovered in 2001 in the Netherlands but has been found across the globe. It is spread predominately by respiratory droplets from those who have been infected with the virus. Infection with HMPV usually occurs by the age of 5 years with reinfection that can occur throughout life. The most predominant clinical scenario caused by HMPV infection is upper and/or lower respiratory tract infections, with lower respiratory tract infections being among the most common. Lower respiratory tract infections due to HMPV can lead to pneumonia, bronchiolitis, as well as acute asthma exacerbations. The mainstay of treatment is supportive care measures with supplemental oxygen, antipyretic agents, and hydration with intravenous fluids if needed

Etiology: Human metapneumovirus is a lipid-enveloped single-stranded, negative-sense non-segmented RNA virus that was reclassified in 2016 from the Paramyxovirdae family to the Pneumoviridae family and the Metapneumovirus genus. It is spread by infectious respiratory droplets. Severe infection with HMPV has been associated with premature birth, immunocompromised status, and underlying chronic pulmonary, neural, or heart disorders

Epidemiology: In 2001, human metapneumovirus was first identified in the Netherlands causing clinical symptoms in children, however serological studies demonstrated that this pathogen was already circulating in the Netherlands in 1958. Although infections with HMPV may be reported year-long, peak infection of HMPV in the northern hemisphere occurs in late winter and early spring, but infection can be found globally across all continents. The four different subgroups A1, A2, B1, B2 have not been known to cause varying levels of severity of infection compared to one another. In addition, there is not a predominance of one strain versus the others.

HMPV is more commonly found in the pediatric population, predominately in children less than 2 years of age with an average age of 22 months. Approximately 90 to 100% of children are infected by HMPV by the age of 5 to 10 years old according to seroprevalence studies. About 5 to 10% of pediatric hospitalizations are a result of HMPV causing acute lower respiratory tract infections. On average, children who are less than 6 months of age with HMPV infection were three times as likely to be hospitalized compared to children between the ages of 6 months to 5 years.

Re-infection may occur due to different viral genotypes or insufficient immunity acquired from the initial infection. Although adults typically only experience mild flu-like symptoms, complications can be seen in the elderly, immunocompromised, or those individuals with chronic lung diseases.

Pathophysiology: Human metapneumovirus is spread from person to person via respiratory droplets. The incubation period of HMPV ranges between 3 to 5 days and varies between individuals. After inoculation within the nasopharyngeal mucosa, the virus can rapidly spread into the respiratory tract. HMPV contains approximately eight genes that code for nine different proteins responsible for infecting host cells. With the help of the attachment glycoprotein (G), the fusion glycoprotein (F) is responsible for transmembrane fusion by binding itself to integrins on host cell surfaces in order to facilitate entry into the host cell. Subsequently, the viral nucleocapsid enters the host cell's cytoplasm and undergoes replication. HMPV induces the response of various chemokines and cytokines such as IL-6, IFN-alpha, TNF-alpha, IL-2, and macrophage inflammatory proteins leading to peribronchiolar and perivascular infiltration and inflammation. The inflammatory process also results in monocyte and lymphocyte influx within the airway endothelium. These responses combined lead to pulmonary inflammation causing the respiratory manifestations of cough, mucous production, fever, dyspnea.

History and Physical:

Human metapneumovirus can present as either upper respiratory tract infection or lower respiratory tract infection.

- Common symptoms of **upper respiratory tract infection** include cough, rhino rhea, congestion, and sore throat.
- **Lower respiratory tract infection** symptoms include wheezing, fever, cough, dyspnea, hypoxia. More often, lower respiratory tract infections in children cause bronchiolitis, acute asthma exacerbations, croup, and pneumonia. This may necessitate hospital admission, depending on the severity of symptoms.
- In adults, HMPV can cause pneumonia, acute asthma exacerbations, and acute exacerbations in chronic obstructive pulmonary disease.
- **Gastrointestinal symptoms** such as diarrhea, nausea, and vomiting have also been noted. Abnormal tympanic membrane suggestive of acute otitis media can also occur. These symptoms can be quite severe in adults with comorbidities, age greater than 65 years old, and immunocompromised patients, including those with HIV, cancer, immunomodulatory therapy, and transplant recipients.
- Identification of HMPV does not require confirmatory testing but is based on a clinical diagnosis majority of the time. However, there are laboratory tests that can be utilized.
- Most commonly, confirmation of infection by HMPV is done by reverse transcriptase-polymerase chain reaction (RT-PCR) from nasopharyngeal swabs.

Evaluation:

1. Identification of HMPV does not require confirmatory testing but is based on a clinical diagnosis majority of the time. However, there are laboratory tests that can be utilized.
2. Most commonly, confirmation of infection by HMPV is done by reverse transcriptase-polymerase chain reaction (RT-PCR) from nasopharyngeal swabs.

Radiographic findings on a chest X-ray are typically nonspecific unless HMPV leads to the development of bronchiolitis or pneumonia. Findings include lobar infiltrates, peribronchial cuffing, hypermutation, or diffuse perihilar infiltrates. It is crucial to assess vital signs and to perform a thorough physical examination looking for signs of respiratory distress and hydration status in order to determine which supportive care measures are necessary.

Treatment and Management:

The primary mainstays of treatment are supportive measures. Anti-pyretic medications such as acetaminophen and ibuprofen are given for those patients with fever. If the patient appears dehydrated and cannot tolerate oral hydration, intravenous fluid hydration is indicated. Additionally, patients with HMPV may require supplemental oxygen support such as high flow nasal cannula or even mechanical ventilation in severe cases causing acute respiratory failure, especially in those patients who have pre-existing respiratory or cardiac illness as well as those who are immunocompromised. Most patients do undergo a full recovery. However, every patient with HMPV should be placed on droplet precautions to limit and prevent spread. There is no current vaccine available for HMPV. However, there have been various vaccines against different structures of HMPV that have been tested on non-human primates and rodents that appear promising, however, none have been tested on human volunteers.

Differential Diagnosis: The differential diagnosis for symptoms resembling HMPV infection includes noninfectious causes such as acute asthma and acute, chronic obstructive pulmonary disease exacerbations. Bacterial infections causing pneumonia can demonstrate a similar clinical picture. Other viruses must also be considered, including coronaviruses, rhinovirus, adenovirus, parainfluenza virus, respiratory syncytial virus, and influenza A and B.

Prognosis: Human metapneumovirus carries a good prognosis. It does require the clinician to be attuned to a patient's underlying medical conditions as well as signs to determine the severity of infection, including dyspnea, hypoxia, and the use of accessory muscles. Typically, supportive care measures are sufficient, and patients undergo a full recovery. Re-infection can occur, demonstrating short-lived and incomplete immunity to HMPV.

Complications: Within certain patient populations, HMPV can cause severe illness requiring hospitalization. Among those are patients who are immunocompromised or have a pre-existing cardiac or respiratory condition. These patients are more susceptible to developing acute respiratory failure requiring high flow oxygen support, with some patients even deteriorating enough to require mechanical ventilation. In these cases, patients need to be admitted to the intensive care unit for close monitoring.

Conclusion: The presence of HMPV as a significant health concern underlines the importance of staying informed and adopting preventive measures. While the virus poses the greatest risk to vulnerable populations, understanding its transmission and symptoms empowers us to protect ourselves and others effectively. Stay vigilant, prioritize hygiene, and consult healthcare professionals for any severe or prolonged symptoms.

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Marburg Haemorrhagic Fever

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Introduction:

Marburg virus disease (MVD), formerly known as Marburg haemorrhagic fever, is a severe, often fatal illness in humans. Rousettus aegyptiacus, a fruit bat of the Pteropodidae family, is considered the natural host of Marburg virus. The Marburg virus is transmitted to people from fruit bats and spreads among humans through human-to-human transmission.

Marburg virus (MARV) and Ravn virus (RAVV) of the species Orthomarburgvirus marburgense are the causative agents of Marburg virus disease (MVD). The disease has a case fatality ratio of up to 88%, but it can be much lower with good and early patient care.

Both viruses are part of the Filoviridae family (filovirus) to which Orthoebolavirus genus belongs. Though caused by different viruses, Ebola and Marburg diseases are clinically similar. Both diseases are rare but have the capacity to cause outbreaks with high fatality rates.

Incidence:

MVD was initially detected in 1967 after two simultaneous outbreaks in Marburg and Frankfurt in Germany, and in Belgrade, Serbia. These outbreaks were associated with laboratory work using African green monkeys (Cercopithecus aethiops) imported from Uganda. Subsequently, outbreaks and sporadic cases have been reported in Angola, the Democratic Republic of the Congo, Equatorial Guinea, Ghana, Guinea, Kenya, South Africa (in a person with recent travel history to Zimbabwe), Tanzania and Uganda. In 2008, two independent cases were reported in travellers who had visited a cave inhabited by Rousettus aegyptiacus bat colonies in Uganda. In September 2024, Rwanda reported the country's first outbreak and Tanzania declared another outbreak in January 2025.

Transmission:

Initially, human MVD infection results from prolonged exposure to mines or caves inhabited by Rousettus fruit bat colonies.

Once introduced in the human population, Marburg virus can spread through human-to-human transmission via direct contact (through broken skin or mucous membranes) with the blood, secretions, organs or other bodily fluids of infected people, and with surfaces and materials (e.g. bedding, clothing) contaminated with these fluids.

Healthcare workers have frequently been infected while treating patients with MVD. This has occurred through close contact with patients when infection control precautions are not strictly practiced. Transmission via contaminated injection equipment or through needle-stick injuries is associated with more severe disease, rapid deterioration, and possibly a higher fatality rate.

Burial ceremonies that involve direct contact with the body of the deceased can also contribute to the transmission of Marburg virus. People cannot transmit the disease before they have symptoms and remain infectious as long as their blood contains the virus.

Clinical Manifestations:

The incubation period (interval from infection to onset of symptoms) varies from 2 to 21 days. MVD begins abruptly, with high fever, severe headache and severe malaise. Muscle aches and pains are a common feature. Severe watery diarrhoea, abdominal pain and cramping, nausea and vomiting can begin on the third day. Non-itchy rash have been reported in patients between 2 and 7 days after onset of symptoms.

From day 5 of the disease, patients may develop haemorrhagic manifestations, including fresh blood in vomitus and faeces, and bleeding from the nose, gums and vagina. Bleeding at venepuncture sites (where intravenous access is obtained to give fluids or obtain blood samples) can also be observed. Involvement of the central nervous system can result in confusion, irritability and aggression. Orchitis (inflammation of one or both testicles) has been reported occasionally in the late phase of disease.

In fatal cases, death occurs most often between 8 and 9 days after symptom onset, usually preceded by severe blood loss and shock.

Diagnosis:

It can be difficult to clinically distinguish MVD from other infectious diseases such as malaria, typhoid fever, shigellosis, meningitis and other viral haemorrhagic fevers. Confirmation that symptoms are caused by Marburg virus infection are made using the following diagnostic methods:

•Antibody-capture enzyme-linked immunosorbent assay (ELISA)
•Antigen-capture detection tests
•Reverse transcriptase polymerase chain reaction (RT-PCR) assay
•Virus isolation by cell culture in maximum containment laboratories.

Samples collected from patients are an extreme biohazard risk; laboratory testing on non-inactivated samples should be conducted under maximum biological containment conditions. All non-inactivated biological specimens should be packaged using the triple packaging system when transported nationally and internationally.

Treatment:

There is currently no effective marburg virus-specific therapy for MVD. Treatment is primarily supportive in nature and includes minimizing invasive procedures, balancing fluids and electrolytes to counter dehydration, administration of anticoagulants early in infection to prevent or control disseminated intravascular coagulation, administration of procoagulants late in infection to control hemorrhaging, maintaining oxygen levels, pain management, and administration of antibiotics or antifungals to treat secondary infections.

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Current Issues in Mental Health

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Abstract: Mental health is the third biggest concern of people globally after Covid19 pandemic. A wide range of conditions that affect mood, thinking and behaviour of the people. The mental problems those are affecting the person if they are not controlling or treated by self or by initial treatment, it can be very severe and affect the ability to relate to others and function of daily activity. It can be occasional or long-lasting.

Introduction:

Mental health refers to cognitive, behavioural and emotional well being. It is all about how people think, feel and behave. Current mental health issues include rising rates of anxiety and depression exacerbated by factors like pandemic and social isolation as well as challenges in accessing quality care and addressing stigma. Mental health is the third biggest concern of people globally after coronavirus. Mental illness is a global problem. Good mental health is indispensable for holistic well being of people. More than 300 million people, 4.4% of the world's population, suffer from depression. These alarming figures reflect the wider prevalence of mental ill-health more generally. It is estimated that mental health conditions will affect a strategies one in four people at some time in their lives. More than 61% of refugees will experience a mental health crisis or breakdown. These include social and economic disadvantage and deprivation, low level of education, unemployment or insecure employment, discrimination and violence.

According to WHO, Mental health is "a state of well being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to her community"

Current Issues in Mental Health:

India shares disproportionate component of this burden with 56 million cases of depression, 43 million of anxiety disorders besides highest global rate of suicides which claim nearly 700 lives every day. Suicide is the leading cause of death in the age group 15-39. Most suicides are attributed to domestic abuse and violence, unemployment, family disputes, examination pressure, financial distress and chronic illness.

The pandemic has had a devastating impact on mental health with the increase of 22 percent of cases because of persistent fear, anxiety, isolation, grieving for the loss of lives, decline in income and disruption of delivery of services and lockdowns. Mental health in turn impacts on issues such as alcohol and substance misuse, abuse and gender-based violence.

Social media: Adolescents who use social media more both overalland at night and those who were more emotionally invested in social media experienced poorer sleep quality, lower self esteem and higher levels of anxiety and depression.

Blue light exposure: Blue light emitted from devices such as phone, tablets, televisions and computer screens inhibit the production of melatonin and further inhibit sleep and causes emotionally, physically and psychologically disturbances in individual.

Self Care Strategies for Maintaining Good Mental Health:

Self care for body:

•Get enough sleep
•Eat healthy
•Participate in regular physical activities
•Avoid tobacco, drugs and alcohol
•Limit screen time
•Rest and relaxation

Self care for mind:

•Limit exposure to news media
•Keep your regular routine
•Stay busy
•Focus on positive thoughts
•Use moral and spiritual compasses
•Set priorities
•Make connection with others
•Do something for others
•Support a family member or friend

Conclusion:

Mental health is essential to our overall well-being and as important as physical health. When an individual feel mentally well, they can work productively, enjoy free time and contribute actively to communities. Now a day challenges regarding mental health is increasing with new symptoms like dishonesty, feeling of guilt, feeling of Euphoria when using the computer, no sense of time, internet addiction etc. It is important to overcome the challenges of mental health. In which removing the barriers to mental health treatment is essential for improving lives and communities. It is estimated that 6-7% of population suffers from mental and behavioural disorder.

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Mayer-Rokitansky-Küster-Hauser (MRKH) Syndrome

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Introduction: Mayer-Rokitansky-Küster-Hauser (MRKH) syndrome is a disorder that occurs in females and mainly affects the reproductive system. This condition causes the vagina and uterus to be underdeveloped or absent, although external genitalia are normal. Affected women usually do not have menstrual periods due to the absent uterus. Often, the first noticeable sign of MRKH syndrome is that menstruation does not begin by age 16 (primary amenorrhea). Women with MRKH syndrome have a female chromosome pattern (46,XX) and normally functioning ovaries. They also have normal breast and pubic hair development. Although women with this condition are usually unable to carry a pregnancy, they may be able to have children through assisted reproduction[1].

When only reproductive organs are affected, the condition is classified as MRKH syndrome type 1. Some women with MRKH syndrome also have abnormalities in other parts of the body; in these cases, the condition is classified as MRKH syndrome type 2. In this form of the condition, the kidneys may be abnormally formed or positioned, or one kidney may fail to develop (unilateral renal agenesis). Affected individuals commonly develop skeletal abnormalities, particularly of the spinal bones (vertebrae). Females with MRKH syndrome type 2 may also have hearing loss or heart defects[1]

Definition: Mayer-Rokitansky-Küster-Hauser (MRKH) syndrome (also referred to as Mayer-Rokitansky syndrome or Rokitansky-Küster-Hauser syndrome) characterized by congenital aplasiaof the uterus and the upper part (2/3) of the vagina in women showing normal development of secondary sexual characteristics and a normal 46,XX karyotype Type I MRKH syndrome is characterized by an isolated absence of the proximal two thirds of the vagina, whereas type II is marked by other malformations, including vertebral, cardiac, urologic (upper tract), and otologic anomalies. Surgical correction of the vaginal anomaly permits normal sexual function and, possibly, reproduction with assisted techniques[2]

Incidence:

The incidence of congenital absence of the vagina is 1 per 4000-5000 female births.{1}

As noted, MRKH syndrome has generally been thought to be a sporadic condition, and female relatives of the patient apparently have no increased risk; however, familial clustering is reported with increasing frequency.[2]

MRKH syndrome is a congenital disorder that is present at birth but may remain undiagnosed until adolescence or early adulthood. It only affects females, and no racial predisposition has been identified.[2]

Causes:

Genetic changes: The cause of MRKH syndrome is unknown. Changes in several genes that are involved in development before birth have been identified in females with MRKH syndrome. However, each has been found in only a few affected individuals, and it is unclear whether these changes cause MRKH syndrome.

Pathophysiology: At approximately 5 weeks' gestation, the müllerian ducts stop developing. The skeleton, which is derived from the embryonic mesoderm, is vulnerable to developmental disturbances at this time. The uterus, the cervix, and the upper two thirds of the vagina form from the fused caudal ends of the müllerian ducts. Fallopian tubes develop from the unfused upper ends; the renal system simultaneously develops from the wolffian (ie, mesonephric) ducts. Ovarian function is preserved because the ovaries originate within the primitive ectoderm, independent of the mesonephros.[3]

Sign and Symptoms:

• The following may be observed in patients with MRKH syndrome.[3]

•The patient undergoes puberty with normal thelarche and adrenarche; however, menses do not begin (ie, primary amenorrhea).

•Patients may report cyclic abdominal pain due to cyclic endometrial shedding without a patent drainage pathway.

•Because ovarian function is normal, patients experience all bodily changes associated with menstruation.

• Infertility.

• Difficulty with intercourse.

• Voiding difficulties, urinary incontinence, or recurrent UTIs.

• Vertebral anomalies (most commonly scoliosis).

Diagnosis:

• Laboratory studies include the following:[4]

•Chromosomal analysis to exclude karyotypic abnormalities of the X chromosome and androgen insensitivity syndrome (AIS); individuals with complete AIS have female external genitalia but a 46,XY karyotype.

•Circulating levels of luteinizing hormone (LH) and follicle-stimulating hormone (FSH), which are normal in MRKH syndrome, indicating appropriate ovarian function.

• Testosterone levels can be assayed and are in the normal female range.

Imaging modalities used for MRKH syndrome include the following:

•Ultrasonography

•MRI

•Laparoscopy

•Pyelography

Ultrasonography:

• Easily depicts the upper level of the vagina and the length of its obstruction.

• Can also be used to identify uterine duplications and tubal obstruction.

•Allows simultaneous assessment of the kidneys and bladder for abnormalities and visualization of some vertebral anomalies.

MRI-

• Provides excellent images of superficial and deep tissue planes.

• Can clarify inconclusive ultrasonography results concerning cavitation of the uterus.

• Improves assessment of subperitoneal structures and detects the presence of a cervix.

• Can be used to image the spine if vertebral anomalies are suspected. (as can plain films)
• MR urography (MRU) is an excellent imaging modality for visualization of both the reproductive and the urinary anatomy, as well as for function.

Laproscopy: It is applied in case of doubtful diagnosis after the realization of non-invasive exams.this define the exact morphology of uterus anomalies,tubes,ovaries.this medical technique id used generally as a survey of the preparation for the surgical operation.

Pyelography:

• Perform intravenous pyelography to assess renal structure.
• Retrograde pyelography can be used to assess the renal collecting system, and it does not require intravenous contrast injection but does require cystoscopy.

Management: The goal of treatment is to provide the patient with an unscarred vagina that allows sexual functioning. Excision of uterine anlage can also prevent endometriosis and resultant ovarian function impairment.[4]

Frank Technique Or Perineal Dilation:

• The only nonsurgical option.
•The patient creates a neovagina by applying progressive pressure to the perineum, using a bicycle-seat stool to hold a dilator in place.
• The technique is self-administered and requires time and patient motivation.
•Compliance may be poor in patients with a vaginal dimple or no vagina, because these patients may experience discomfort and abandon the dilator.

Mc Indoe Technique:

• The most common surgical procedure used for vaginal reconstruction.
• A split-thickness skin graft is the most popular tissue for vaginal replacement, with the thigh or buttocks preferable as a graft donor site.
• The surgeon uses blunt dissection to create a pocket between the urethra and rectum; a cylindrical stent covered with the skin graft is placed into the potential space, and the graft is fixed into place by attaching cut edges of the skin incision to recreate the introitus; the labia majora are then sutured loosely together to hold in the mold.
• The stent is removed about 1 week later, and the patient uses a mold or dilator in the neovagina every day and night for 3 months, followed by nightly insertion for 3 more months to prevent contraction.
• Disadvantages of this procedure include scarring at the donor site, neovaginal stenosis, and the need for long-term dilation .

Williams Vaginoplasty:

• Uses a vulval flap to make a vaginal tube.
• Although this simple procedure does not damage the urethra or rectum, dilation is needed for a lengthy period, and the neovagina has a physiologically abnormal angle.

Rotational Flap Procedures:

• Use the pudendal thigh, gracilis myocutaneous, labia minora, and other fasciocutaneous flaps.
•Disadvantages of these techniques include extensive skin scarring at the donor graft site and the need for patient diligence in postsurgical dilation.

Intestinal Neovagina:

• This technique uses an isolated segment of bowel for vagina.

• The isolated segment retains its vascular supply via intact mesentery.

• Sigmoid is generally the preferred bowel segment, as it can most easily be mobilized to the perineum in a tension-free manner [5] ; patients who have undergone this reconstructive technique report a high degree of satisfaction. [6]

Vecchietti Technique:

• Exerts continuous progressive pressure by an acrylic olive passed through the potential neovaginal space and the abdominal wall.

• A traction device is placed into the peritoneal cavity and gradually draws the olive upward over a period of days to weeks; this gradually lengthens the vaginal vault.

• This technique is now performed laparoscopically.

Prognosis:

The patient may have normal sexual functioning after surgical reconstruction. However, surgical reconstruction does not establish the ability to conceive through natural means. Conception cannot occur without the aid of assisted reproductive techniques.[3]

Patient Education:

• To achieve optimal results, stress compliance with a home dilation schedule.

• Thoroughly discuss the embryonic development of the reproductive system with the patient if the patient is interested and is able to use the information.

• Because the ovaries in a patient with MRKH syndrome are normal, genetic offspring are possible through the use of a gestational carrier.

• If indicated, refer the patient for psychological counseling to explore gender identity issues.[3]

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Sjogren's Disease

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Sjogren's Syndrome is a disorder of your immune system identified by its two most common symptoms - dry eyes and a dry mouth. Otherwise known as **Sjogren-overlap syndrome.**

Harrison's Definition:

Sjögren's Syndrome is a chronic autoimmune disorder characterized by lymphocytic infiltration and destruction of the lacrimal and salivary glands, leading to dryness of the eyes (xerophthalmia) and mouth (xerostomia). The disease can occur in isolation (primary Sjögren's syndrome) or in association with other autoimmune disorders, such as rheumatoid arthritis or systemic lupus erythematosus (secondary Sjögren's syndrome).

Davidson's Definition:

Sjögren's syndrome is an autoimmune disorder that primarily affects the exocrine glands, particularly the salivary and lacrimal glands. The condition is characterized by inflammation and destruction of these glands, resulting in symptoms such as dry mouth (xerostomia), dry eyes (xerophthalmia), and sometimes systemic manifestations like arthritis, fatigue, and neuropathy. The disease can be primary (without any underlying connective tissue disease) or secondary (in association with another autoimmune disorder).

Clinical Types:

1. PRIMARY SS.
2. SECONDARY SS - associated underlying connective tissue diseases :(RA / SLE / Scleroderma)
3. SICCA SYNDROME – Xerophthalmia + Xerostomia – Internal Organ / Bone Involvement.

Etymology: Sjögren's syndrome is named after Swedish ophthalmologist Henrik Sjögren (1899-1986). He first described the condition in 1933 as **"keratoconjunctivitissicca",** primary Sjogren syndrome is a systemic autoimmune disorder most commonly presenting with sicca symptoms. Sicca refers to dryness most often involving the eyes and mouth due to inflammation and resultant pathology of the lacrimal and salivary glands.

Epidemiology: Sjogren syndrome is far from a rare disorder with an incidence approaching approximately one-half of that of rheumatoid arthritis (RA) or affecting 0.5% to 1.0% of the population.Depending on the criteria for determining prevalence, studies estimate the prevalence of SS at between 500,000 and two million people in the United States. A few studies have reported that the incidence of the syndrome varies between three and six per 100,000 per year. Between 400,000 and 3.1 million adults have Sjögren's syndrome. The female:male ratio is approximately 9:1.

Risk Factors:

- Sjogren's syndrome typically occurs in people with one or more known risk factors, including:
- **Age-** People older than 40.
- **Sex-**Women are much more likely to have Sjogren's syndrome.
- **Auto immune response -** Rheumatic disease - such as rheumatoid arthritis or lupus.
- **Hormonal – Oestrogen and progesterone level decreased (post-menopausal period)**
- **Genetic factors- HLA genes, IRF5 genes, STAT4 genes, TNFAIP3 genes and CXCR5 genes.**
- **Infection-** Epstein-Barr virus (EBV)
- **Microchimerism of fetal cells** (offspring lymphoid cells in maternal circulation) may generate autoimmunity in women who have previously been pregnant.

Clinical features:

The two main symptoms of Sjogren's syndrome are:

- **Dry Eyes (Xeropthalmia)** Eyes might burn, itch or feel gritty.
- **Dry Mouth (Xerostomia)** Mouth might feel like it's full of cotton &difficult to swallow or speak.

Other Symptoms:

- Others experience blurred vision, constant eye discomfort, recurrent mouth infections, swollen parotid glands, dysphonia (vocal disorders including hoarseness), and difficulty in swallowing and eating.
- Debilitating fatigue and joint pain can seriously impair quality of life.
- Kidney involvement (autoimmune tubulointerstitial nephritis) leading to proteinuria (excess protein in urine), urinary concentrating defect, and distal renal tubular acidosis.

Diagnosis:

Biopsy of the Minor Salivary Glands is the ideal test to confirm the diagnosis of Sjogren syndrome. CD4 cells are predominant, and about 10% of lymphocytes will be CD5 positive B cells that produce IgG and IgM antibodies.

- A **Schirmer test** will also help confirm ocular dryness.
- Examination in the presence of vital dye staining is necessary to demonstrate KCS (keratoconjunctivitissicca) which is the most characteristic ophthalmologic lesion of Sjogren.
- The **rose bengal score** is the test is used in diagnosing Sjögren's syndrome.
- **Saliva flow test:**In a stimulated saliva flow test the person sucks on a sugar-free sweet, whilst collecting saliva. An unstimulated salivary flow rate of 0.1 to 0.2 ml/min and a stimulated flow rate of 0.7 ml/min or less is considered to be abnormally low flow rates indicative of salivary gland hypo function.
- A **radiological procedure** is in the form of a sialogram. A contrast agent is injected into the parotid duct, which opens from the cheek into the vestibule of the mouth opposite the neck of the upper second molar tooth.

Differential Diagnosis:

•Sarcoidosis
•Mumps
•Mouth breathing
•Lymphoma
•Parkinson disease
•Scleroderma
•Rheumatoid arthritis
•Lupus

Management:

Current guidelines by the Sjorgen Syndrome Foundation recommend

1) Palliation of symptoms.
2) Minimizing complications
3) Proper patient selection when selecting immunosuppressive treatment.

- Dry eyes usually respond to artificial tears applied regularly during the day or to gels applied at night. Patients use a preservative-free drop during the day and a preservative-free gel or ointment at night.
- **Punctal occlusion with plugs or cauterization** is frequently needed in more severe cases.
- **Eye drops** that reduce inflammation in the glands around the eyes, such as cyclosporine (Restasis) are used to increase tear production.
- **Rituximab** is an option for patients with keratoconjunctivitissicca, vasculitis, xerostomia and severe parotid gland swelling.
- **Hydroxychloroquine** is recommended to treat inflammatory polyarthritis. B cell depletion may have a role in certain severe extra-glandular manifestations (vasculitis).
- If patients develop yeast infections, anti-fungal medications are administered.
- **Humidifiers and Nasal Saline Irrigation** may improve nasal dryness. Medications that reduce gastric acid (such as **proton-pump inhibitors and H2 blockers**) may lessen symptoms of acid reflux.
- **Biological Therapies** are used to treat severe cases of Sjogren disease.

Role of Nurse:

- All patients on Rituximab must be closely monitored for tumorlysis syndrome (when patients have lymphoma), cytopenia, infusion reactions, hepatitis B reactivation and serious fungal, viral and bacterial infections.
- Drinking water, chewing gum, or using saliva substitutes may relieve dry mouth.
- The patient should be educated on prevention of dental caries, using fluoride-containing toothpaste and using sugar-free chewing gums and lozenges to promote saliva production.
- For dry eyes, educate the patient on changing the diet and eliminating medications that cause reduced secretions.
- In addition, the nurse should educate the patient on proper use of artificial tears and gels.
- Avoiding contact lenses, using warm compresses and seeing an ophthalmologist is the next step.

- Since these patients are also on a number of drugs to prevent arthritis pain, the nurse should educate the patient on compliance and what adverse reactions to anticipate.
- The patient should also be referred to a physical therapist to regain joint function and build on muscle strength.

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Little Cherry Disease or LChD

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Introduction:

Little cherry disease or LChD, sometimes referred to as little cherry, K & S little cherry or sour cherry decline, is a viral infectious disease that affects cherry trees, most notably sweet cherries (Prunus avium) and sour cherries (Prunus cerasus). Little cherry disease should not be confused with cherry buckskin disease, which is caused by Phytoplasma. Note that both diseases are among the diseases referred to as cherry decline.

Causes:

Little cherry disease is associated with two filamentous plant viruses of the family Closteroviridae, little cherry virus-1 (LChV-1) and little cherry virus-2 (LChV-2). Whereas little cherry virus-2 belongs to the genus Ampelovirus, little cherry virus-1 has been assigned (2013) to the genus Velarivirus. Both viruses are found in the phloem companion and parenchyma cells of infected plants. Little cherry virus-1 has been reported in, apart from cherry trees, plum, almond and peach.

Due to considerable genetic variation among strains, isolates from both viruses have previously been designated as belonging to new and separate species before being reassigned to one of the two recognized viruses.

Epidemiology:

Long-distance spread of the disease occurs through the planting of infected trees, as well as budding and grafting of infected tissue. To prevent the establishment of the disease, guidelines typically call for testing of rootstocks and budwood before planting, removal of all trees known and suspected to be infected and eradication of ornamental and wild cherry trees from the surrounding area.

Short-distance spread of the disease occurs through transmission of the viruses by insect vectors. Little cherry virus-2 is spread by scale insects of the family Pseudococcidae, primarily the apple mealybug (Phenacoccus aceris). In areas where the apple mealybug is commonplace, application of insecticides prior to cutting infected trees are routinely used to stop the spread of little cherry disease within orchards. Little cherry virus-1 is spread by an unknown vector. Little cherry disease likely originated in Japan and spread with ornamental cherry trees world-wide; many of the top cherry producing nations in the world have reported infections, including USA, Italy and Spain.

Signs and symptoms:

In infected trees of the commercially important cultivar Lambert, the fruit develops normally until about ten days before harvest, when maturation stops. At picking time, the cherries are 1/2–2/3 of the regular size, dull in color, with an angular pointed shape. The sugar and acid levels of the cherries are severely impacted, resulting in tasteless fruits, lacking both sweetness and flavor. Other cultivars show symptoms similar to those in Lambert, but usually less severe and more varied. Typically, dark-fruited cultivars show more severe fruit symptoms than cultivars with red or yellow fruit. The ability to recover is also dependent on cultivar, with some able to return to fruit sizes and coloring comparable to uninfected trees. The taste, however, never recovers.

Treatment:

There is no known cure for little cherry disease and tolerance breeding programs have not yielded any cultivars able to withstand the effects of the disease for more than a few seasons.Thus, prevention of spread has been the focal point in combating the disease.

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BIRD FANCIERS' LUNG

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Introduction:

▪ **Bird Fancier's Lung (BFL)**, is immune disorder which is triggered by exposure to avian proteins present in the dry dust of droppings or feathers of a variety of birds. The lungs become inflamed, with granuloma formation. It mostly affects people who work with birds or own many birds.This was first described in 1965.

Definition:

▪ Bird fancier's lung, also known as bird breeder's lung, is a type of hypersensitivity pneumonitis that affects the lungs and is triggered by exposure to avian proteins found in bird droppings and feathers.

Epidemiology:

▪Bird fancier's lung is the most common type of hypersensitivity pneumonitis, accounting for about 15-30% of cases. The prevalence ranges from 0.5-22% among pigeon breeders, and 2.5-21% among bird fanciers in general. It occurs most frequently in middle-aged Caucasian men due to their predominance in the poultry business.People who work with birds or own many birds are at risk.Bird hobbyists and pet store workers may also be at risk.

Causes:

▪ Bird fancier's lung may be caused by allergens from pigeons.

▪ Allergens may also come from other birds, including parakeets, cockatiels, budgerigars, parrots, turtle doves, turkeys, chickens, and other birds.

▪ Antigens can also be from feathers in bedding.

▪ Hypersensitivity pneumonitis can happen when you repeatedly breathe in bacteria, mold, or chemicals in your environment that cause inflammation in your lungs. These harmful substances may be found in:

▪ Contaminated foods or factory products
▪ Contaminated fluids from metal work
▪ Hardwood dusts
▪ Hay or grain for feeding animals
▪ Hot tubs.

RISK FACTORS:

▪ **Age:** Bird fancier lungs can happen at any age, but people often are diagnosed with this condition when they are between 50 and 70 years old. Hypersensitivity pneumonitis is also a common type of long-term interstitial lung disease in children.

▪ **Environment or occupation:** People in certain occupations have a higher risk of being exposed to substances that can cause bird fancier lungs. This includes farmers or people who breed animals or birds, people who work with harsh chemicals, woodworkers, and wine makers.

▪ **Family history:** Your genes can control whether you have a strong response to substances in your environment. You may have a higher risk of bird fancier lungs if someone in your family has this condition.
▪ **Lifestyle habits:** Having pets such as birds in your home can raise your risk of bird fancier lungs.
▪ **Other medical conditions:** Some viral infections in older adults may raise the risk of developing bird fancier lungs.
• **Sign and Symptoms:** Dyspnea, Dry cough, Chest pain, Joint pain, Fever, Fatigue, malaise, Anorexia, Loss of weight, Nocturnal dyspnea, Orthopnea, Rhinitis, Conjunctivitis, Abnormal sounds when you breathe, Long term, Clubbing, a widening and rounding at the ends of your fingers or toes, along with a downward sloping of the nails.

Diagnostic Evaluations:

• History collection
• Physical examination
• Pulmonary function tests
• X-ray
• CT-scan
• Bronchoscopy
• Lung biopsy

Complications:

▪ Pulmonary fibrosis can get worse over time, Respiratory failure, Diffuse alveolar damage.

Management:

• Advice the patient to inform the physician if your symptoms get worse or if you get new symptoms.
• Since physical activity can help you breathe easier. Advice the patient to do some morning physical exercise. Before starting any exercise program, ask your doctor about what level of physical activity is right for you.
• Advice the patient to get routine vaccine e.g., pneumococcal, flu (influenza), and COVID-19 vaccines to avoid lung infections that can make your condition worse.
• Advice the patient to stop smoking. Smoking can make your lung damage worse.

Treatment:

• Symptomatic treatment.
• The only recommended long-term treatment is avoidance of the avian proteins that trigger BFL.
• Corticosteroids, such as prednisone, often suppresses symptoms temporarily, especially in the early stages of the disease. However, corticosteroids tend not to have a long-term effect if avian protein is not also removed from the environment.
• Remove all birds, and bedding and pillows containing feathers, from the patient's home, as well as any down-filled outerwear and sleeping bags.
• Wash all soft furnishings, walls, ceilings and furniture

• Avoid future exposure to birds, bird droppings, or any items containing feathers, such as pillows in many hotels.
• In extreme cases, patients may be advised to evacuate their homes permanently and to dispose of all possessions that have been exposed to avian proteins if they cannot be cleaned thoroughly inside and out. (This includes books, beds, and upholstered furniture.)

Prevention:

- Preventing the onset of BFL relies on limiting exposure to avian proteins:
- Use personal protective equipment like respirator masks when working withbirds
- Perform dust-producing tasks with birds in well-ventilated areas
- Clean up bird droppings and cages frequently using wet mops
- Install exhaust ventilation and HEPA filters in indoor aviaries
- Regularly bathe and groom birds to reduce dander
- Avoid bringing birds into the home
- Cover bird cages when not handling birds
- Promptly wash hands after touching birds
- Wear long sleeves and change clothes after bird contact

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Possessions and Memories

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Introduction: People often develop an attachment to a possession for its ability to embody and bring to mind personally significant memories. These memories include facts about the time and place the object became a possession (e.g. gifted by a grandmother to her 12-old grandchild) and personally experienced events (e.g. remembering the way your grandmother handed a gift to you, with a joyful smile as you tear away the wrapping paper). In this review, we will first define key terms. We will then discuss how possessions and memories are related, detailed through examples of studies and design cases.

The term possession has been defined as 'personal identification with the item as an extension of the self' and possessions as 'things we call ours' [1]. Possession relates to ownership of things, or 'psychological ownership', which is defined as 'the state in which individuals feel as though the target of ownership or a piece of that target is 'theirs'' [2].Ownership can be interpreted in many ways, in particular in the digital domain where having access and online sharing results in a range of ownership options (explored in detail in Ref. [3]

When we talk about possessions in this paper, we aim to be inclusive, also with regards to these ownership options, such as created digital content and subscription-based services. In terms of materiality these things we call possessions can be pre-owned, newly produced or self-constructed and physical, digital, or hybrid in nature.

The term memories in this paper can refer to autobiographical or episodic memory [4,5],which are long-term memories of events that took place in a person's life and relating to themselves. In the context of this paper, especially in product design research, memories can also be seen as loose associations to time periods (childhood) or places (home). Since personal media that are used by people to support memory are increasingly digital and online [6], this includes photos and videos, documents and social media; technology is becoming crucial for supporting remembering practices (e.g. Refs. [7,8]).

Studying possessions and memories is done in different fields as can be seen in the diverse examples later, but the emphasis in this paper is on perspectives including or relating to design and technology, such as in Interaction Design (IxD) and Human-Computer Interaction (HCI).

Connections Between Possessions and Memories:

When looking at the literature across different fields and research areas, we identify four different kinds of connections between possessions and memories (see Figure 1). We use the term connection to represent an ongoing bond between a person's cognition and are presentation in the physical world. The four connections might be best explained through a fictitious example around a personal possession:

Imagine visiting your grandparent and playing cards at the table together over many years. The..

Discussion:

Possessions and memories can be connected to each other in various ways. The four connection types introduced in this paper are used to provide lenses onto the relevant research areas. These lenses are quite artificial; in that the connections between possessions and memories are highly organic, and they can change easily and quickly. One object or one memory might go through all four connection types during their lifetimes, which would be an interesting avenue for future research, seemingly…

Conclusions:

People often become attached to an object because of the memories it brings to mind. This has led many researchers to focus their attention on various types of connections between possessions and memories as an avenue for exploring ways of influencing attachment experiences in real-world scenarios. The review presented in this paper shows a myriad of possible links and relations between possessions and memories, which can vary over time, context, use and across owners. The division of these…

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Moyamoya Disease

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Introduction:

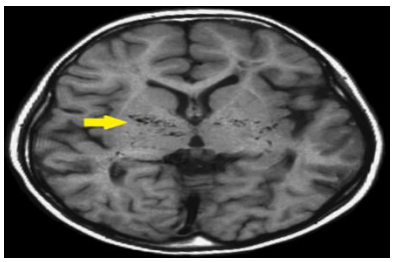
Moyamoya disease is a rare and progressive neurological disorder caused by the narrowing or blockage of the internal carotid artery and its branches, leading to reduced blood flow to the brain.

Epidemiology:

Age of onset of the symptomatic disease has two peak distributions: 5 to 9 years of age and 45 to 49 years of age. It is most commonly seen in East Asian countries (mainly Japan and Korea) but western countries have also noted an increase in the incidence of MMD. One study done in California and Washington state involving 298 patients reported an incidence of MMD of 0.086/100,000. Recently, a study done in East Asian countries found the family history of MMD in 10%-15% of patients from the data of 2000-2011. They also noted a higher incidence of MMD among females with a female-to-male ratio of 2.2. A more recent study based on the Nationwide Inpatient Sample database reported that MMD appears to be distributed among the races according to their relative proportions in the USA population [Higher prevalence was noted among Caucasians followed by Asian Americans and the most common reason for admission was an ischemic stroke. MMD has a bimodal age distribution with the first peak in the first decade and the second peak in the fourth decade of life

Causes and Risk Factors:

1. Inherited conditions and/or association:
2. Sickle Cell Disease or trait
3. Down Syndrome (Association)
4. Neurofibromatosis type 1 (Association)



Acquired conditions:

1. Head and/or neck irradiation
2. Chronic meningitis
3. Skull base tumor
4. Atherosclerosis of skull base arteries
5. Arteriosclerosis
6. Cerebral vasculitis

Sign & symptoms:

Initial Symptoms:

- Transient ischemic attacks (TIAs): Temporary episodes of weakness, numbness, or paralysis in the face, arm, or leg.
- Seizures: Convulsions or seizures, especially in children.
- Headaches: Recurring headaches, often severe and debilitating.
- Dizziness or lightheadedness: Feeling of dizziness or lightheadedness, especially when standing up or changing positions.

Progressive Symptoms:
• Weakness or paralysis: Permanent weakness or paralysis in the face, arm, or leg.
• Speech difficulties: Difficulty speaking, slurred speech, or aphasia.
• Vision problems: Blurred vision, double vision, or loss of vision.
• Cognitive impairment: Difficulty with memory, attention, or concentration.
• Mood changes: Depression, anxiety, or mood swings.
Other Symptoms:
• Sudden loss of consciousness: Sudden loss of consciousness or fainting.
• Confusion: Confusion, disorientation, or altered mental status.
• Numbness or tingling: Numbness or tingling sensations in the face, arm, or leg.
• Difficulty swallowing: Difficulty swallowing or dysphagia.
Symptoms in Children:
• Delayed development: Delayed physical, cognitive, or emotional development.
• Recurring strokes: Recurring strokes or transient ischemic attacks.
• Seizures: Seizures or convulsions.
• Weakness or paralysis: Weakness or paralysis in the face, arm, or leg.
Treatment:
Surgical revascularization: Procedures that aim to improve blood flow to the brain, such as:
Encephaloduroarteriosynangiosis (EDAS): A surgical procedure that involves creating a new pathway for blood flow by connecting a scalp artery to a brain artery.
Superficial temporal artery-middle cerebral artery (STA-MCA) bypass: A surgical procedure that involves creating a new pathway for blood flow by connecting a scalp artery to a brain artery.
Medical management: Medications that aim to reduce the risk of stroke and manage symptoms, such as:
Antiplatelet agents: Medications that prevent platelets from clumping together and forming blood clots.
Anticoagulants: Medications that prevent blood clots from forming.
Vasodilators: Medications that help to widen the blood vessels and improve blood flow.
Prognosis:
The prognosis for Moyamoya disease varies depending on the individual and the severity of the condition. With proper treatment, some people may experience significant improvement in their symptoms and quality of life. However, Moyamoya disease is a progressive condition, and some people may experience ongoing cognitive decline and increased risk of stroke.
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Immunotherapy

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Introduction: Immunotherapy, also known as biologic therapy, is a type of cancer treatment that uses the body's immune system to fight cancer. It works by boosting or modifying the immune system to recognize and attack cancer cells.

Types of Immunotherapy:

1. Checkpoint Inhibitors: Release the brakes on the immune system, allowing it to attack cancer cells. Examples include pembrolizumab (Keytruda) and nivolumab (Opdivo).
2. Cancer Vaccines: Stimulate the immune system to recognize and attack cancer cells. Examples include sipuleucel-T (Provenge) and talimogene laherparepvec (Imlygic).
3. Adoptive T-cell Therapy: Involves removing T-cells from the body, modifying them to recognize cancer cells, and reinfusing them.
4. Monoclonal Antibodies: Target specific proteins on cancer cells, marking them for destruction. Examples include rituximab (Rituxan) and trastuzumab (Herceptin).
5. Cytokines: Stimulate the immune system to attack cancer cells. Examples include interferon-alpha and interleukin-2.

Immunotherapy Works:

1. Recognition: Immunotherapy helps the immune system recognize cancer cells as foreign.
2. Activation: Immunotherapy activates immune cells, such as T-cells and B-cells, to attack cancer cells.
3. Targeting: Immunotherapy targets specific proteins or molecules on cancer cells, marking them for destruction.

Benefits of Immunotherapy:

1. Targeted treatment: Immunotherapy targets specific proteins or cells, reducing harm to healthy cells.
2. Long-term responses: Immunotherapy can lead to long-term responses and even complete remissions.
3. Combination therapy: Immunotherapy can be combined with other treatments, such as chemotherapy and radiation therapy.
4. Fewer side effects: Immunotherapy often has fewer side effects compared to traditional cancer treatments.

Side Effects of Immunotherapy:

1. Fatigue: Feeling tired or weak.
2. Skin rash: Redness, itching, or blistering of the skin.
3. Diarrhea: Frequent or loose bowel movements.
4. Nausea and vomiting: Feeling queasy or vomiting.
5. Immune-related adverse events: Inflammation or damage to healthy tissues.

Eligible for Immunotherapy:

1. Patients with specific cancer types: Immunotherapy is approved for various cancer types, including melanoma, lung cancer, kidney cancer, and lymphoma.
2. Patients with advanced or metastatic cancer: Immunotherapy may be an option for patients with advanced or metastatic cancer.
3. Patients who have failed other treatments: Immunotherapy may be considered for patients who have failed other treatments.

Future Directions of Immunotherapy:

1. Combination therapies: Combining immunotherapy with other treatments to enhance effectiveness.
2. Personalized medicine: Developing immunotherapies tailored to individual patients' needs.
3. Expanding to new cancer types: Exploring immunotherapy for other cancer types.

Nursing Implications:

1. Patient education: Educating patients about immunotherapy, potential side effects, and importance of adherence to treatment.
2. Monitoring for side effects: Monitoring patients for potential side effects and managing them promptly.
3. Collaboration with interdisciplinary team: Collaborating with interdisciplinary team to ensure comprehensive care.

Conclusion:

Immunotherapy is a promising cancer treatment that uses the body's immune system to fight cancer. With its targeted approach and potential for long-term responses, immunotherapy has become a vital part of cancer care. However, it's essential to carefully monitor patients for potential side effects and manage them promptly. As research continues to evolve, immunotherapy is likely to play an increasingly important role in cancer treatment.

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Oropouche Virus: Symptoms, Transmission & Prevention

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The Oropouche virus (OROV) is an arbovirus primarily transmitted to humans through the bite of infected midges, mosquitoes, or via direct human contact. Belonging to the Bunyaviridae family, the virus is predominantly present in tropical and subtropical regions, especially in South and Central America. It causes an illness known as Oropouche fever, which affects thousands of people every year.

Oropouche Virus:

Discovered in 1955, the Oropouche virus is a zoonotic virus that circulates in animal hosts but can be transmitted to humans. It was first identified in Trinidad and Tobago after an outbreak in a local community. Since then, it has spread to various parts of South America, including Brazil, Peru, and Venezuela.

The virus mainly causes Oropouche fever, which resembles other viral diseases such as dengue or Zika. While not typically fatal, the illness can lead to severe symptoms and discomfort in affected individuals, making it a public health concern.

Mode of transmission of Oropouche Virus:

The Oropouche virus is primarily transmitted to humans through the bite of infected insects. **Culicoidesparaensis**, a type of midge (small biting fly), is the primary vector responsible for spreading the virus. In some regions, mosquitoes from the Culex and Aedes species have also been identified as potential carriers. Here are the main transmission routes:

Midge bites: The most common mode of transmission is through the bite of infected midges. These insects feed on the blood of animals and humans, allowing the virus to pass from animals to humans.

Mosquito bites: Though less common, mosquitoes are also capable of transmitting the virus, particularly in areas with a high population of vectors.

Direct contact: In rare cases, the virus can spread through direct contact with the bodily fluids of an infected person, though this is an uncommon transmission route.

Symptoms of Oropouche Fever:

Once an individual is infected with the Oropouche, symptoms typically appear after an incubation period of four to eight days. The illness, Oropouche fever, is characterized by a range of flu-like symptoms, making it difficult to differentiate from other arboviral infections like dengue or Zika.

The common symptoms of Oropouche fever include:

High fever: A sudden onset of fever, often exceeding 38°C (100°F), is a hallmark symptom of Oropouche fever.

Headaches: Severe headaches often accompany the fever, causing significant discomfort.

Muscle and joint pain: Myalgia (muscle pain) and arthralgia (joint pain) are common, contributing to the overall fatigue experienced by the patient.

Rashes: A skin rash, which is typically red and blotchy, may appear on the face, torso, or limbs.

Nausea and vomiting: Gastrointestinal symptoms such as nausea, vomiting, and abdominal pain may also occur.

Photophobia: Sensitivity to light (photophobia) and eye pain can be experienced by some patients.

The illness usually lasts for about five to seven days, and most patients recover without complications. However, in rare cases, the virus can cause more severe neurological symptoms, including meningitis and encephalitis. It's important to seek medical attention if symptoms worsen or do not improve within a week.

Risk factors of Oropouche Infections:

Certain factors increase the risk of contracting the Oropouche, especially for people living in or traveling to endemic areas. Understanding the risk factors can help individuals take preventive measures to reduce their chances of infection.

Geographical location: People living in tropical and subtropical regions, particularly in areas with high midge and mosquito populations, are at a higher risk of contracting the virus. Urban areas in countries such as Brazil, Trinidad, and Venezuela have reported the most cases of Oropouche fever.

Occupation: Outdoor workers, especially those involved in agriculture, construction, and forestry, are at greater risk of exposure due to the nature of their work in environments where midges and mosquitoes thrive.

Travelers: Individuals traveling to endemic regions may be at risk, particularly if they visit areas during the rainy season, when vector populations surge.

Diagnosis of Oropouche Virus:

Since Oropouche fever presents symptoms similar to other viral infections, diagnosis can be challenging without laboratory testing. Physicians typically perform a combination of clinical evaluation and diagnostic tests to confirm the presence of the virus.

Polymerase Chain Reaction (PCR) Test: PCR tests are used to detect the viral RNA in a patient's blood sample. This is one of the most reliable methods for diagnosing the virus during the acute phase of the illness.

Serological Tests: Tests such as enzyme-linked immunosorbent assays (ELISA) can detect antibodies against Oropouche in the blood. However, these tests are more useful for confirming past infections rather than current ones.

Since Oropouche fever shares symptoms with other arboviral diseases like dengue, chikungunya, and Zika, it's essential for medical professionals to rule out these conditions through differential diagnosis.

Prevention of Oropouche Virus:

Preventing Oropouche virus infections requires reducing exposure to the vectors that transmit the virus. Currently, there is no vaccine available for the virus, making preventive measures the most effective strategy for individuals living in or traveling to endemic areas. Here are some practical steps to prevent infection:

Avoiding Midge and Mosquito Bites:

Use insect repellent: Applying repellents containing DEET or picaridin to exposed skin can significantly reduce the risk of insect bites.

Wear protective clothing: Long-sleeved shirts, long pants, and hats can help prevent bites, especially during peak midge activity periods at dawn and dusk.

Install window screens: Using mosquito nets and installing insect screens on windows and doors can keep insects out of living spaces.

Environmental Management:

Eliminate standing water: Since midges and mosquitoes breed in stagnant water, it's essential to remove potential breeding sites, such as old tires, containers, and clogged gutters, around homes and communities.

Regular fumigation: In areas prone to outbreaks, fumigation efforts can help reduce the populations of midges and mosquitoes, minimizing the transmission of the virus.

Community Awareness and Health Campaigns:

Public health campaigns aimed at educating people about the Oropouche virus and how to protect themselves from insect bites are critical to controlling the spread of the virus. Involving local communities in vector control efforts can also reduce the risk of outbreaks.

Treatment for Oropouche Virus:

There is no specific antiviral treatment for the Oropouche virus. Instead, management of the illness focuses on supportive care to alleviate symptoms. This includes:

Rest and **hydration:** Drinking plenty of fluids and resting is essential for recovery, as it helps the body fight the virus.

Fever and pain relief: Over-the-counter medications like acetaminophen or ibuprofen can help reduce fever and alleviate muscle and joint pain.

Avoiding aspirin: It's important to avoid aspirin or **non-steroidal anti-inflammatory drugs (NSAIDs)**, as they can increase the risk of bleeding complications, particularly if other arboviral infections like dengue are suspected. In most cases, patients recover from Oropouche fever without complications. However, those experiencing severe symptoms should seek medical attention to avoid potential complications like meningitis or encephalitis.

Conclusion: The Oropouche virus, while primarily causing mild to moderate illness, its potential for outbreaks and the similarity of its symptoms are comparable to other serious viral infections. Though there is no specific treatment or vaccine for the Oropouche virus, individuals can protect themselves by avoiding insect bites and participating in community-wide efforts to reduce vector populations. The need of the hour is the ongoing research to better understand the virus, its transmission patterns, and how to prevent future outbreaks.

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Euphoria

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Euphoria:

Euphoria is a mental and emotional state which makes a person extremely happy, excited and self-confident. These intense feelings of happiness or well-being are much more than a person would normally feel and out of proportion to the situation.

Euphoria can be experienced by persons suffering from bipolar disorder in the manic phase, as well as in unipolar depression. It can also occur in other psychiatric disorders like cyclothymic personality disorder and in schizophrenia, where the actual perception of reality is blurred.

Types of Euphoria?

The various types of euphoria depend on the types of stimuli that induce the euphoria. These are briefly discussed below:

Music-induced Euphoria: Music is an undefined or abstract stimulus that can stimulate feelings of euphoria, heightened pleasure, and arousal. This occurs due to stimulation of the reward center of the brain.

Exercise-induced Euphoria: Sustained exercise such as aerobics can induce a state of euphoria. Long-distance running can also cause euphoria, which is commonly called "runner's high".

Drug-induced Euphoria: Psychedelic drugs can induce a state of euphoria. For this reason, they are often called "euphoriants". Their mechanism of action depends on the secretion of dopamine, as a result of stimulation of the brain's reward center.

Sex-induced Euphoria: A state of euphoria is often experienced during the act of sexual intercourse, which occurs due to stimulation of the pleasure centers in the limbic system of the brain.

Hypoxia-induced Euphoria: Strangling can cause suffocation, as a result of which the brain is deprived of oxygen. Intentional suffocation for brief periods can cause a state of euphoria. However, this is a very risky behavior as it can accidentally cause death. Altitude sickness can also cause euphoria.

Causes of Euphoria:

- Mental Disorders: These include unipolar depression, bipolar disorder, schizophrenia, and cyclothymic personality disorder.
- Drug Addiction / Abuse: Drugs like cocaine, cannabis (marijuana), amphetamine, heroin, morphine, codeine, oxycodone, fentanyl, ecstasy (MDMA: 3,4-Methylenedioxymethamphetamine), lysergic acid diethylamide (LSD), mescaline, and psychedelic mushrooms.
- Habit-Forming Agents: These are usually less severe than addictive drugs discussed above. These primarily include alcohol, nicotine, and caffeine.
- Neurological Disorders: These include certain neurological disorders such as petit mal seizures, multiple sclerosis, migraine, head injury, and head trauma, which often need to be treated by a neurologist or a neurosurgeon.

• Other Causes: Euphoria may be caused by hypoxia or oxygen deprivation (as occurs in altitude sickness or strangulation). Hyperthyroidism may also cause euphoria.

Symptoms and Signs of Euphoria?

• The major symptoms and signs of euphoria are listed below:
• Extreme feeling of happiness and well-being
• Mood swings
• Hallucinations
• Disorientation
• Paranoia
• Confusion
• Restlessness
• Anxiety

Diagnose Euphoria:

Psychiatric Evaluation: The main aim of psychiatric evaluation is to get an understanding of the state of mind of the patient from his/her behavioral pattern in order to find the actual underlying cause of the problem.

Mini-Mental State Examination (MMSE): This aims to evaluate and assess the appearance, behavior, cognitive ability, speech pattern, evidence of hallucinations and any other signs that may reflect upon the mental state of the patient. It is useful for assessing Alzheimer's disease as an underlying cause of euphoria.

Record of Mood Patterns: The **psychiatrist will ask the patient to maintain a chart** that records on a daily basis any mood changes, changes in sleep patterns and various other factors. This chart is very important for the psychiatrist to plan a treatment regimen for the patient.

Laboratory Tests: Lab tests might be ordered if an underlying cause is suspected. For example, if alcohol addiction is suspected, a blood test to detect the alcohol level in the blood or a liver function test **(LFT)** may be ordered. If hyperthyroidism is suspected, a thyroid function test **(TFT)** that measures T3, T4 and TSH may be ordered.

Brain Imaging: Imaging techniques such as Computed Tomography (CT) scan and Magnetic Resonance Imaging (MRI) may be carried out if the doctor suspects that gross anatomical changes accompanied by changes in brain activity could be the underlying cause of the euphoric condition.

Treat Euphoria:

Mental Disorders: Underlying mental disorders are generally treated with medicines, with regular follow-up, supplemented with psychotherapy sessions.

Drug / Alcohol Abuse: These may be treated by detoxification and de-addiction programs, rehabilitation programs, psychotherapy, and regular monitoring and follow-ups.

Alzheimer's Disease: Alzheimer's disease can cause euphoria, but since there is no treatment for the disease, it is very difficult to stop the symptoms. However, some medicines can improve cognitive function and prevent mild emotional fluctuations such as euphoria.

Hypoxia: In case of hypoxia, the oxygen saturation is measured by pulse oximetry followed by the institution of corrective measures. In case of altitude sickness, prompt transfer to lower altitudes is required along with oxygen supplementation. Intentional asphyxia is generally prevalent among adolescents for experiencing euphoria. For preventing this type of euphoria, proper counselling is a must.

Hyperthyroidism: This condition can be tackled by administration of anti-thyroid medications. Radioactive iodine can be used to slowly shrink the thyroid gland, eventually leading to its destruction. Occasionally, surgery may be required to remove the thyroid gland altogether.

Neurological Disorders: In case of head injuries, surgical intervention by a neurosurgeon is usually required. Other conditions like petit mal seizures and temporal lobe epilepsy can be treated with various types of anti-epileptic drugs such as valproate, phenytoin, phenobarbital, and carbamazepine.

Prevent Euphoria:

Although euphoria is caused by many underlying conditions, only a fraction of these can actually be prevented. These essentially include drug abuse, tobacco use, and alcoholism. These can be prevented by not starting the habit in the first place by exercising self-restraint and lifestyle modifications. If alcohol consumption is necessary during social gatherings, it should always be consumed in moderation.

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Different Ways of AI in Transforming Nursing Education

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Introduction: Most people get into nursing with the intention to touch—or even save—people's lives by providing outstanding clinical care. Still, nurses are only as good as what they know, which is why the field of nursing education is constantly looking for ways to train nurses more effectively. Competent, skilled nurses have a very real effect on patient outcomes in all types of healthcare environments. And because healthcare is often one of the first industries to benefit from advancing technology like artificial intelligence, we're already beginning to see AI make a significant impact on nursing education and the rest of the medical field. Like many aspects of our society, AI has the potential to revolutionize nursing education for students, instructors, and educational institutions. Let's take a closer look at a few of the most important ways artificial intelligence is poised to transform how we teach and train nurses.

AI-Enhanced Curriculum Development:

To ensure each generation of nurses is better-prepared than the last, ongoing evaluation of training programs is an essential part of nursing education. Because AI-assisted platforms can process huge amounts of information at lightning speed, they have incredible potential to identify knowledge gaps, redundancies, or other opportunities for improvement in nursing curriculum.

Personalized Learning and Adaptive Assessment:

Learning styles vary significantly between individuals. Some people absorb material best through listening, while others need visual aids or hands-on experience to solidify certain concepts. One of the greatest challenges in any educational setting is adapting the material to suit different learning styles, and AI-assisted learning shows great promise in doing just that.

Throughout the course of a nursing student's education, AI-driven assessment platforms can also offer real-time feedback during assignments, quizzes, or tests. This can be highly useful in helping students master the material, as they receive tailored guidance while the subject is still top-of-mind, rather than waiting until their assignment is graded by an overworked instructor.

Simulation and Virtual Reality (VR) Training:

When it comes to staying calm in a challenging situation, there's no substitute for experience. Encountering realistic clinical scenarios during their education prepares newly trained nurses to perform under pressure when they're working in a real patient-care environment.AI-powered platforms can introduce new variables and difficulty levels into training scenarios to develop nurses' skills, instincts, and clinical reasoning abilities. AI can also expose nurses to rare scenarios or complications they may not otherwise encounter until several years into their careers.

Predictive Analytics for Student Success:

Whether it's due to life circumstances or academic difficulties, many students with the potential to become great nurses need a little extra support during their education. AI-powered predictive analytics platforms can help identify students who may be at risk of dropping out and connect them with the resources they need to overcome their challenges.

Educational institutions that use analytics to keep students engaged in achieving their goals have experienced higher graduation rates and improved student retention. Empowering nursing students to succeed with the latest learning technology not only creates life-changing career opportunities, it's a critical part of addressing the ongoing healthcare staffing shortage.

AI in Clinical Decision Support:

Clinical decisions are made after considering all the available data, and AI has the potential to assist nurses in making better-informed care decisions by analyzing large quantities of patient information. AI-assisted clinical decision support systems have the potential to recommend next steps, calculate the odds of a patient's condition deteriorating, or provide information about safety concerns.

Artificial intelligence can't replace the expertise, instincts, and observation skills of experienced nurses. But it can provide them with powerful tools to help safeguard patients and maintain a safe and efficient care environment. As technology develops, AI and machine learning platforms continue to enable new ways for healthcare organizations to improve patient outcomes and better support their nursing staff.

AI in Nursing Education: Challenges and Ethical Considerations:

While AI has many fascinating potential applications for nurses and nursing students, it's not without its challenges and concerns. The use of AI in nursing education—and healthcare in general—raises some important ethical considerations that must be addressed if we hope to achieve true health equity.

AI algorithms are trained and programmed by humans, who are subject to many forms of conscious and unconscious bias. Without sufficient oversight, this could cause marginalized groups to experience similar biases from AI platforms that they often experience in current care settings. As AI applications in healthcare increase in number and scope, we must take intentional steps to ensure emerging AI tech uses algorithms programmed to be as inclusive and culturally aware as possible.

Conclusion: Since AI algorithms are trained using large volumes of data, privacy concerns with sensitive health data also come into play. AI platforms should only be trained using data provided with patients' consent for that specific purpose. Like with all advancing technologies, transparency, accountability, and expert oversight are paramount in ensuring ethical standards keep up with the latest developments and applications.

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Lasik Eye Surgery

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Introduction: LASIK eye surgery is the best known and most commonly performed laser refractive surgery to correct vision problems. Laser-assisted in situ keratomileusis (LASIK) can be an alternative to glasses or contact lenses. During LASIK surgery, a special type of cutting laser is used to change the shape of the cornea. The cornea is the dome-shaped clear tissue at the front of the eye.

In eyes with typical vision, the cornea bends — or refracts — light precisely onto the retina at the back of the eye. But with nearsightedness, farsightedness or astigmatism, the light is bent incorrectly. This incorrect refraction causes blurred vision. Glasses or contact lenses can correct vision, but reshaping the cornea also provides the refraction needed to correct vision.

Why it's done?

LASIK surgery may be an option for the correction of these vision problems.

Nearsightedness, also called myopia. In nearsightedness, your eyeball is slightly longer than typical or the cornea curves too sharply. This causes light rays to focus in front of the retina, which makes distant vision blurry. Objects that are close can be seen fairly clearly. But objects in the distance will be blurry.

Farsightedness, also called hyperopia. In farsightedness, you have a shorter than average eyeball or a cornea that is too flat. This causes light to focus behind the retina instead of on it. This makes near vision, and sometimes distant vision, blurry.

Astigmatism. In astigmatism, the cornea curves or flattens unevenly. This affects focus of near and distant vision.

Risks of Lasik Eye Surgery:

- Complications that result in a loss of vision are very rare. But certain side effects of LASIK eye surgery are common. These include dry eyes and temporary visual problems such as glare. These symptoms usually clear up after a few weeks or months. Few people consider them to be a long-term problem.
- Dry eyes. LASIK surgery causes a temporary decrease in tear production. For the first six months or so after your surgery, your eyes may feel unusually dry as they heal. Dry eyes can reduce the quality of your vision.
- Glare, halos and double vision: You may have a hard time seeing at night after surgery. This usually lasts a few days to a few weeks. You might notice increased light sensitivity, glare, halos around bright lights or double vision.
- Even when a good visual result is measured under standard testing conditions, your vision in dim light (such as at dusk or in fog) may be reduced to a greater degree after the surgery than before the surgery.
- Under corrections: If the laser removes too little tissue from your eye, you won't get the clearer vision results you were hoping for. Under corrections are more common for people who are nearsighted. You may need another LASIK procedure within a year to remove more tissue.

- Overcorrection: It's also possible that the laser will remove too much tissue from your eye. Overcorrections may be more difficult to fix than undercorrections.
- Astigmatism: Astigmatism can be caused by uneven tissue removal. It may require another surgery, glasses or contact lenses.
- Flap problems: Folding back or removing the flap from the front of your eye during surgery can cause complications, including infection and excess tears. The outermost corneal tissue layer may grow abnormally underneath the flap during the healing process.
- Corneal ectasia: Corneal ectasia, a condition in which the cornea is too thin and weak, is one of the more-serious complications. The abnormal cornea tissue is unable to maintain its shape, which can lead to cornea bulging and worsening vision.
- Regression: Regression is when your vision slowly changes back toward your original prescription. This is a less common complication.
- Vision loss or changes: Rarely, surgical complications can result in loss of vision. Some people also may not see as sharply or clearly as previously.

Conditions that increase risks:

- Certain health conditions can increase the risks associated with LASIK surgery or make the outcome less predictable. Doctors may not recommend laser refractive surgery for you if you have certain conditions, including:
- Autoimmune disorders, such as rheumatoid arthritis.
- A weakened immune system caused by immunosuppressive medications or HIV.
- Constantly dry eyes.
- Recent changes in vision due to medicines, hormonal changes, pregnancy, breastfeeding or age.
- Inflammation of the cornea, lid disorders, eye injuries or eye diseases, such as uveitis, herpes simplex affecting the eye area, glaucoma or cataracts.
- Disorders of the cornea, including keratoconus or corneal ectasia.
- Have an eye disease that causes the cornea to thin and bulge, such as keratoconus.
- Have a family history of keratoconus or other corneal ectasia.
- Have good overall vision.
- Have severe nearsightedness.
- Have very large pupils or thin corneas.
- Have age-related eye changes that cause vision to be less clear.
- Participate in contact sports that may be associated with blows to the face.
- If you're considering LASIK surgery, talk to your doctor about your questions and concerns. Your doctor will discuss whether you're a candidate for the procedure or other similar procedures.

How you prepare? Steps you can take to prepare for surgery include:

Know what surgery may cost you. LASIK surgery is usually considered elective surgery, so most insurance companies won't cover the cost of the surgery. Be prepared to pay out-of-pocket for your expenses.

- Arrange for a ride home. You'll need to have someone drive you to and from your place of surgery. Immediately after surgery, you might still feel the effects of medicine given to you before surgery, and your vision may be blurry.
- Skip the eye makeup. Don't use eye makeup, cream, perfumes or lotions on the day before and the day of your surgery. Your doctor may also tell you to clean your eyelashes daily or more often in the days leading up to surgery. This helps remove debris and lessens your risk of infection.

What you can expect?

Before the procedure:

- Long-term results from LASIK tend to be best in people who are carefully checked before surgery to see if they are good candidates for the procedure.
- If you wear contact lenses, you'll need to stop wearing them and wear only your glasses for at least a few weeks before your evaluation and surgery. This is because contact lenses can change the shape of your cornea.
- During the evaluation, eye doctor will ask about medical and surgical history and give you a complete eye examination to check vision and decide whether you can undergo the procedure safely.

Your eye doctor will look for signs of:

- Eye infection.
- Inflammation.
- Dry eyes.
- Large pupils.
- High eye pressure.
- Eye doctor will also measure the cornea, noting the shape, contour, thickness and any irregularities and will check which areas of cornea need reshaping and determine the exact amount of tissue to remove from your cornea.
- Doctors generally use wave front-guided technology to check eye in detail before LASIK surgery. In this test, a scanner creates a highly detailed chart, similar to a topographic map, of your eye. The more detailed the measurements, the more accurate your eye doctor can be in removing corneal tissue.
- Before surgery, your doctor will discuss the risks and benefits of LASIK surgery, what to expect before and after surgery, and any questions you may have.

During the procedure:

- LASIK surgery is usually completed in 30 minutes or less. During the procedure, you lie on your back in a reclining chair. You may be given medicine to help you relax. After numbing drops are placed in your eye, your doctor uses an instrument to hold your eyelids open.
- A suction ring is placed on your eye just before cutting the corneal flap. This may cause a feeling of pressure, and your vision may dim a little.
- Your eye surgeon uses a small blade or cutting laser to cut a small hinged flap away from the front of your eye. Folding back the flap allows your doctor to reach the part of your cornea to be reshaped.

- Using a programmed laser, your eye surgeon reshapes parts of your cornea. With each pulse of the laser beam, a tiny amount of corneal tissue is removed. After reshaping the cornea, the surgeon lays the flap back into place. The flap usually heals without stitches.
- During the surgery, patient will be asked to focus on a point of light. Staring at this light helps to keep your eye fixed while the laser reshapes the cornea

After the procedure:

- Immediately after surgery, patient may get eye might itch, feel gritty, burn and be watery. Probably may have blurred vision. Generally will experience little pain, and usually recover your vision quickly.
- Pain medicine or eye drops to keep you comfortable for several hours after the procedure. Your eye doctor might also ask you to wear a shield over your eye at night until your eye heals.
- Patient can able to see after surgery, but your vision won't be clear right away. While vision after LASIK is generally good within a few days, it can be up to 2 to 3 months after your surgery before your eye heals completely and your vision stabilizes. Chances for improved vision are based, in part, on how good your vision was before surgery.
- Patient will have a follow-up appointment with eye doctor 1 to 2 days after surgery. This is to see how your eye is healing and check for any complications. Plan to be done for follow-up appointments during the first six months after surgery as your doctor recommends.
- It might be a few weeks before you can start to use cosmetics around eyes again. Also might to wait several weeks before resuming strenuous contact sports, swimming or using hot tubs.
- Follow doctor's recommendations about how soon you can resume usual activities.

Results:

- LASIK often offers improved vision without the hassle of glasses or contact lenses. In general, you have a very good chance of achieving 20/40 vision or better after refractive surgery.
- More than 8 out of 10 people who've undergone LASIK refractive surgery no longer need to use their glasses or contact lenses for most of their activities.
- Results depend on your specific refractive error and other factors. People with a low grade of nearsightedness tend to have the most success with refractive surgery. People with a high degree of nearsightedness or farsightedness along with astigmatism have less predictable results.
- In some cases, the surgery might result in undercorrection.
- Rarely, some people's eyes slowly return to the level of vision they had before surgery. This might happen due to certain conditions, such as problems with wound healing, hormonal imbalances or pregnancy. Sometimes this change in vision is due to another eye problem, such as a cataract. Talk with your doctor about any vision changes.

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ECG Interpretation in B.Sc. Nursing Students

Mr. Raj Pradhan, Tutor, Chirayu College of Nursing, Bhopal

Introduction:

Coronary Artery Disease (CAD) is one of the leading causes of morbidity and mortality worldwide. Acute Coronary Syndromes (ACS), including unstable angina and myocardial infarction, are among the most critical complications of CAD. Electrocardiography (ECG) serves as a crucial diagnostic tool in detecting cardiac abnormalities, allowing for early intervention and management. Nurses, particularly those in critical care settings, play a vital role in monitoring patients and identifying ECG changes that may indicate life-threatening conditions. Thus, proficiency in ECG interpretation is essential for nursing students. This article explores the effectiveness of a structured teaching program in enhancing the ECG interpretation skills of B.Sc. nursing students.

Methods:

A pre-experimental quantitative research design, using a pre-test and post-test approach, was employed to assess the effectiveness of the structured teaching program. The study was conducted among third-year B.Sc. nursing students at a selected nursing college in Bhopal, India. A total of 60 students participated, selected through convenience sampling technique.

The structured teaching program covered key ECG concepts, including heart conduction, waveforms, and the interpretation of common abnormalities. A structured knowledge questionnaire was used for data collection, divided into five sections: introduction to ECG, heart conduction system, waveforms, conditions associated with ECG changes, and interpretation techniques. A pre-test was administered to assess baseline knowledge, followed by the structured teaching intervention, and a post-test was conducted one week later to evaluate knowledge improvement. Data were analyzed using descriptive and inferential statistics to determine the significance of the difference in knowledge scores.

Results:

The study findings revealed a significant improvement in students' knowledge following the structured teaching program. The mean pre-test score was 6.75 (28.63%), while the mean post-test score increased to 16.83 (71.37%). The mean difference of 12.45, with a standard deviation of 3.42 for the post-test, indicated a notable enhancement in ECG interpretation skills. A t-value of 17.66 at a significance level of $P \leq 0.05$ confirmed the effectiveness of the educational intervention. Additionally, the analysis of demographic variables and pre-test knowledge scores suggested that students with prior exposure to ECG concepts through classroom teaching had higher baseline scores.

Discussion:

The structured teaching program significantly improved ECG interpretation skills among nursing students, as demonstrated by the substantial increase in post-test scores. This underscores the importance of incorporating targeted educational interventions within the nursing curriculum, particularly in critical care training. As cardiac conditions continue to rise globally, well-trained nursing professionals with ECG interpretation skills are essential for effective patient monitoring and timely intervention.

Furthermore, the association of prior ECG exposure with higher baseline knowledge scores highlights the need for early integration of ECG-related content in nursing education. By reinforcing ECG training at an early stage, nursing students can develop the confidence and competence required for clinical practice, ultimately enhancing patient care outcomes.

Conclusion:

The findings of this study emphasize the effectiveness of structured teaching programs in enhancing ECG interpretation skills among B.Sc. nursing students. Given the critical role of ECG in cardiac care, integrating comprehensive ECG education into nursing curricula is essential. By equipping future nurses with the necessary knowledge and skills, healthcare institutions can ensure better patient outcomes and improved cardiac care management.

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Human Metapneumovirus (HMPV)

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Abstract:
Human metapneumovirus (HMPV) is a relative newly described virus. It was first isolated in 2001 and currently appears to be one of the most significant and common human viral infections. Retrospective serologic studies demonstrated the presence of HMPV antibodies in humans more than 50 years earlier. Although the virus was primarily known as causative agent of respiratory tract infections in children, HMPV is an important cause of respiratory infections in adults as well. Almost all children are infected by HMPV below the age of five; the repeated infections throughout life indicate transient immunity. HMPV infections usually are mild and self-limiting, but in the frail elderly and the immunocompromised patients, the clinical course can be complicated. Since culturing the virus is relatively difficult, diagnosis is mostly based on a nucleic acid amplification test, such as reverse transcriptase polymerase chain reaction. To date, no vaccine is available and treatment is supportive. However, ongoing research shows encouraging results. The aim of this paper is to review the current literature concerning HMPV infections in adults, and discuss recent development in treatment and vaccination.

Introduction: Human metapneumovirus (HMPV) is a virus that usually causes symptoms similar to a cold. You might cough or wheeze, have a runny nose or a sore throat. Most cases are mild, but young children, adults over 65 and people with weakened immune systems are at a higher risk for serious illness.

Definition: Human metapneumovirus (HMPV) is a virus that usually causes symptoms similar to a cold. You might cough or wheeze, have a runny nose or a sore throat. Most cases are mild, but young children, adults over 65 and people with weakened immune systems are at a higher risk for serious illness.

Incidence: The incidence estimates range from 5 to 15% in most studies (6, 13, 34, 79, 93, 122, 123, 129), but higher rates have been reported in other studies (28, 75). The clinical manifestations of hMPV infection in young children are indistinguishable from the clinical manifestations of RSV infection.

Risk Factor: Among hospitalized patients, risk factors for severe hMPV disease were female sex, prematurity, and genotype B infection. Age <6 months, comorbidities, and household crowding were risk factors for RSV hospitalization; breast-feeding and viral coinfection were protective.

Pathophysiology: Human metapneumovirus is spread from person to person via respiratory droplets. The incubation period of HMPV ranges between 3 to 5 days and varies between individuals. After inoculation within the nasopharyngeal mucosa, the virus can rapidly spread into the respiratory tract. HMPV contains approximately eight genes that code for nine different proteins responsible for infecting host cells. With the help of the attachment glycoprotein (G), the fusion glycoprotein (F) is responsible for transmembrane fusion by binding itself to integrins on host cell surfaces in order to facilitate entry into the host cell. Subsequently, the viral nucleo capsid enters the host cell's cytoplasm and undergoes replication.

HMPV induces the response of various chemokines and cytokines such as IL-6, IFN-alpha, TNF-alpha, IL-2, and macrophage inflammatory proteins leading to peri bronchiolar and peri vascular infiltration and inflammation. The inflammatory process also results in monocyte and lymphocyte influx within the airway endothelium. These responses combined lead to pulmonary inflammation causing the respiratory manifestations of cough, mucous production, fever, dyspnea Sign And Symptoms: Symptoms commonly associated with HMPV include cough, fever, nasal congestion, and shortness of breath. Clinical symptoms of HMPV infection may progress to bronchitis or pneumonia and are similar to other viruses that cause upper and lower respiratory infection

Diagnostic Evaluation: Diagnosing HMPV infection is typically done through clinical evaluation, laboratory testing, or a combination.

Clinical Evaluation: A doctor will assess the HMPV symptoms and the patient's medical history to ascertain the HMPV infection.

Polymerase Chain Reaction (PCR): This test detects the genetic material of the HMPV virus in a sample from the respiratory tract (usually a nasal swab). PCR is the most common and reliable method for diagnosing HMPV infection.

Viral Culture: This test involves growing the virus in a laboratory from a respiratory tract sample. The viral culture is, however, less commonly taken than the PCR sample and takes longer to get results.

Complication: HMPV can cause pneumonia, acute asthma exacerbations, and acute exacerbations in chronic obstructive pulmonary disease.

Management: The primary mainstays of treatment are supportive measures. Anti-pyretic medications such as acetaminophen and ibuprofen are given for those patients with fever. If the patient appears dehydrated and cannot tolerate oral hydration, intravenous fluid hydration is indicated. Additionally, patients with HMPV may require supplemental oxygen support such as high flow nasal cannula or even mechanical ventilation in severe cases causing acute respiratory failure, especially in those patients who have pre-existing respiratory or cardiac illness as well as those who are immunocompromised. Most patients do undergo a full recovery. However, every patient with HMPV should be placed on droplet precautions to limit and prevent spread. There is no current vaccine available for HMPV. However, there have been various vaccines against different structures of HMPV that have been tested on non-human primates and rodents that appear promising, however, none have been tested on human volunteers

Conclusion: People at risk are the elderly, the immunocompromised patients and patients with cardiac or pulmonary diseases. While HMPV infections are mild and self-limiting in the majority of adults, clinical course can be complicated in these risk groups and associated morbidity and mortality are considerable.

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How Nurses Manage their Mental Health and Wellbeing while Sharing Compassion with their Patients : Evolving Role

Ms. Ranju Patel, Tutor, Chirayu College of Nursing, Bhopal

Introduction:

Nursing is a profession that requires nurses to provide compassionate care and support to patients while managing the demands of their job. The daily stress and workload can take a significant toll on nurses' mental health and well-being, making it essential for them to prioritize self-care.

In India, nursing is a critical profession, with nurses making up the backbone of the healthcare system. According to the Indian Nursing Council, there are approximately 27 lakh registered nurses in the country. However, despite their crucial role, nurses in India often face challenges related to workload, inadequate sta)ing, and limited resources.

A study conducted in 2018 by the Indian Journal of Medical Ethics found that nurses in India face high levels of stress, burnout, and depression. The study also revealed that nurses had low levels of job satisfaction, with many considering leaving the profession due to the challenges they faced.

Prioritize Self-Care:

Nurses must prioritize self-care by maintaining a healthy lifestyle, getting enough sleep, eating a balanced diet, and exercising regularly. Setting aside time to relax and engage in activities that bring joy and fulfillment outside of work is crucial.

Seek Support:

Nurses need to have a strong support system to maintain their mental health and well-being. They should reach out to friends, family, and colleagues for emotional support when needed. Additionally, seeking professional help from a therapist or counselor can help them address mental health concerns, manage stress, and build resilience.

Practice Mindfulness:

Mindfulness practices such as meditation, yoga, or breathing exercises can help nurses manage stress, anxiety, and negative thoughts. Mindfulness encourages focusing on the present moment and can help nurses let go of worries about the future or regrets about the past.

Practice Compassion Fatigue Prevention:

Compassion fatigue is a condition where nurses experience emotional exhaustion and reduced empathy toward their patients. To prevent compassion fatigue, nurses must set healthy boundaries, take breaks when needed, and practice self-compassion.

Engage in Continuing Education:

Engaging in continuing education and training can help nurses stay up-to-date on the latest healthcare practices and technologies. Ongoing education can help nurses feel more confident in their skills and abilities, leading to increased job satisfaction and a more positive outlook.

Practice Emotional Intelligence:

Emotional intelligence is the ability to recognize and manage one's emotions and those of others. Nurses with high emotional intelligence can better manage their stress levels and respond empathetically to their patient's needs. Emotional intelligence can help nurses build positive relationships with patients and colleagues.

Find Meaning in the Work:

Nurses can find meaning in their work by focusing on their positive impact on their patients' lives. Engaging in patient support groups or volunteering outside of regular job duties can provide a sense of fulfillment and purpose.

Foster Positive Relationships:

Building positive relationships with colleagues and patients can help nurses feel supported and valued. Nurses can cultivate positive relationships by practicing active listening, showing empathy, and displaying kindness.

Take Breaks:

Nurses should take regular breaks throughout the day to recharge and prevent burnout. Nurses can take a few minutes to stretch or walk around the unit, take a short nap or eat a healthy snack. They should also take time o) when needed to rest and recharge.

Address Workplace Stressors:

Workplace stressors can contribute to mental health issues. Nurses can address workplace stressors by advocating for better working conditions or seeking additional support from management. Open communication between nurses and management can lead to a more positive work environment.

The Covid-19 pandemic has further highlighted the importance of nursing in India. Nurses have been at the forefront of the fight against the pandemic, working long hours and risking their own health to care for patients. According to a report by the Indian Nurses Association, many nurses in India have been working in challenging conditions, with inadequate protective gear and insu)icient resources. Considering these challenges, it's essential for nurses in India to prioritize their mental health and wellbeing. By practicing self-care, seeking support, practicing mindfulness, preventing compassion fatigue, engaging in continuing education, practicing emotional intelligence, finding meaning in their work, fostering positive relationships, taking breaks, and addressing workplace stressors, nurses can maintain their mental health and continue to provide highquality care to their patients. Additionally, the Indian government and healthcare organizations must recognize the crucial role of nurses and work to provide them with the support and resources they need to do their job e)ectively while maintaining their mental health and wellbeing.

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Preventive Aspects of Female Foeticide

Ms. Priynka Das, Tutor, Chirayu College of Nursing, Bhopal

Introduction:

Female Foeticide is a medical procedure where a female fetus is aborted in the womb of the pregnant woman after identifying the gender of the fetus through ultrasound. This act is illegal in India. It is a social issue that causes unfair treatment of different genders in society. Having a child in many societies is an exciting time; it is the birth of a new life with the potential to be anything he or she wants to be. When someone finds out that they are pregnant, everybody's first instinct is to ask: *"Is it a boy or girl?,"* and usually, whatever the answer is, it is met with excitement and happiness.

In the country of India, female foeticide is the earliest stage possible in the discrimination of women and girls. It is a gender-selective abortion where a female fetus is illegally terminated solely based on the reason that the fetus is a girl. Through recent technology developments in the past 20 years, we are now able to detect the gender of the fetus much earlier in the pregnancy. Because of this, there is a rapidly increasing number of gender-selective abortions performed in India.

Definition:

Definition of Female Foeticide It is described as aborting a female foetus after sex-determination test or pre-natal diagnostic test which includes Ultra-sonography, Foetoscopy, Placental tissue sampling and Amniocentesis. Female foeticide is the process of finding out the sex of the foetus and undergoing abortion if it is a girl.

Incidence Rate:

As per the report of the Ministry of Public Health, it is estimated that, despite the attempts to reduce the fluctuation between the birth of boys and girls, in 2020 there will be 4.3 million more men than women which might have huge repercussions. Measures to Control A lot of measures have been taken to fight against this illegal practice.

In India, the female to male ratio is 1.08 males for every female. This is a result of the limitations Indian society places on the birth of girls.

Main Causes of Female Foeticide:

Causes of Female FoeticideEven though Female Foeticide has been in practice for several years due to preference of a male child over female, not just financial but several social, emotional, and religious causes are the reason behind this heinous crime. However, certain beliefs of some families cannot be changed, but it is high time we showcase their ongoing crisis to lead a better future.

(a) Preference of baby boy
(b) Dowry System
(c) Sexual Violence against women
(d) Advancement of Medical Technology

Consequences of Female Foeticide:

(a) Imbalance in sex-ratio
(b) Sharp increase in sexual offences
(c) Women being abused & sexually exploited
(d) Women being trafficked
(e) Women's health suffer

Act:

In 1994, the Government of India passed the Pre- conception and Pre-natal Diagnostic Techniques (Prohibition of Sex Selection) Act with the aim of preventing female feticide. The implementation of this Act was slow. It was later amended and replaced in 2002 by the Prenatal Diagnostic Techniques (Regulation and Prevention of Misuse) Act without ever having been properly implemented.

The act The Maternal Terminal of Pregnancy or the MTP Act was came into force in This was the first law to regulate the termination of pregnancy. Thus otherwise the termination of pregnancy has been legalized. According to this Act, if the pregnancy would involve a risk to life of pregnant women or cause grave injury/physical or mental imbalance of the fetus, in that case she can be go for abortion. PNDT Act: To check the practice of determination of sex before birth of a child is illegal in the eyes of law, according to the Prenatal Diagnostic test Act, According to the new Law, the person who disobey the PNDT Act, the penalty which at present between 10,000 to 1 lac is being enhanced to anywhere between Rs.3 to 7 lacs.

Legal Initiatives:

The government of India has initiated education and media advertisements to reach hospitals and clinics and medical professionals to increase awareness. The Indian Medical Association has shouldered efforts to prevent prenatal sex determination by promoting 'Beti-Bachao' during its meeting and conferences. The campaign of Beti-Bachao is initiated by Prime Minister Narendra Modi to raise awareness of the gender disparities created and resulting from sex-selective abortion.

New Efforts by Government:

The government declares January 24, 2009 as the national girl child day with a focus on targeting the scourges of female foeticide, domestic violence and malnutrition. The girl child day to be announced by Women and Child Development Minister Renuka Chaudhry on January 19 was cleared by the Cabinet recently. Along with the declaration, the ministry would also launch a sustained campaign to create awareness about female feticide, domestic violence and malnutrition in women and children.

The dowry system, one of the main causes of Female Foeticide, should be abolished from society.

Some policies provide scholarships and cash credits only to girls.

Medical licenses must be terminated with immediate effect for the practitioners who are conducting Female Foeticide.

The families who are forcing this act on their daughters-in-law should be penalized, Young women and girls should be empowered to stand for their rights,They should be self-reliant and become capable of making their decisions.

Government Scheme:

1. Beti Bachao Beti Padhao
2. Balika Samriddhi Yojana
3. CBSE Udaan Scheme
4. Ladli Scheme
5. Karnataka Bhagyashree Scheme

Conclusion:

Through a lot of awareness, consideration, and understanding, we can bring a shift in our beliefs and perceptions of society to give equal space to the girl child. Besides, there is no past, present, or future without a woman and female infanticide or Female Foeticide should be considered as suicide. Female Foeticide is the termination of female fetuses in the wombs of their mothers, for the selfish greed of having a male child. It is a matter of deep shame and a cause of great concern. The evil of Female Foeticide is deeply entrenched in our society and pervades all classes and castes of society. It is very heart-wrenching when a family does not think twice before killing a girl-child, though they indulge themselves in praying religiously to Goddess Lakshmi, Kali, and Durga.

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Integration of Spirituality in Nursing Education: A Holistic Approach to Patient Care

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Introduction: Nursing Education has undergone significant transformations in recent years, with a growing emphasis on holistic care that addresses the physical, emotional, social, and spiritual needs of patients. The integration of spirituality in nursing education is a crucial aspect of this holistic approach, enabling nurses to provide compassionate, patient- centered care that respects the unique spiritual beliefs and values of each individual.

The Importance of Spirituality In Nursing Education: Spirituality plays a vital role in the lives of patients, influencing their experiences, beliefs and values. Nurses who are attuned to the spiritual dimensions of care can provide more empathetic, supportive and effective care. By integrating spirituality into nursing education, educators can equip nurses with the knowledge, skills and attitudes necessary to address the spiritual needs of patients.

Benefits of Integrating Spirituality in Nursing Education:

Improved Patient Outcomes: Spirituality has been linked to improved patient outcomes including reduced anxiety, depression, and pain.

Enhanced Patient Satisfaction: Patients who receive spiritual care report higher satisfaction rates and improved quality of life

Increases Nurse Job satisfaction: Nurses who provide spiritual care report higher job satisfaction rates and reduced burnout

Better End of Life Care: Spirituality plays a crucial role in end of life care, helping patients and families navigate the dying process with dignity and compassion.

Strategies for Integrating Spirituality in Nursing Education:

1. **Provide Spiritual Care Training**: Educators can provide training on spiritual care, including communication skills, active listening, and empathy.
2. **Incorporate Spirituality into Clinical Rotations**: Educators can incorporate spirituality into clinical rotations enabling students to practice spiritual care in real world settings.

For this, Pre-clinical Preparation: Reflect on your own spirituality, understand your own beliefs and values to better appreciate those of your patients. Review relevant literature, explore research on spirituality and health outcomes to better understand the connection.

During Clinical Rotations: Take a spiritual history to understand patient's spiritual beliefs and practices. Incorporate spiritual care into patient interactions, address patients spiritual concerns, offer support and connect them with spiritual resources when needed. Collaborate with chaplains or spiritual care teams. Document spiritual care, include spiritual assessments and interventions in patient charts. Reflect on challenging cases, discuss difficult cases with colleagues or mentors to process spiritual and emotional challenges.

Patient Centered Approaches: Respect patient's autonomy, honor patient's decisions regarding spiritual care and interventions. Use inclusive language, avoid assumptions about patient's spiritual beliefs; use open-ended questions instead. Focus on spiritual support, emphasize support and presence over specific religious practices.

Educating Patient and Families: Explain the importance of spiritual care, discuss how spirituality can impact health outcomes and well-being. Provide spiritual resources. Offer information about hospital chaplains, spiritual support groups, or local faith communities.

Debriefing and Self-care: Regularly reflect on experiences, process challenging cases and emotions with colleagues or mentors. Prioritize self- care, engage in activities that nourish your own spirituality and well-being. By incorporating spirituality into clinical rotations, you can provide more compassionate, patient- centered care and promote better health outcomes.

Invite Spiritual Care Experts: Educators can invite spiritual care experts, such as chaplains or spiritual directors, to provide guest lectures or workshops.

Challenges and Limitations:

1. Cultural and Religious Diversity: Nurses must be prepared to care for patients from diverse cultural and religious backgrounds requiring sensitivity and understanding.

2. Limited Education and Training: Nurses may receive limited education and training on spirituality, requiring ongoing professional development

3. Time Constraints: Nurses may face time constraints making it challenging to provide spiritual care in busy clinical settings.

Conclusion:

The integration of spirituality in nursing education is essential for providing holistic, patient-centered care. By incorporating spirituality into nursing curricula, educators can equip nurses with the knowledge, skills and attitudes necessary to address the spiritual needs of patients. As the healthcare landscape continues to evolve, the importance of spirituality in nursing education will only continue to grow.

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Multisystem Inflammatory Syndrome in Children

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Definition:

Multisystem inflammatory syndrome (MIS) is a group of symptoms, especially in children (MIS-C), is a rare but serious condition linked to the SARS-CoV-2 virus (COVID-19) where multiple organs or tissues become inflamed, causing a variety of symptoms.

Symptoms:

- Heart problems.
- Red, bloodshot eyes.
- Redness or swelling of the lips and tongue.
- Redness or swelling of the hands or feet.
- Pain in the belly, vomiting or diarrhea.
- Problems with blood clotting.
- Shock.
- Fever

Emergency warning signs of MIS-C:

- Severe stomach pain.
- Pain or a feeling of pressure in the chest.
- Problems breathing.
- Pale gray or blue skin, lips or nail beds.
- New confusion.

Causes:

The exact cause of MIS-C is not known yet. Many children with MIS-C have had a recent infection with the COVID-19 virus. Some may have a current infection with the virus.

One idea of a possible cause of MIS-C is that infection with the virus that causes COVID-19, either current or earlier, causes the immune system to overreact.

Risk factors:

Children diagnosed with MIS-C are often between the ages of 5 and 11 years old. But cases are reported among children ages 1 to 15.

Complications:

MIS-C is thought to be a complication of COVID-19.

MIS-C can lead to severe problems with vital organs, such as the heart.In rare cases, MIS-C could lead to permanent damage or even death.

Prevention:

- COVID-19 vaccine now offered to people age 6 months and older.
- Keep hands clean.
- Avoid close contact with anyone who is sick.
- In public indoor spaces, keep distance between yourself and other.

• When COVID-19 community levels are high, wear a face mask in public indoor places.
• Avoid touching your nose, eyes and mouth.
• Cover your mouth with a tissue or your elbow when you sneeze or cough.
• Clean and disinfect high-touch surfaces regularly.

Diagnosis:

• Providers also may order tests to look for inflammation and other signs of MIS-C:
• Lab tests, such as blood and urine tests, including tests for the level of an inflammatory protein in the blood.
• Imaging tests, such as a chest X-ray, an echocardiogram, an abdominal ultrasound or a CT scan.
• Other tests, depending on symptoms.

Treatment:

• Treatment is supportive care and efforts to lower inflammation in any affected vital organs to protect them from permanent damage. Treatment depends on the type and severity of symptoms and which organs and other parts of the body are affected by inflammation.
• Supportive care may include:
• Fluids, if levels are too low, a condition called dehydration.
• Oxygen to help with breathing.
• Blood pressure medicines to treat low blood pressure related to shock or to help with heart function.
• A breathing machine called a ventilator.
• Medicines that lower the risk of blood clots, such as aspirin or heparin.
• In very rare cases, extracorporeal membrane oxygenation (ECMO) using a machine that does the work of the heart and lungs.

Treatment to limit swelling and inflammation may include:

• Antibiotics.
• Steroid therapy.
• Intravenous immunoglobulin (IVIG), a blood product made up of antibodies.
• Other types of treatment, such as targeted therapies aimed at lowering high levels of proteins called cytokines, which can cause inflammation.

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Therapeutic Nurse Patient Relationship

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Definition:

Therapeutic nurse patient relationship is a mutual learning experience and a corrective emotional experience for the patient. It is based on the underlying humanity of nurse and patient, with mutual respect and acceptance of ethno cultural differences.

Goals:

According to Travel Bee Joyce the goals are:

1. The nurse helps the patient to cope with the present problems
2. The nurse helps the patient to understand the problems
3. The nurse helps the patient to understand his active participation in an experience
4. The nurse assists the patient to identify emerging problems realistically
5. The nurse helps the patient to find out a new alternative for his or her problem
6. The nurse helps the patient to try out new patterns of behavior
7. The nurse helps the patient to communicate

Components of Nurse Patient Relationship:

1. Rapport: Getting acquainted and establishing rapport are the primary tasks in relationship development. It implies special feeling on the part of both the client and nurse based on acceptance, warmth, friendliness, common interest, a sense of trust and a non-judgmental attitude. Establishing rapport may be accomplished by discussing non-health related topics.

2. Power: The therapeutic nurse patient relationship is one of unequal power. Although nurses may not perceive themselves as having power in the relationship, nurses have more power than the client. The power of the nurse comes from the authority of won position in the health care system, specialized knowledge, influence with other health care providers and the clients significant others, and access to privileged information. In any professional client relationship, there is an imbalance of power in favor of the professional and is reinforced in health care services by the inherent vulnerability of a client needing care.

3. Trust: To trust another, one must feel confidence in that persons experience, reliability, integrity, veracity and sincere desire to provide assistance when requested. It is the basic of therapeutic relationship. The nurse must have perfect skills that foster the development of trust worthiness. Clients expect the nurse to have the necessary knowledge and skills to demonstrate caring attitudes and behaviors, and so entrust their caret o the nurse. Trust is critical, as the client is in a vulnerable position in the relationship. Part of trust is keeping promises to clients. If trust is breached then it becomes very difficult to re-establish it.

4. Respect: To show respect is to believe in the dignity and worth of an individual regardless of his or her unacceptable behavior. Respect for the dignity and worth of the client is fundamental to the relationship. The nurse needs to know and understand the culture and other aspects of the client's individuality and to take these into account when providing care. Part of respect is being non-judgmental of the client, and seeking to discover the meaning behind certain of the client's

behaviors.

- The nurse can convey an attitude of respect through the following interactions:
- Calling the person by name
- Spending time with the individual
- Allowing for sufficient time to answer the client questions and concerns.

5. Genuineness: The concept of genuineness refers to the nurse's ability to be open, honest and real in interactions with the client. To be real is to be aware of what one is experiencing internally and express this awareness in the therapeutic relationship. When one is genuine, there will be congruence between what is felt and what is being expressed

6. Intimacy: intimacy relates to the kinds of activities nurses perform for and with the client which create personal and private closeness on many levels. This does not refer to sexual intimacy. This can involve physical, emotional and spiritual elements.

Stages of Nurse-Patient Relationship

1. Pre-interaction phase: begins before the nurse's first contact with the patient. Nurse's initial task is one of self exploration. In the first experience working with psychiatric patients, the nurse brings misconceptions and prejudices of the general public, in addition to feelings and fear about new situations.

Tasks:

• Obtaining available information about the patient from medical records, significant others or other health team members
• Initial assessment from the available information
• Explore own feelings, fantasies and feelings
• Analyze professional strengths and limitations
• Plan for first meeting with patient

2. Introductory phase: during this phase the nurse and patient first meet. One of the first primary concerns of the nurse at this phase is to find out why the patient sought help. The reasons for seeking help and whether or not it was voluntary from the basis of assessment help. the nurse to focus on the patients troubles and determine the patient's motivation for treatment.

Tasks:

• Creating an environment for the establishment of trust and rapport
• Determine why patient sought help
• Determining a contract for interventions that has details of expectations and responsibilities of both nurse and patient
• Getting assessment information to build a strong patient database
• Formulating nursing diagnosis, setting goals that are mutually agreeable to the nurse and patient
• Developing a plan of action that is realistic for meeting the established goals
• Explaining the feeling of both the patient and nurse in terms of the introductory phase.
• Analyze why patient is seeking psychiatric help
• Desire for environmental change to treatment setting
• Control of psychiatric symptoms

- For problem solving
- May be advised to seek medical help.
- Formulating a contract: Tasks in this phase of the relationship are to establish a climate of trust, understanding and communication and to formulate a contract with the patient. Elements of nurse patient contract are:
- Name of the individuals
- Roles of nurse and patient
- Responsibilities of nurse and patient
- Expectations of nurse and patient
- Purpose of the relationship
- Meeting location and time
- Conditions for termination
- Confidentiality.

3. Working phase: the focus of working phase is to achieve the goals that were worked out in the nurse patient contract. This is the time for working on solving the problems and trying out new behaviors. Most of the therapeutic work is carried out during this phase of relationship. The nurse and the patient explore stressors and promote the development of insight in the patient by linking perceptions and thoughts, feelings and actions.

Tasks:

- Maintaining the trust and support that was established during the orientation. phase of relationship
- Promoting the patients insight and perceptions of reality
- Problem solving process
- Overcoming resistant behavior on the part of the patient as the level of anxiety rises in response to discussion of painful incidents.

Therapeutic impasses: For variety of reasons therapeutic communication can be hindered. The commonest four impasses are:

- **Resistance:** is the patient's reluctance or avoidance of verbalizing or experiencing troubling aspects of oneself. Resistance is often caused by patient's unwillingness to change when the need for change is recognized. Patient usually displays resistance during the working phase of nurse patient relationship, because greater part of problem solving occurs during this phase.
- **Transference:** is an unconscious response in which the patient experiences feelings and attitudes toward the nurse that were originally associated with other significant figures in his or her life. They may be triggered by superficial similarity, such as facial features or speech, or by personality style or trait. These reactions are the patient's attempt to reduce anxiety. The nurse may be viewed as an authority figure from the past such as parent figure, or lost love object such as former spouse.
- **Counter transference:** it is a therapeutic impasse created by the nurses specific emotional response to the qualities of the patient. This is inappropriate to the content and context of therapeutic nurse patient relationship. It is transference applied to the nurse. It is natural that nurse feels warmth toward or liking for some patient more than others. The nature also

will be genuinely angry about the actions of some patient. But in counter transference, the nurse's responses are not justified by reality. Here nurse identify the patient with individuals from their past, and personal needs interfere with their therapeutic relationship.

➢**Boundary violations:** here the nurse goes beyond the boundaries of the therapeuticrelationship and establish a social, economic, or personal relationship with a patient. Boundary violation is involved whenever a nurse is doing or thinking of doing something special, different or unusual for a patient.

4. Termination of relationship: at the beginning of the relationship, the nurse establishes with the client, family and health team an estimated period of time that the relationship will last. The health related goals and needs of the client determine when the relationship will end. The nurse might indicate for example the necessity of providing care for one shift in a hospital setting or until the ulcer heals or until the client has no further need for nursing services. At this time for terminating the relationship approaches, the nurse needs to discuss ongoing plans for meeting the clients care needs. The nurse and client may identify other necessary resources with other team members helping the client identify what would work hest for him/her. In some settings this may include discharge planning with a referral to community organizations

Communication Skills:

Therapeutic communication skills/techniques are methods used to encourage patients to interact in a manner that promotes their growth and moves them toward their treatment goals. The following are some of the techniques used during therapeutic nurse patient relationship.

1. Listening: listening is an active process of receiving information and examining reaction to the messages received. It is not simply hearing. Listening is sign of respect and is powerful re-inforcer. Active listening involves all the nurse's senses. E.g. maintaining eye contact and receptive nonverbal communication which helps to convey the nurse's interest and acceptance.

2. Broad openings: here the nurse is encouraging the patient to select topics for discussion. Patient should be welcomed to the communication with warmth and respect. Patient should feel that nurse is ready to listen. Open ended questions result in fuller, more revealing answers

Eg.what are you thinking about?; Can you tell me more about that?; What shall we discuss today?

3. Questioning: the nurse skillfully asks open-ended questions during the initial admission. Interviewing skills are necessary to avoid asking too many personal questions in one session. Questions should be to achieve relevance and depth.

How come you stopped taking your medication?; Tell me how you feel now?

4 Restating: nurse is repeating of the main thought the patient has expressed. It also indicates that the nurse is listening, validating, reinforcing or calling attention to what has been said. Usually a part of patient's statement is repeated. When restating patient should not feel the nurse is reassuring, judgmental or defending

e.g. "your mother left you when you were 5 year old

5. Clarification: here, the nurse makes specific questions to help clear up a specific point patient makes by attempting to put into words vague ideas or unclear ideas of the patient. Patient's verbalizations may not be clear when overwhelmed with emotions. Nothing should be allowed to pass to the patient that nurse does not hear or understand.

"I am not sure what you mean. Could do tell me about it again?"

6. Reflection: by reflection nurse is directing back the patient ideas, feeling. questions or content. Reflection lets the patient know that the nurse has heard what was said and understand

the content. Reflection of the feelings let the patient know that the nurse is aware of what the patient is feeling. It signifies understanding, empathy, interest and respect for the patient. Other techniques may not represent empathetic understanding.

"You are looking sad and tense. Is it related to what you have explained?"

7. Focusing: focusing helps the patient expands a topic of importance and also helps in analyzing in detail. It helps the patient talk about life experiences or problem areas and accepts the responsibility for improving them. If the goal is to change thoughts, feelings or beliefs, the patient must first identify and down them. It allows the patient discuss central issues and keeps the communication goal directed.

"I think you should talk more about your relationship with you husband?“

8. Sharing perceptions: it involves asking the patient to verify the nurse's understanding of what the patient is thinking or feeling. For example, nurse is interviewing an alcoholic patient: Patient my wife and children are so good. They love me. But I do not know what happened to me. I can't care them. I can't stop drinking

Nurse you seem to be very disappointed with your drinking. Am I right about that?

9. Humour: humour is basic part of our personality and has a place in therapeutic nurse-patient relationship. It is the discharge of energy through the comic enjoyment of imperfect. It may be helpful with a patient experiencing mild to moderate anxiety. Humour should be consistent with social and cultural values.

10. Informing: here the nurse shares simple facts with the patient. This skill is use in patient education like when to take medication, necessary precautions and side effects. "I think you need to know more about your medication works“

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Occupational Health

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Introduction:

Occupational safety and health (OSH) also commonly referred to as occupational health and safety or workplace health is an area of work and employment.The goals of occupational safety and health programs is to provide a safe and healthy work environment.

Occupational Health:

The occupational health aim at the promotion and maintenance of the highest degree of physical, mental & social well being of workers in all occupations.The ability of a worker to function at an optimum level of well being at a worksite as reflected in terms of productivity, work attendance and employment longevity.

Occupational Health Nursing:

Occupational health nursing is a specialty nursing practice that provides for and delivers health and safety programs and services to workers, worker populations, and community groups. Occupational Health and Safety is the application of nursing and public health practices and skills to the relationship of people to their occupations for the purpose of prevention of disease and injury and the promotion of optimal health and productivity.

Aim of Occupational Health:

To provide a safe occupational environment in order to safe guard the health of the workers and step up industrial production

Objective of Occupational Health:

1. To maintain and promote the worker's health and working capacity.
2. To the improvement of working environment and work.
3. Development of work organizations in a direction which supports health and safety at work.

Occupational Hazards:

There are varieties of hazards to which workers may be exposed:

- Physical Hazards,
- Chemical Hazards,
- Biological Hazards
- Mechanical Hazards
- Psychosocial Hazards
- Electrical hazards

Prevention of Occupational Diseases:

Medical measures, engineering measures, legislationbenefits to employees

The Occupational Health and Safety act has made provisions for following benefits to ensured persons: medical benefit, sickness benefit, Maternity benefit, disablements benefit, Dependants benefit, funeral expenses and rehabilitation allowance.

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Prevention of Diabetes Mellitus

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Diabetes :- A medical condition which the body can control blood sugar effectively.

There are 2 Types of Diabetes Mellitus

Type 1 Diabetes Mellitus
Type 2 Diabetes Mellitus

Type 2 Diabetes Mellitus

Insulin is the hormone that your body produces to control blood sugar type 2 diabetes occurs in your body doesn't use it cell and cant keep blood sugar at normal levels it has been estimated that about of people with diabetes have type 2 diabetes is not something that occurs overnight it talks time to develop. Sometimes over many years.

Symptoms of Type 2 Diabetes

- Urinate (pre) lot, often at night
- Feeling very thirsty
- Lose weight without trying
- Have blurred vision
- Feeling very hungry
- Have unable or tingling hands or feet
- Feel very third
- Have very dry skin
- Have sores that feel slowly
- Have more infection them usual

Risk Factor of Type 2 Diabetes

- Having pre-diabetes
- Being over weight
- Having a urgent brother or sister within type 2 diabetes
- Being age 45 yrs or older
- Being physical active lets than 3 times aware
- Past diagnosis of gestational diabetes (if you have given birth to a body who weighed more than a pounds.
- Being of auction American Hispanic/ Latino American or Asian Americans dissent.

Levels of Prevention

Primordial :- Leally childhood (Prevention risk factor) health promotion & lifestyle modification.

Primary :- Before the onset of disease health promotion & lifestyle modification

Secondary :- Earthy diagnosis searching & management

Tertiary :- Prevent complication & rehabilitation

Conclusion

Diabetes is a life style disorder it can be prevented by adopting healthy life style and by promoting healthy life style based on dietary restriction & rituccrya as described in ayurvedic lets future generation can be saved from getting ill. It is essential to recognize at the stackers working in the field of health and being them on long dusk combat the NCD.

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New Technology in Nursing Education

Ms. Sapna Hiravanya, B.Sc (N) IV Year, CCON, Bhopal

Introduction :- Technology devices, such as smart phones, have become the first and the last thing that human beings interact with on a daily basis online learning to continue teaching and learning a midst covid-19 pandemic.

Information and communication technology (ICT) and PDAS is nursing

AIM :- The aim of this integrative literature review was to explore and describe technology usage for teaching and learning in nursing education.

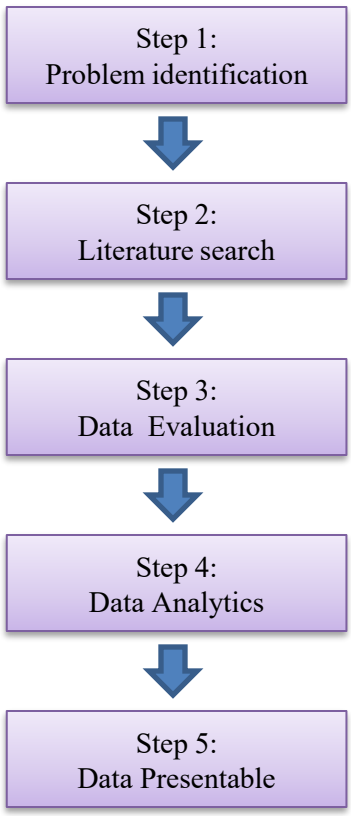
Integrative Review Question

What evidence exists on technology usage for teaching and learning in nursing educating ?

Designation and Methods

This study followed an integrative literature review design to explore and describe review design to eon technology usage for teaching and learning

Figure



Step 1 Problem Identification:
Given the about backgrounds it is clear that a substantial amount of literature exist on the phenomenon in question

Step 2 Literature search:
The authors searched for both empirical and non- empirical articles from EBSCO host health information source and health science

Step 3 Data Evaluation:
Nineteen articles were finally selected for inclusion in this review the authors adapted the quality appraisal criteria by study design, research methods and limitations.

Step 4 Data Analysis:
Articles were analyzed independently by the authors following six steps of thematic analysis, namely, familiarization, coiling defining and naming themes up.

Discussion:
This integrative review offered a contemporary updated evidence on technology usage for teaching and learning in nursing education.

Limitations of the Study:
The researchers used "technology use" and nursing education as search terms in this study and there are other surrogate terms literature.

Conclusion:

- Everyday nurses are developing new and innovative approaches to improve health care services and healthcare outcome for local people.
- Nursing innovation are key to improvement and progress in health system worldwide.

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Recent Development in Nursing

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Nursing, as a crucial aspect of healthcare, has witnessed significant transformations in the last few years, driven by technological advancements, new healthcare policies & evolving patient. Need. These developments have impacted nursing practices worldwide, with particular changes being observed in India due to the increasing demands for healthcare services and the ongoing challenges posed by the covid-19 pandemic

Global Developments in Nursing:

1. Integration of Telehealth & Virtual Care:

One of the most profound change in Nursing over the past three years has been the rapid adaptation of telehealth & virtual care technologies. The covid - 19 pandemic accelerated the shift to remote healthcare, enabling nurses to provide care from a distance Telehealth has allowed nurses to conduct consultation monitor patients, & provide education on chronic disease like diabetes & hypertension have been successful in improving patient. Out comes & enhancing access to care in rural areas.

2. Artificial Intelligence (AI) & Robotics in Nursing:

AI & robotics are increasingly being incorporated into nursing practice, improving efficiency & patient care. Nurses now use AI-powered tools for clinical decision making, early diagnosis & predicting patient outcome. Al can help analyze large amount of data quickly, assisting nurses in making more informed decision. Additionally robotics assistant or used in various health care setting to assist nurses with tasks like patient lifting & transporting which reduces the risk of Injury & improve workflow efficiency.

3. Nurses Practitioners (NPS) & Advanced Practice Roles:

The role of nurse practitioners and advanced practice nurses has expanded globally. In several countries, nurses with advanced training are now able to provide primary care, prescribe medications and conduct diagnostic assessment. This change has been particularly important countries like the United States and the UK, where nurse practitioners have been increasingly filling gaps in primary health care due to a shortage of physicians. This shift towards advanced practice rods highlights the growing recognition of the importance of nurses in the delivery of complementary health care service.

Developments in Nursing in India:

1. COVID-19 Response and Nurses Role:

The Covid-19 pandemic has significantly reshaped the nursing profession in India. Nurses has been on frontline, providing direct patient care, administering vaccines & supporting public health campaigns. Despite the overwhelming pressure, nurse in India have adapted to new roles, including working in COVID care centers, managing the increasing demand for healthcare services & Supporting the mental health of patients and their families. Their role in COVID - 19 vaccination campaign has also been pivotal, as they were involved in both administering & educating the public about vaccine safety

2. Introduction of Nurse Practitioners in India :

In 2020, India introduced the concept of Nurses Practitioners (NPs) in critical care settings. This was a significant development, as NPs have the authority to assess, diagnose & treat patients under the supervision of a physician. The introduction of NPs has aimed to bridge the gap in the shortage of doctors, particularly in critical care and emergency settings, thereby improving healthcare, particularly in critical care and emergency settings, thereby improving health care delivery across India.

3. Digital Health & E-learning for Nurses:

India has also seen an increase in the use of digital health technologies and e-learning for nurses The government and various organizations have Started implementing mobile apps and e-health tools to help nurses manage patient care more effectively These tools include digital patient records, online training and remote monitoring devices. E-Learning platforms have enabled nursing in India to pursue continuing education and specialization in a flexible manner, farther improving their Skills and knowledge.

Challenges & Future Directions:

Despite the progress made in nursing worldwide & in India, several challenges persist. The shortage of nurses remains a pressing issue, exacerbated by the increased demand for health care services. Additionally, there is a need for greater recognition of the role of nurses in policymaking and decision-making in health care System. In India, the implementation of Nurse Practitioners roles is still its nascent stages, and more infrastructure & training programs are needed to support these developments. Additionally, while digital health technologies are growing in India, the disparity in access to these technologies between urban & rural areas presents a significant barrier.

Conclusion:

The nursing profession has undergone remarkable changes in recent years, driven by technological advancements, the expansion of roles and new educational pathways. While global developments, Such as tele-health and the integration of AI, have made health care more accessible and efficient. India is witnessing a gradual transformation with the introduction of Nurse Practitioners and digital health initiatives. However, there are still several Challenges to overcome , including the shortage of nurses and the need for enhancing training and infrastructure.

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Recent Advances in Cancer Treatment

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Introduction:

Cancer is a group of diseases involving abnormal cell growth with the potential to invade or spread to other parts of the body.

- Infections

They form a subset of neoplasms. A neoplasm or tumour is a group of cells that have unregulated growth and will often form a mass or lump but may be distributed diffusely.

Different Types of Cancer

- Bone cancer
- Breast cancer
- Eye cancer
- Kidney cancer
- Leukemia cancer

Causes of Cancer

- Environment
- Diet
- Obesity
- Radiations

Symptoms

- Unusual lump in the body
- Changes in moles on the body
- Changes in moles on the skin
- Difficulty in swallowing
- Abnormal bleeding
- Bleeding in urine

Nitrogen Mustards

- Trofosfamide
  - Prodrug of ifosfamide
  - Orally active
  - Metastatic soft tissue sarcomas
- Prednimustine
  - Ester of prednisolone and chlorambucil

Alkyl Sulfonates

- Mannosulfan
  - Lesser S/E
  - Phase 2
- Treosulfan
  - Evaluated for ovarian cancer

DNA Vaccines:

- Cells can be injected with bits of DNA
- Code for cancer cell protein antigens
- Done by DNA vectors → Plasmids

Nitrogen Mustards:

Trofosfamide:

- It is a cyclophosphamide derivative and an alkylating agent.
- Inhibits cell division by cross-linking DNA strands & decreasing DNA synthesis.
- Orally active.
- Used for metastatic soft tissue sarcomas.

Prednimustine:

- Ester of prednisolone and chlorambucil.
- Causes myelosuppression and fluid retention.

Solubilizers:

- Majority of anticancer drugs have poor solubility.
- Newer agents: Sorpol 230, Sorpol 120, Acepol 345-T, Ricapol 335.

Self-Emulsifying Drug Delivery Formulation (SEDDS):

- Enhances oral absorption of poorly soluble drugs.

Nanotechnology:

- Highly targeted therapy with high efficacy and low toxicity.
- Transports drugs across biological barriers.
- Delivers anticancer drugs into cells without triggering the P-glycoprotein pump.
- Examples: Paclitaxel, Doxorubicin, Dexamethasone, 5-FU.

Carbon Nanotubes (CNTs):

- Used as nanocarriers to transport anticancer genes & proteins for chemotherapy.
- Well-ordered, hollow nanotubes.
- Single or multiple graphene sheets rolled into a cylinder (single- and multi-walled carbon nanotubes.

Consist of Fluorescent Marker and a Monoclonal Antibody at Non-binding Sites:

- Penetrate cell membranes
- Delivery anticancer drug Eg.doxoroidin

Cancer Vaccine:

- Cancer vaccine contain cancer cells, parts of cells, or part antigen
- Increase immune response against cancer cells.

Autologous:

- Made from killed donor cells taken from the same person who will later be treated
- Limitations: Expensive to create a new unique
- Vaccine for each patient
- Cells take to mutate over time

Allogeneic:

- Use cells from a batch of cancer cells
- Mixture of cells removed from several patients

Antigen Vaccines:

- Specific for Specific Cancer
- Boost immune System by using one antigen (or a few)
- Antigens are usually proteins or pieces of proteins called peptides
- Eg. Con - in and B-catenins → Melanoma
- Prostate Cancer, except, stipulated - T (Provenge)
- Recently been expressed advanced prostate
- Cancer Prostate acid phosphatase (PPP)

Dendritic Cell Therapies:

- Dendritic cells help the Immune System recognize and attack abnormal cells, such as cancer cells.
- In cancer, they stimulate the immune system to attack the Cancer cells.
- Dendritic cells - special antigen-presenting cells.
- Break down Cancer cells
- Exposed to Cancer cells or Cancer antigens.

Gene Therapy

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Introduction:

Gene therapy is a technique that uses a gene to treat, prevent or cure a disease or medical disorder. After gene therapy works by adding new copies of a gene that is broken or by replacing a defective or missing gene in a patient cell with a healthy version of that gene.

Definition:

Gene therapy is a field of medicine in which the genes are introduced into the body to cure the disease. It is the intracellular delivering of genes to generate a therapeutic effect by correcting on existing abnormality.

Types:

There are mainly three types of gene therapy

1. Inactivating the mutated gene that is causing disease.
2. Replacing the mutated gene that is causing disease with a healthy copy of a gene.
3. Introducing new or altered genes that can help train the body's immune system to fight a specific disease.

Methods of Gene Therapy:

- There are mainly two approaches for the transfer of genes in gene therapy.
- Ex vivo gene therapy:
- Transfer of genes into patient cells outside the body.
- In vivo gene therapy:
- Transfer of genes directly to cells inside the body.

Ex-vivo Gene Therapy:

- Removing bone marrow stem cells.
- Use retro viruses to introduce the normal gene into the bone marrow cells.
- Viral recombinant DNA carries normal gene into genome.
- Return genetically engineered cells to patient.

In-vivo Gene Therapy:

- Therapeutic genes are inserted into viral DNA or to liposomes.
- Genetically altered DNA is inserted into patients 'body by cell specific direct tissue injection.
- The DNA is incorporated into cells and producing the proteins encoded by the inserted genes.

Benefits of Gene Therapy:

- Treat inherited conditions
- Treat cancers
- Treat injections, can treat diseases that currently have limited or no effective treatments
- Improve the quality of life
- Helps to fight diseases by modifying the genes responsible.

Conclusion:

- Gene therapy has the permitted to cure many serious diseases.
- Gene therapy can bring hope for people with conditions that were previously untreatable.

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Prevention of Hypertension

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Introduction:

Hypertension is a global health challenge and its prevalence is increasing rapidly amongst adults in many African countries.

Hypertension and other non-communicable disease are currently responsible for at least 20% of all deaths in Nigeria.

Definition:

Systolic blood pressure greater than 140 mm Hg and diastolic pressure greater than 90 mm Hg based on the average of two or more accurate blood pressure measurement taken during two or more contacts with health care provides.

Types of Hypertension:

Primary HTN	Secondary HTN
Also known as essential HTN	Less common causes of HTN (51%)
Accounts for 95% cases of HTN	Secondary to other potentially rectifiable causes
No Universally Established cause known	

Risk Factors:

- Unhealthy Diet
- Physical Inactivity
- Obesity (BMIZ30)
- Too much alcohol
- Genetic & family history
- Using tobacco & smoking
- Age stress
- Stress
- Certain chronic condition.

Prevention of Hypertension through Dietary Medication:

The most important steps are to limit sodium intake increase potassium consumption eat plenty of fruits and vegetables choose low- fat dairy product moderate alcohol intake and consider a dietary pattern like the DASH (Dietary Approaches to stop hypertension)

Benefits of Gene Therapy:

- Treat inherited conditions
- Treat cancers
- Treat injections, can treat diseases that currently have limited or no effective treatments
- Improve the quality of life
- Helps to fight diseases by modifying the genes responsible

Conclusion:

- Gene therapy has the permitted to cure many serious diseases.
- Gene therapy can bring hope for people with conditions that were previously untreatable.

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Key Dietary Modification for Hypertension Prevention:

- **Lower Sodium:** Limit processed foods, fast food & add minimal salt to meals **.**
- **Increase Potassium:** Include foods like bananas, potatoes, leafy greens & tomatoes **.**
- **Fruits & Vegetables**: Aim for variety of fresh produce daily.
- **Whole Grains:** Consider for whole wheat bread, brown rice and quinoa instead of refined grain.
- **Lean Protein**: choose fish, poultry beans and low fat dairy products.
- **Limit Saturated Fat:** reduce intake of red meat and full fat dairy.
- **Moderate Alcohol:** alcohol consumption as per recommended guidelines.

Clinical Features:

- Sometime high blood pressure does not cause any symptoms also is known as silent killer.
- Severe headache
- Blurred vision
- Dizziness
- Nausea
- Vomiting
- Fatigue
- Shortness of breath

Prevention of Hypertension:

WHO Recommended Approach:

- Primary prevention all measures to reduce the incidence of diseases in
- population by reducing risk of onset
- Population strategy
- High Risk strategy
- Secondary prevention- we can control hypertension by medication (secondary) but the ultimate goal is primary prevention

Conclusion:

Hypertension can be prevented by making life styles changes as eating a healthy diet exercising regularly and maintaining health weight.

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Current Trends in OBG

Mr. Hariom Yadav, B.Sc (N) IV Year, CCON, Bhopal

Introduction:

A focus on personalized medicine, advanced technologies like non-invasive prenatal testing (NIPT), increased emphasis on patient autonomy and choice, improved access to reproductive health care, a growing focus on mental health during pregnancy and post partum , and a drive towards minimizing unnecessary interventions like cesarean deliveries, while utilizing evidence based prentices to optimize maternal and fetal health outcomes.

- **Current Trends in OBG:**
  Technology has revolutionized and increasingly sophisticated computers in today's world, it has become necessary for the new technology being used.
  Use to this advancement, "the hands on care" of the client is reduced, so also is the quality nursing care.
  Today fetal monitoring has progressed from the use of fetoscope to electronic fetal monitors. It can be used both direct and indirectly.
- **Increased Cost of high- Tech Care:**
  As the high and sophisticated technology is being introduced into today's world the cost is also increasing for the procedures such as ultrasound fetal monitoring etc.
- **Changing Patterns of Child Birth:**
  As early marriages practice still continue, both ends, the older and younger mothers face increase risk of complications during pregnancy, such as preterm delivery LBW (Low Birth Weight)
- **Family Centered Care:**
  Maternity care today has enhanced to family centered care. Family entered approach is basic unit of society. Thus emphasis on this aspect is must that fosters family unity.
- **Rising Caesarean Birth Rates:**
  With the use of fetal monitoring and ultrasound for prenatal monitoring and ultrasound for prenatal evaluation of fetal conditions, has come and increase the rate of caesarean birth rates.
- **Increasing the Number of Neonatal Intensive Care Units (NICU):**
  Over a past 20 years, care of infants and children has become extremely technical. Nowadays, Many infants are born with low birth weight and who are ill. Such infant are transferred to NICU.

Conclusion:

- Trends in midwifery and obstetrical nursing are transforming maternal care.
- Focus on patient centered, safe and respectful are is vital.
- Nurses play a key role in implementing these trends for better out comes.

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Recent Advancement in Nursing

Ms. Isha Vedi, B.Sc (N) IV Year, CCON, Bhopal

Topic : Professional Advancement Role and scope of nursing education.

Introduction: Continuing professional advancement activities for nurses are planned and organised learning experiences designed to advance personal and professional development. Activities can include attending of workshops or conferences , reading of formal articles and the understanding of post graduate nursing course

Definition:

- It is a commitment to begin professional, keeping up to date and continuously seeking to improve.
- It is a key to updating a person's career opportunities.

Objectives of Professional Advancement:

- To enhance professional growth and development.
- To provide recognition for professional contributions.
- To encourage involvement of bedside nurses to pursue higher education ,certification and other professional achievement.
- Patient/Family/Community
- The second domain of the model represents the patient focused care of our professional practice.
- We respect the unique attributes of our patients and families.
- We promote continuity of care to meet changing patient needs.

Benefits of Professional Advancement:

- Allow maturity and confidence to develop in practice.
- It allows the development of expertise and the refinement of skills.
- It allows the nursing work force to be responsive to changes in the management of patient and in meeting emerging cure needs.
- It supports role success and job satisfaction.

Motivation of Uncertainty Making Professional Advancement:

- Registration
- Employment as a nurse
- Desire to improve standard in practice
- To be best in what you do
- Added value
- To gain higher qualification
- To enhance personal status

Achieving Professional Advancement:

- Post registration education university courses
- Attending conference
- Training on the job training , department training
- Coaching

- Shadowing – covering colleagues , acting upto senior role
- Reflective practice- acquisition of extended skills

Scope for Nursing Education:

- Hospitals
- Clinical officers
- Nursing homes
- Hospice
- Schools
- Cruise ship
- Teaching position
- Military
- Flight nurse
- Wellness centres
- Public health officers
- Home health care nurse
- Space nursing
- Agricultural nursing
- Research nursing

Conclusion:

Nursing professionalism is one of the important foundations of clinical nursing it is multi-dimensional, dynamic ,and culture oriented. Based on the analysis of nursing professionalism has been defined as providing people care based on principles of professionalism, caring and altruism.

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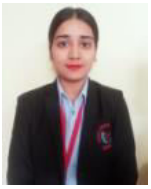
Radiation Therapy

Ms. Kiran Verma, B.Sc (N) IV Year, CCON, Bhopal



Introduction:

The treatment modality for cancer is surgery, radiotherapy and chemotherapy. Operating team must first ascertain all relevant information about tumor and Patient. Key tumor variables are histological type and stage. Those related to patient are age, General health, occupation and social support. Both surgery and radiotherapy are local treatments. Either in combination or individually both after effect a care.

Definition:

According to John Beumer And Thomas A Cortis: Radiation therapy is defined as the therapeutic use of ionized radiation in the management of neoplasms of the body without surgery on as an adjunctive palliative treatment after surgery, either in combination with or without chemotherapy.

Uses / Goal:

(i) To cure cancer
(ii) To reduce symptoms.

Principles of Radiotherapy:

- Delivering of an optimal dose to the tumor.
- Minimal damage of surrounding organs tissues.
- Measures stimulating protective forces of the body.

Types of Radiation Therapy:

(I) External Radiation Therapy:

1. Proton Beam Therapy.
2. Neutron Beam Therapy
3. Stereotactic Radio therapy.

(II) Internal Radiation Therapy:

1. Places radioactive material into tumor or surrounding tissue
2. Also called brachytherapy –“ brachy” Greek ‘par short distance’
3. Radiation Sources placed close to the tumor so large doses can hit the cancer cells.

Nursing Management:

The nurse explain procedure for delivering radiation, describe the equipment, duration of procedure and possible need for immobilization.

Explain to the patient his role before during and after procedure.

Assess patient skin, nutritional status oral mucosa for change.

Provide oral hygiene to remove debris and promote healing.

Side Effects:

1. Fatigue 2. Hair loss 3. Nausea and vomiting 4. Headache 5. Blurry vision

Conclusion:

Radiotherapy has an essential role in radical and palliative management of cancer patients family physicians participating in care of cancer patients can help facilitate referral for radiotherapy when they encounter patients with oncologic problems or complications

Professional Advancement

Ms. Maya Lovewanshi, B.Sc (N) IV Year, CCON, Bhopal

Introduction: Continuing professional advancement activities for nurses are planned and organized learning experience designed to advance personal and professional devolvement. Activities can include the attendance of workshops or conference reading of journal articles and the undertaking of postgraduate nursing course.

Definition: Continuing professional advancement is defined as a means by which members of profession maintain their knowledge, skills & develop qualities in their professional lives. The conscious updating of professional knowledge & the improvement of professional competence throughout a person's working life

Object of Professional Advancement:

- To enhance professional growth & development
- To provide recognition for professional contributions
- To encourage involvement of bedside nurses decision that enhances patient outcomes
- To provide motivation for direct care nurses to pursue higher education certification & other professional achievements.

Benefits of Professional Advancement:

- Allows maturity & confidence to develop in practice it allows the development of expertise & the refinement of skills.
- It allows the nursing work force to be responsive to changes in the management of patient & in meeting emerging care needs.
- It supports role success & job satisfaction.

Motivation to Undertaking Professional Advancement:

- Registration
- Employment as a nurse
- Desire to improve standard in practice
- To be the best in what you do
- Added value
- To gain higher qualification
- To enhance personal status.

Achieving Professional Advancement:

- Post registration education- university courses
- Attending conferences
- Training –on the job training departmental or organization
- Shadowing covering colleagues acting up to a senior role.
- Reading professional journals e.g. international journal of nursing

Career Opportunities:

For nurse a wide range of career opportunities are available as discussed under for ANM:-

- Works as a MPHW at sub-centers.
- With experience & training can be promoted to lady health visitors
- For career development can do down in 3 hears instead of 3.5 years

- For GNM
- For B.Sc (N) & P.B.B.Sc (N)
- For M.Sc (N)

Role of Nursing Education:

- Nurse Practioners
- Administrator
- Lectures
- Lectures practioners
- Specialist community
- Clinical nurse specialists
- Nurse consultant

Scope of Nursing Education:

- Hospitals
- Clinics/offices
- Nursing homes
- Flight nurse
- Industrial/ occupational nurse
- Wellness centers
- Public health offices
- Home health care nurse
- Space nursing
- Agricultural nursing
- Research nurse
- Hospice schools
- Cruise ships
- Military

Conclusion:

- Professional development is a vital part of career growth and success it involves learning new skills staying current with industry trends and building a professional network.
- Continuing professional development is a well developed concept and is widely used abroad and locally (Finance, medical, accounting, engineering).
- It will make us better professionals operating in a more dynamic environment in a more relevant profession with more knowledge at our fingertips.

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3D Printing Technology

Ms. Nisha Prajapati, B.Sc N III Year, CCON, Bhopal

Introduction:

3D printing is a form of additive manufacturing technology where a three-dimensional object is created by laying down successive layers of materials.

The 3D printing concept of custom manufacturing is exciting to nearly everyone.

History:

- 1984-86 – Charles Hull invents 3D printing and coins the term "Stereo Lithography."
- 1992 – First 3D printer built by 3D Systems.
- 1999 – First application of 3D printing in the medical field, creating the human bladder.
- 2000 – Miniature human kidney created through 3D printing.
- 2006 – The selective laser sintering machine prints multiple materials.
- 2009 – First usable prosthetic leg – this opens the doors for customized products using 3D printing.
- 2011 – 3D printers start offering 14k gold as a printable material.

How does it work?

- A person creates a 3D image of an item using a computer-aided design (CAD) software program. The CAD information is sent to the printer.
- The printer forms the item by depositing the material in layers, starting from the bottom layer onto a platform.

Steps Involved:

- **Modelling:** Modelling additive manufacturing takes virtual blueprints from computer-aided design (CAD) or animation modelling software and "slices" them into digital cross-sections for the machine to use as a guideline for printing.
- **Printing:** To perform a print, the machine reads the design and lays down successive layers of liquid, powder, or sheet material to build the model from a series of cross-sections.
- **Finishing:** Though the printer produces resolutions sufficient for many applications, painting or slightly finishing the printed object can enhance its standard resolution. Additionally, removing material with high-resolution subtractive processes can achieve a higher resolution.

Methods and Technologies:

- Several ways to realize 3D objects:
- Selective Laser Sintering (SLS)
- Fused Deposition Modelling (FDM)
- Stereo Lithography (SLA)

1. **Selective Laser Sintering (SLS):**
   This builds objects by using a laser to selectively fuse together successive layers of a cocktail of powdered wax, ceramic, metal, nylon, or one of a range of other materials.
2. **Fused Deposition Modelling (FDS):**
   This method uses a plastic filament or metal wire as input material to an extrusion nozzle.
   - The nozzle is heated to melt the material and can be moved in both horizontal and vertical directions by a beam.
   - The material hardens immediately after extrusion from the nozzle.

Stereolithography:

Stereolithography is a process for creating three-dimensional objects using a computer-controlled laser to build the required structure layer by layer. It does this by using a resin known as liquid photopolymer that hardens when in contact with the air.

Future:

Future applications for 3D printing might include creating open-source scientific equipment to create open-source labs.

- Science-based applications like reconstructing fossils in paleontology.
- Replicating ancient and priceless artifacts in archaeology.
- Reconstructing bones and body parts in forensic pathology.
- The technology is currently being researched for building constructions.

Effects and Challenges:

Space Exploration:

- Making space parts on the fly.
- Cheaper and more efficient space exploration.

Social Change:

- Conventional relationships between the home and workplace might get further eroded.
- It becomes easier to transmit designs for new objects around the globe.
- Intellectual property rights of 3D printer users.
- Firearms could be downloaded and reproduced by anybody with a 3D printer.

Advantages:

- Flexible design – 3D printing allows for the design and print of more complex designs than traditional manufacturing processes.
- Rapid prototyping.
- Print on demand.
- Strong and lightweight parts.
- Fast design and production.
- Cost-effective.
- Minimizing waste.

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Recent Advancement in Nursing

Ms. Parvati Namdev, B.Sc N IV Year, CCON, Bhopal

Introduction:

Nursing a cornerstone of the advancement in recent years as healthcare continues to evolve with technological innovations changing patient needs and shifting global heath landscapes the role of nurses has expanded the role and adapted to meet these challenges from the integration of cutting- age technologies innovation like telemedicine and artificial intelligence to the growth of specialized nursing fielder such as genomic and mental health nursing the profession is transforming in ways that value once unimaginable

1. Telemedicine and Telehealth Integration:

- **Development:** The integration of telemedicine into nursing practices has significantly expanded especially after the COVID-19 pandemic. Nursing are now involved in virtual are providing remote consultations monitoring chronic diseases and delivering foot value.
- **Advancements:** New technologies such as wearable health devices and apps are allowing nurses to track patient's vital signs and provide now personalized are.
- **Impact:** this advancement has improved access health care especially in viral or underserved and has allowed nurses to monitor patients remotely improving outcomes and efficiency.

2. Artificial Intelligence (AI) in Nursing:

- **Development:** AI is making a march in predictive analysis for patient outcomes like machine learning to aid in diagnosis and robotic assistance in surgeries or patient are.
- **Advancements:** AI- provided tools are now helping nurse with tools like patient assessment, triage and even managing routine tasks such as mediation administration and documentation.
- **Impact:** Ai support nurses in providing error rates and including more data driven decision- making.

3. Nursing Education and Stimulation Technologies:

- **Development:** the use of virtual reality and augmented reality (AR) in nursing education is evolving these tools allow nursing students to practice complex clinical skills and scenarios in a controlled risk free environment.
- **Advancement:** interactive mannequins have enhanced hands on training and help bridge the gap lecturer class room leaning and real life clinical experience .
- **Impact:** these advancements allow for more comprehensive engaging and effective learning experiences for nursing student improving preparedness for real world situations.

4. Genomic Nursing:

- **Development:** genomic nursing involves the integration of genetics and genomics into nursing practices nursing are now playing a critical role in educating patients all-out genetic treating family health history and personalized medicine.
- **Advancements:** nurses are increasingly involved in interpreting genetic data to develop personalized are plans for patients particularly in oncology pediatric and rare diseases.

- **Impact:** by embracing genomic medicine nurses are better equipped to provide individualized are that improve patient outcomes

5. Nurse driven innovations in patient care:

- **Development:** nurses are often at the solutions to improve patient are include nurses led research project new are models and practices that enhance patient **safety** and comfort
- **Advancements:** many nurses are now during initiative to improve hospital work house reduce readmission rates and introductive more effective are protocols
- **Impact:** these innovations contribute directly to improved patient outcomes and better patient experience while also increasing that satisfaction.

6. Robotics in nursing:

- **Development:** Robotics technology has made its way into nursing helping to nursing helping to streamline repetitive or physically demanding tasks such as lifting medication dispensary or patient transport.
- **Advancements:** Robotics assisted agencies robotics exoskeletons and AI driven robots for patient monitoring are some of the innovations changing the landscape of nursing .
- **Impact:** Robotics not only case the physical at main on nurses luct also full them up spend more time on direct patient care improving job satisfaction and patient outcomes.

7. Nursing Information:

- **Development:** Nursing information communicate nursing sciences with information management and technology to enhance patient care nurses now utilize electronic health record (EHR) and date improve care coordination.
- **Advancements:** New approaches to care such and specialized program in schools communities and hospitals have been integrated o address mental health challenges more effectively
- **Impact:** Nurses trained in mental health support reduce stigma and intervene early in mental health nurses improving patent well living**.**

9. Personalized Care and Patient Centered Approaches:

- **Development:** there's been a shift toward personalized patient entered care shaping individualized care plans that consider the whole person including their cultural background preferences and lifestyle.
- **Advancement:** Advances in technology have allowed for more accurate tracking of patients preference real time health status and tailored interventions
- **Impact:** This approach leads to better patient engagement improved satisfaction and positive health outcomes

10. Nursing Adversary and Policy Leadership:

- **Development:** nurse are increasingly stepping into roles of advocacy and leadership in fluency health care policy patient rights and working conditions.
- **Advancements:** the rise of nursing leadership in political approach as well as involvement in shaping health care polices has been nurses fight for better working conditions patient care standards and access to health care.

- **Impact:** Nurses led advocacy involves that varies of frontline caregivers are heard leading to systemic changes that improve the health care system as a whole

Conclusions: Nursing is rapidly involving these advancement reflect the progressions growing role in improving patient care and health outcomes nurses care leveraging technology expanding their roles in specialized care and advocating for better health care practices maintaining themselves as pivotal figures in the transformation of modern health care

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Telemedicine & Telehealth

Ms. Rani Malviya, B.Sc N IV Year, CCON, Bhopal

Introduction:

Telehealth also referred to as telemedicine or e-medicine is the remote delivery of healthcare service over the telecommunications infrastructure. Telehealth allows healthcare providers to evaluate diagnose inform and treat patients without an in-person visit. Telehealth is defined as the use of electronic communication to share medical information of improving patient's health.

Telemedicine and **Telehealth: What is the difference?**

What is Telemedicine?

- Clinical care provide form a distance.
- The use of electronic communication and information technologies to provide or support clinical care.
- Primary care.
- Medical specialties.
- Intensive care service.
- Emergency Departments.

What is Telehealth:

- Telehealth encompasses telemedicine & other uses for communication technologies.
- Health professions education
- Administration
- Homeland security
- Public health
- Consumer education
- Evaluation research
- Regional health information sharing

The Need for Telehealth:

- Clinician shortages
- Misdistribution of provided
- Rural/urban underserved
- Aging population
- Language Barriers
- Clinical education programs
- Administrative meetings

Telehealth Benefits:

- Reduces barriers to access
- Increase efficiency for providers
- Reduces overall health care costs
- Improves quality of care
- Increase patient satisfaction
- Virtual accessibility
- Improves health outcomes

What is the Technology?

Principal Components:-

- Camera
- Viewing Screw
- Code
- Scopes and peripherals
- Transmission method

Telehealth System Models :

- State ride systems
- Networks
- University based system
- Regional
- Independent health care origination

Different Approaches for Various Needs:

- Hive interaction
- Store and forward
- Emergency response
- Home health monitoring
- Educational services
- Video conferencing

Live Interactive Telemedicine:

- Patient visits using videoconferencing with patient & provides are communicating in real time.
- Specialty services
- Dermatology
- Urology
- Psychiatry
- Orthopedics
- Neurology
- Pain management
- Endocrinology
- ENT
- Rheumatology

Other Great Uses for Live Interactive:

- Dental services
- Connecting friends & family
- Family counseling
- Support groups
- Patient education Administrative meetings

Live Interactive Telemedicine:

- Outpatient clinics
- Mental health centers
- Interview care units
- Correctional facilities
- Emergency departments
- Emergency transport units
- Surgery suites

Mobile Live Telemedicine Unit:

- The Oklahoma state mobile telemedicine clinic began operations in March 2007
- The mobile telemedicine unit also coordinates unit

Live Interactive Teledentistry :

- Children
- School sites

Disaster & Emergency Preparedness/ Response:

- Telemedicine via satellite
- Loma linda university mobile telemedicine vehicles

Video Interpretations Services:

- Improves quality of care avoid medical errors
- Multilingual
- Culturally competent
- Trained in medical terminology
- Meet legal/contract requirements

Telepharmacy:

- Store and forward
- Patient education kiosks
- Home health & monitoring
- Provider & patient education
- Administrative meeting
- Reimbursement

Legal Aspects:

- Intellectual property rights
- Risks management
- Credentialing and privileging
- Interstate in censure
- Telecommunications low
- Privacy
- Fraud and abuse

Barriers:

- Reimbursement
- Physician champions
- Intuitional by inconvenience
- Telecommunication cost
- Program sustainability
- Interstate licensing

Program Support & Assistance:

- Equipment options
- Practice guides
- Program design
- Reimbursement
- Beeriness models

Conclusion:

Telehealth and telemedicine offers significant potential to improve healthcare access particularly for remote population by enabling virtual consultations with providers enhancing patient engagement and managing chronic condition while providing but challenges remain regarding technology adoption reimbursement structure and insuring quality of care in certain situation.

Telehealth Resources Centers Web Sites:

- National telehealth resource center www.telehealthlawcenter.org
- Micluest alliance for telehealth and technology www.midestlyrc.org

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Technology Used for Teaching and Learning in Nursing Education

Ms. Sakshi Tiwari, B.Sc N IV Year, CCON, Bhopal

Abstract:

Background:

The increasing availability of technology devices or portable digital assistant devices continues to change the teaching – learning landscape. Including technology – supported learning. Portable digital assistants and technology usage have become an integral part of teaching and learning now a days. Cloud computing, which includes youtube, Google, apps, twitters has become the reality of todays teaching and learning and has noticeably improved higher education including nursing education.

Introduction:

The first theme discusses the frequency of technology use for teaching and learning in both classroom and clinical nursing education.

Information and communication literacy, information system management and citizen digital health literacy are amongst the individual descriptors of learning that students should achieve in each of the key areas. This implies that digital literacy is amongst the critical cross fields for every graduate. As a result, the increase in the number of people who use computerized devices such as smartphones id relatively proportional to the amount of time spent on these devices. The use of mobile applications in nursing education has been ranked top in comparison to peer learning and clinical placement coordinators.

Manner in Which Technology is Used in Nursing Education:

According to Harerimana and Maitshai,(2019) technology in nursing education is primarily used for communication of instructors to the students to enhance their creativity and critical thinking skills and also for building relationships with stakeholders in nursing education. The authors add that technology in nursing education is used to maintain student attention in the classroom and to collaborate theoretical learning through the use of audio virtual aids. Teaching and learning in classroom is achieved through the use of mediums such as Microsoft learns, Skype and zoom together with a range of available social media platforms. Using those mediums, teaching and learning is then facilitated either synchronously or asynchronously through the use of power point presentation, dialectic lectures, video-based learning, case-based learning. Quizzes or online white boards.

Technology Use in Nursing Education Amidest COVID-19:

It is almost impossible to divorce technology use in nursing education with covid-19 pandemic, especially in this area. The main purpose for the shift to fully use technology for teaching and learning amidst. The covid -19 pandemic was mainly too safe the academic year, several researchers reported mainly on the challenges. That were brought about the implementation of this modality of teaching and learning such challenges included,

1. The lack of training for both students and educators on technology supported learning.
2. The lack of infrastructures that enables technology supported teaching and learning.

Methods:

The study followed an integrative literature review design to explore and describe the existing evidence on technology usage for teaching and learning in nursing education.

Technology Integration in Nursing Education:

Simulation based learning- use of high-fidelity mannequins and virtual reality simulators for realistic clinical scenarios.

Online learning platforms- utilization of web-based platforms and virtual classroom for remote learning and collaboration.

Interactive tools- incorporation of interactive application and multimedia for engaging learning experiences.

Current Trends in Technology Integration:

The field of nursing education is witnessing several notable trends in the integration of technology to enhance the learning experience. Simulation based learning has gained significant traction, which the use of high-fidelity mannequins, virtual patient scenarios and advanced simulation technology. These simulations provide students with realistic clinical situation, allowing them to practice skills, make decision and experience. The consequences to their actions in a safe and controlled environment.

Conclusion:

In conclusion the integration of technology in nursing education is a rapidly evolving field with significant potential to enhance teaching and learning experiences. Current trends demonstrate the widespread use of simulation-based learning, virtual reality applications, online platforms and interactive tools.

Conflict of Interest:

The authors declare no conflict of interest related to this review on integrating technology in nursing education.

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Tech Advancement that are Changing Nursing

Ms. Saloni Verma, B.Sc N IV Year, CCON, Bhopal

New technology is certain to impact your nursing career:

There was a time when the most impressive technology you could find in a hospital were pagers and pulse oximeter. Now, technology fills every corner of every hospital and impacts patients and healthcare workers alike.

Electronic Healthcare Records:

The era of paper charts is over currently 96% of US hospitals use EHRs, but basic adoption is just the first step. In the years to come, EHRs will evolve to allow for better transfer of information between medical providers, creating more opportunities for healthcare workers to manage patient's whole health.

Communication System:

New smartphone apps can allow nurses to easily communicate with each other and receive real – time information about patient vitals and alarms , these apps . Can alert you the moment a fellow nurse or patient needs you , improving efficiencies and response times.

Diagnostic tools:

Traditionally, most diagnostic tests require some form of invasive procedure , such as a blood draw but new technology is reducing or eliminating the less invasiveness of these tests the less invasive a procedure the lower the likelihood that the patient suffers a complications like an infection.

Treatment:

What once seemed like science fiction is quickly becoming the everyday.

Already, nurses need familiarity with everything from high tech wound care machines to tech driver drug delivery system. In the years to come, it's likely nurses will also need a working understanding of gene therapies that can treat illness.

Online Education:

By 2026 the US is expected to add over 938,000 new positions for RNs and that's not even counting positions for nurse practitioners nurse educators and those in nursing management nurse informatics, and public health, what's more the National Academy of medicine wants 80% of the nursing workforce to hold a Bachelor of Science in Nursing.

Conclusion:

The remarkable advances in technology continues to change the way that we conduct healthcare. telehealth homecare provides patients with healthcare services in a new and innovative way. Healthcare professionals should embrace technology as we continue to improve our healthcare delivery methods to provide high quality care.

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Mental Health

Ms. Suchita Manote, B.Sc N IV Year, CCON, Bhopal

Topic : Mental health is still focus for both nurses and the communities they serve.

Introduction: Nurses experience stress and trauma on a daily basis and these pressure can affect their mental health job satisfaction and overall quality of life . Awareness and education about self care for nurses has become a priority in the field .

Definition: Nurses mental health care due to impact and demands of the career pre and post pandemic "Mc Mahan says" organization and health care systems are maintaining their priorities with a major focus on the mental health of their nurses and associates.

Importance of mental health in nursing care:

Mental health is an integral component of overall patient care yet it often goes unrecognized as nurses focus predominantly on the physical aspects of care studies have shown that mental health plays a tremendous role in patient outcomes so mental health assessments should be included in the nurses assessments process.

Mental health is an important topic of discussion especially in the nursing field as nurses it is our responsibility to prioritize the mental health of our patients and ensure they receive the best care possible.

The role of nurses in mental health care:

Nurses play an integral role in ensuring that patient receive quality mental health care. We have the unique opportunity to build relationship with our patients level than other healthcare professionals may have the time or resources for.

What makes a good mental health nurse:

Mental health nurse are essential for providing care to individual with mental illness and emotional distress to be effective a mental health nurses needs to have the right set of qualities and skills.

Patience & compassion

Communication skills

Knowledge & experience

Conclusion

In the nursing curriculum in India there was earlier no component of mental health nursing today psychotic nurses work not only in mental hospitals but also in child guidance centers deaddiction centers half way homes old age homes and in foster homes for the destitute and mentally related

Advancement in Nursing Technology & What They Mean for Patient Care

Ms. Sukun Sneha, B.Sc N IV Year, CCON, Bhopal

Introduction:

The integration of new technology into nursing practice is transforming patient care leading to improved outcome greater efficiency and enhanced safety for both patient and health care provider below is an overview of the most impactful advancement in nursing technology and what they mean for the future of patient care

1 . Electronic Health Records:

Electronic health record have revolutionized patient information management by digitizing patient record making it easier for nurse and the health care professional to access and update patient data this advancement means

2. Enhanced Accuracy :

Nurses have instant access to patient full medical history which reduces the chances of errors and improve diagnostic accuracy

3. Enhanced Communication:

Electronic health record improve collaboration among health care teams by providing a centralized source of patient data ensuring everyone has real time access to critical information than paperwork

4. Telehealth Services :

Tele health has gained attraction especially during covid-19 pandemic allowing nurses to delivery remote care and monitor patient without the need for in person visits

Increased Accessibility:

Patient in remote or rural area can access care without travels which is particularly beneficial for elderly or chronically ill individual

Efficient Documentation:

Electronic health record streamline documentation allowing nurses to focus more on patient care rather

Convenience:

Patient can receive care and consult with nurse home which enhance comfort and promotes adherence to care plan

Continuous Monitoring:

Nurses can monitor patient vital sign and symptoms through remote devices ensuring prompt intervention when necessary

Wearable Health Devices:

Wearable technology such as heart rate monitors and activity trackers allow continuous monitoring of a patient health metrics in a clinical setting

Real Time Data Collection:

Nurses receive real time update on patient health status allowing them to address issue before they escalade

Preventive Care:
Early identification of health trend enables nurse to recommend prevent measure leading to better long term health outcome.

Patient Empowerment:
Patient can track their health metrics which encourages them to actively participate in their care.

Artificial Intelligence and Predictive Analytics:
AI transforming data analysis in health care by processing large amount of data to uncounted predict health visit and even aid in diagnosis for nurses at provider.

Enhanced Decision Support:
AI algorithms help nurse make data driven decision improving the accuracy of care plan.

Protective Patient Care:
Predictive analytics identify patient at risk for condition like falls infection or complication allowing nurse infection or complication allowing intervention proactively

Optimized Workflow:
Automation of routine task through frees up time for nurses to focus on patient interaction complex care.

Robotic Assistance in Patient Care:
Robotic technology is becoming more common in health care for task like medication device by patient mobility assistance and even surgeries robotics assistance means.

Increased Precision:
In surgical setting robotics increased precision leading to faster recovery times and fewer complication.

Reduced Strain on Nurses:
Robots assist with physical take such as lifting and moving patient reducing nurses fatique and the risk of injury

Better Resource Allocation:
Robotic device handle repetitive task allowing nurse to focus on more specialized patient care

Virtual Reality for Training and Education:
Virtual reality technology is increasingly being used in nursing education and training to stimulate real life scenarios providers

Immersive Training:
Nurses can practice in realistic high stress scenarios without risk to actual patient enhancing the clinical skills and confidence

Remote Education:
Virtual record allows nurses to receive training from anywhere broadening access to continuing nursing education

Enhanced Patient Interaction Skills:
Simulation can focus on interpersonal skills helping nurses communicable effectively with patient and families

Smart Bed Technology:

Smart bed technology with sensor are revolutionizing patient monitoring providing data on patient movement weight and more these bed benefit patient care

Automated Adjustment:

Smarts beds adjusted to keep patient in optimal position preventing bed sore and promoting circulation

Reducing Falls Risk:

Beds alert nurses when a patient attempt to get up reducing fall risk in vulnerable population

Real Time Monitoring:

Continuous monitoring data aids nurses in maintain patient comfort and safety through their story

The Future of Nursing with Technology:

Advancement in technology as changing the for nursing enabling higher level of patient care safety and efficiency as the health care field continuous to improved innovation nurses will be as the form combining their expertise with cutting edge tools to device compassional light quality care

Conclusion:

Advancement in technology are changing the nursing enabling higher level of patient care safety and efficiency as the health care safety and efficiency as the health care field continous to embrace this innovation nurses will be at forefront combining their tools to device compassional high quality care

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Recent Advances in Breast Cancer Radiotherapy

Ms. Kajal Panday, B.Sc N IV Year, CCON, Bhopal

Introduction : Breast cancer is one of the most common types of cancer world wide and radiotherapy plays a crucial role in its treatment, recent advances in breast cancer radiotherapy have improved treatment out comes, reduced side effects and enhanced patient quality of life.

Definition: Radiotherapy is a common treatment for breast cancer. It uses high energy X-rays to destroy cancer cells.

Types :

- External beam radiotherapy
- Internal radiotherapy
- Stereotactic body radiotherapy
- Proton therapy
- Accelerated partial breast Radiation
- Hypo fractionated radiotherapy
- Intensity- modulated radiotherapy
- Volumetric modulated arc therapy
- Total skin electron therapy
- Intra operative radiotherapy

Strategies for Breast Cancer Radiotherapy:

Pre- Treatment Strategies:

- Simulation: - Use imaging technologies to plan and simulate treatment.
- Immobilization:- Use advices to immobilize the patient during treatment
- Marking:- Mark the treatment area to ensure accurate targeting
- Treatment Strategies:
- 3D conformal radiotherapy (3D- RT)
- Intensity- modulated radiotherapy
- Stereotactic body radiotherapy
- Accelerated partial breast irradiation

Post Treatment Strategies:

- Follow up care: - Monitor the patient for side effect and tumor reocurrence.
- Supporting care:- Provide emotional and physical support to the patient
- Survivorship care:- Provide long term care and support to the patient

Emerging Strategies:

- Proton therapy:- Use protons instead of X-rays to kill cancer cells
- Immunotherapy: - Stimulate the immune system to attack cancer cells.
- Personalized Medicine:- Tailor treatment to the individual patient needs

Treatment Planning:

- Simulation :- Uses imaging technologies to plan and simulate treatment
- Immobilization:- Uses devices to immobilize the patient during treatment
- Marking:- Marks the treatment area to ensure accurate targeting

Conclusion:

Recent advances in breast cancer radiotherapy have significantly improved treatment outcomes and patient quality of life. Hypo fractionated radiotherapy, IMRT, APBI, SBRT and proton therapy are some of the innovative approaches that have enhanced breast cancer treatment

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Recent Advancement in Pediatric Nursing

Ms. Kareena Fulwani, B.Sc N IV Year, CCON, Bhopal

Advancement in pediatric nursing have significantly enhanced the quality of care for children key developments include:

Technological Innovation:

Tele-health services- The integration of telemedicine has expanded access to pediatric care, alluring nurses to remotely monitor & consult with patient thereby improving healthcare delivery in underserved areas.

Valuable devices and mobile health application:- these tools enable continuous monitory of vital signs and health metrics, facilitation early detection of potential health issue and proactive intervention facilitation

Remote patient monitoring in PICUS:- Innovative approaches such as hybrid deep cleaning models, have been developed to enhance occlusion segmentation in pediatric intensive care units, inquiry the accuracy of remote patient monitoring.

1. Family- Centered Care Models:

Emphasizing collaboration with families, this approach recognizes the vital role of family environment in a child's health journey, leading to improved patient satisfying and outcomes.

2. Evidence- Based Practices:

Pediatric nursing continually evolves with research- driven patches, necessary that care strategies and guided in the latest scientific enhance to enhance partite outcomes.

3. Specialized Training & Education:

The dynamic nature of pediatric healthcare necessitates ongoing professional development, with nurses engaging in continuous learning to stay abreast of accessing trends and technologies.

4. Transitional Research:

Bridging the gap between research and clinical practice, transitional research in pediatric nursing forces on applying sciatic discoveries to develop practical interventions that inpecoue patient care.

5. Artificial Intelligence (AI) in Diagnostics:

AI is increasingly utilized to improve diagnostic accuracy in pediatric care, for instance. AI models have been developed to enhance pneumonia detection in children by leveraging adult chest x-ray image, addressing of the challenges pediatric dalaset.

6. Smart Infusion Pumps:

The adoption of smart infusion pump with dose error reduction system has improved the safely and precisely of parentral administration in pediatric patients.

7. Needle Free Injection System:

These system reduce discomfort and anxiety associated with injections, import the overall patient expensive

Conclusion:

Recent advancement in pediatric nursing have significantly transformed the field, improvement the quality of case, patient safety and accessibility innovator in artificial intelligence, telehealth timeout medical devices & evidence based practices have enhanced diagnostic accuracy remote monitory and treatment effectiveness. The shift towards family-centered case and continues professional development ensures that pediatric nurses remain at the forefront of delivery compassionate research- driven healthcare.

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Recent Advancement in Nursing
(Wearable Electronic in Health Care)

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Introduction:

Wearable are small electronic devices often consisting of one or more sensors and having computational capability. They plan on important role in health care monitoring analysing and even healing

Definition:

Wearable are electronic devices designed to be worn on the body that collect and transmit health related date like fitness trackers smart watches and medical monitors enabling continuous monitoring and data driven health care

Components of Wearable:

- Sensors- Inertial - biosensors – other sensors
- Connectivity- Bluetooth – Wifi- GPS
- Battery- Conventional- Flexible battery – energy harvesting module
- Interfaces- speech recognition- haptic touch recognition – gesture recognition
- Materials- electronic textiles & joint- flexible display- accurate interpretation of measured date
- Wearable electronics by using

Wearable Electronic Devices:

Hand worn	⇒	Smart watch
	⇒	Wrist wear
	⇒	Finger wear
Head worn	⇒	Smart glasses
	⇒	HMD/HUD
Body worn	⇒	Smart Textile
	⇒	Wearable patches
	⇒	Foot and arm wear

Data Collecting Inertial Sensors

- To monitor body monuments

Bio-Sensors:

- To monitor heart rate
- Cholesterol
- Sweat

Hepatics:

- To enhance touch experience

Date Processing

Internal Processing:

- Date is processed within the wearable
- Higher battery consumption
- Efficient algorithms required

External Processing:

- Data send to another device or cloud
- Data Processing and another device
- Cloud use higher computational capabilities

Data Display

Internal Display:

- Data displayed in the device & projected somewhere
- Flexible display and electronic desired
- Larger wearable

External Display:

- Data displayed in another device
- Existing display devices are sufficient
- Smaller wearable

Impact on Health Care:

- Fitness tracking and improvement
- Management of hospital organization
- Personal drug dosage padding
- Tele medicine
- Rehabilitation
- Healthcare big data

Is Success of Wearable Possible:

1. Forecasts on wearable and health care
2. What reality in healthcare
3. The right time
4. Success of wearable as interconnected device

Conclusion:

1. Real and meaningful: - purpose for wearable electronic
2. Collection of all physiological and biological data
3. Worldwide health data management
4. Break through applications will emerge

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Electronic Health Record

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Introduction:

Recent advancement in electronic health records (EHR) include AI-powered features improved compatibility and better patient engagement.

AI –powered features identify high risk patients, predict disease outbreaks and extract information from unstructured data.

Improved Compatibility:

EHRs Are More Compatible With Mobile Devices, Digital Health Products and Health IT Software.

EHRS Can Be Used For Remote Clinical Trials

Better Patient Engagement:

Patients can use EHRs to manage their health information

Patients can use EHRs to communicate with their providers.

Patient can use EHRs to partner with researchers.

Improved Care Coordination:

- EHRs allow healthcare provides to share information seamlessly.
- EHRs reduce redundant testing and improve care continuity.
- EHRs support communication with patients and families

Co- Design:

Co –designing EHRs involves including end users in the design process.

Electronic Medical Record:

Digital Templates
Dictation Handwriting

Progress notes soap

External Sources - Network

Microsoft Document-

E
M
R

Benefits of EHR:

Improved access to the medical record
Decreased time spent in documentation
Increased time for client care .
Improve quality care.
Facilitation of data collection for research

Components of EHR:

Clinical decision support system (CDSS)
Computerized Physician order entry (CPOE) system
health information exchange (HIE)

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Recent Advancement in Chemotherapy

Ms. Sakshi Bharti, B.Sc N IV Year, CCON, Bhopal

Introduction:

Chemotherapy is a drug treatment that uses powerful chemical to kill fast growing cell in your body chemotherapy is most often used to treat cancer, since cancer cell grow and multiple much more quickly than most cell in the body many different chemotherapy drugs are available.

Treatment Modalities:

- Surgery
- Radiotherapy
- Systemic therapies
- Chemotherapy
- Hormonal therapy immunotherapy
- Biological (Targeted) therapies

Purpose of Chemotherapy:

- Treat the systemic diseases
- To reduce tumor size preoperatively
- To destroy any remaining tumor cells postoperatively
- To treat some types of leukemia.
- To kill cancer cell

Articles:

- Kidney tray
- Paper bag
- Personal protective kit (cap, mask, gown, shoe, cover, goggle)
- Spirit swabs in a contains
- Gloves
- Intravenous set
- Micropore for sticking
- Chemotherapy drug as prescribed
- Intravenous cannula
- 16g, 18g needles
- 10, 20 ml disposable syringes

Conclusion:

Chemotherapy offer patients with cancer a great deal of hope for a cure as a means of control cancer for s long period of time, hope and optimism are vital ingredients in care plan

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Laser Therapy

Mr. Ritu Panwar, B.Sc N IV Year, CCON, Bhopal

Laser Therapy:

- Light Amplification by the stimulated emission of radiation.
- Compressed light wavelength from the cold red part of the septum of electromagnetic radiation
- Monochromatic single wavelength single color
- Coherent travels in straight line polarized its beam in a defined lotion spot

History:

- Albert Einstein- 1st described this theory that was transformed into laser loser therapy by the end of 60's endue master (Hungary) was reporting on wound heading through laser therapy
- In early 1960's the 1st low level laser was developed. In feb 2002 the microlight 830 (ML830) received FDA approval for carpal tunnel syndrome treatment (research treatment) laser therapy has been studied in Europe for past 25-30 year 15-20
- Class Level 1-4
- Incapable of producing radiation levels (laser printers & CD players)
- Low Power visible lasers (400-700 mm wavelength & mw
- medium power laser- needs aye protection
- 3a: up to 5 mw
- 3b: mw =500 mw
- High power laser presents five hazard (exceeds 500 mw)

Type of Lasers:

- High
- Surgical lasers
- Hard lasers
- Thermal
- Energy 3000-1000 mw

Low:

- Medical laser
- Soft lasers
- Sub thermal
- Energy 1-500 mw
- 600-1000 mm light
- Therapeutic cold lasers produce maximum autent of 90 mw or less

Four Categories of Lasers:

- Crystal & Glass (Jolid-vod)
- Synthetic ruby & others (synthetic lasers purity)
- Semiconductor (diode –Channel)
- Gallium arsenide (GaAs under investigation)
- Liquid dye- organic aye as lasing medium

Indication of Laser Therapy:

- Dermatological disorder- wounds ulcers
- Pain and inflammation in orthopedic and spinal cases
- Ankle sprain chronic low back pain tennis elbow plantar fasciitis forearm shoulder
- Neurogenic pain

Treatment Procedures:

- Preparation of the patient
- The skin in the area of eluterade placement should be cleaned by saline water , soap or Vaseline to lower skin resistance

Clinical Application Laser:

- Calculation of laser dose
- Penetration of laser
- Technique of laser

Calculation of Laser Dose Dependent on:

- The output power of the laser in mw
- The time of exposure in seconds
- The beam surface area of the laser in cm 2

Laser Treatment Technique:

- There are two main techniques
- Contact techniques: gans only for triggers points or around wound
- Non-contact technique : for line and GbAs for superficial wounds or stimulation of wound bed

Conclusion:

Laser communication offer a viable alternative of communication for inter satellite links and other application where high- performance likes are a necessity with the dramatic increase in the derma handling requirements for safe life communication services laser

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Critical Care Unit & Critical Care Nursing

Ms. Monali Ramteke, B.Sc N IV Year, CCON, Bhopal

- **Critical Care Unit:** Critical care unit is a specially designed and equipped facility staffed by skilled personnel to provide effective and safe care for dependent patient with a life threatening problem.
- **Critical Care Nursing:** "Critical care nursing is that specialty within nursing that deals specifically with human responses to life- threatening problems"
- **Critical Care Nurse:** "A critical care nurse is a licensed professional nurse, responsible for ensuring that acutely and critically ill patient and their families receive optimal care."

Seven CS of Critical Care:

- Compassion
- Communication (with patient and family)
- Consideration (to patient's relatives and colleagues) and avoidance of conflict
- Comfort: Prevention of suffering
- Carefulness (avoidance of injury)
- Consistency
- Closure (ethics and withdrawal of care).

Types of ICUS: There are two types of ICUs

- **An Open:** In this type, physicians admit treat and discharge.
- **A Closed:** In this type the admission discharge and referral policies are under the control of intensive visits.

ICUs Can Be Classified:

- **Level I:** This can be referred as high dependency where close monitoring resuscitation and short form ventilation will be provided for < 24 hrs. Nurse patient ratio is 1:3 and medical staffs are not present in the unit all the time.
- **Level II:** Provide observation monitoring and long term ventilation with resident doctors- the nurse patient ratio is 1:2 and junior medical staff is available in the unit all the time and consultant medical staff is available if needed.
- **Level III:** Located in a major tertiary hospital which is a referral hospital. It should provide all aspects of intensive care required (dialysis, cathlab services etc).

Types of Critical Care Units:

- Neonatal intensive care unit (NICU) {1-28 days}
- Pediatric intensive care unit (PICU) {1 month 4 yrs }
- Psychiatric intensive care unit
- Coronary care unit (CCU)
- Cardiac surgery intensive care unit (CSIEV)
- Cardio vascular intensive care unit (CVICU)
- Medical intensive care unit (MICU)
- Medical surgical intensive care unit (MSICU)
- Neuro surgery intensive care unit (NSICU)

- Burn intensive care unit (BNICU)
- Surgical intensive care unit (SICU)
- Trauma intensive care/ Trauma care and emergency care services (TICU/ TC & EMS)
- Respiratory intensive care unit (RICE)
- Geriatric intensive care unit (GICU)

Principals of Critical Care Nursing:

Anticipation:

- The first principle in critical care nursing is anticipation one has to recognize the high risk patients and anticipate the requirements.
- CCN can be prepared to meet any emergency unit is properly organized in which all necessary equipments and supplies are mandatory for smooth running of the unit.

Early Detection and Prompt Action:

- The prognosis of the patient depends on the early detection of variation, prompt and appropriate action to prevent or combat complication.

Collaborative Practice:

- Collaborate practice is more and more warranted for critical care more than in any other field.

Communication:

- Intra professional, inter departmental and inter personal communication has a significant importance in the smooth running of unit.

Prevention of Injection:

- Nosocomial injection cost a lot in the health care services. Critically ill patients requiring intensive care are at a grealer risk than other patient.

Other Personnel:

- A veracity of other personnel may contribute significantly to the efficient operation of the ICU.
  1. These include:-
  2. Pharmacist
  3. Physical therapists
  4. Occupational therapists
  5. Advanced practice nurses
  6. Physician assistant
  7. Dietary specialist
  8. Biomedical engineers

Prime Responsibilities of a Critical Care:

Nurse:

- Continuous monitoring
- Keep lead emergency trolley/ crash cant
- Efficient individuals care
- Counseling and information to family
- Application of policies and produces
- Proper documentation of all activities

- Follow infection control principle
- Keep update with advance information.

Quick Reference Protocol for Managing Emergency in ICU:

- Quickly review the patient identity, history, physical examination
- Be with patient ask for help
- Place the patient in a suitable position
- Attach the cardiac monitor and call for crash chart
- Maintain ABC along with expert team
- Introduce IV, CV line and TPNI
- Administer medication- ABG, ECG, RFT, LFT, TET, cardiac enzymes etc.
- Maintain fluid intake and electrolyte balance record right things at right time rightly

Critical Care Nurse:

- Intra and interpersonal factors
- Technical qualification
- Educational background
- Clinical experience

Patient Monitoring Equipment:

- Acute physiologic monitoring system
- Pulse oximeter
- Intracranial pressure monitor
- Apnea monitor

Life Support & Resuscitative Requirement:

- Ventilator
- Infusion pump
- Crash cart
- Intraortic balloon pump

Conclusion:

Patient in critical care unit are critically ill needs special care and management ICU is specialized place full equipped with monitors and other supportive devices and has special design. ICU team collaborates together to manage patients and enhance recovery .

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Artificial Intelligence in Nursing

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Introduction:

The document produces an overview of artificial intelligence in health care. It discusses the history of artificial intelligence. The stages of artificial intelligence from narrow to general to super intelligence. It then discusses the need for applications of artificial intelligence in health care, including predicting health trajectories, recommending treatment guiding surgical cause, monitoring patients & automatic tasks. The documents also discuss challenges in the Indian healthcare system & how artificial intelligence can help address issue like shortages & access to care.

Domains of Artificial Intelligence in Nursing:

1. Machine Learning
2. Deep Learning
3. Robotics
4. Expert System
5. Fuzzy Login
6. Natural Language Processing

Stages of Artificial Intelligence:

1. Artificial Narrow intelligence
2. Artificial General intelligence
3. Artificial Super intelligence

Artificial Intelligence Application:

1. Social Media
2. Chat bots
3. Autonomous Vehicle
4. Space Exploration
5. Gaming
6. Banking & Finance
7. Agriculture
8. Marketing
9. Health Care

Why do we need artificial intelligence in healthcare:

- To save time, energy & money
- To avoid unnecessary work to hospital for minor aliments.
- To provide specialist based care for usual population.
- To avoid misguidance.
- To provide necessary care to needed one.

Clinical Artificial tools to Augment Patient care:

- Predicting health trajectories
- Recommended treatment
- Guiding surgical care

- Monitoring patient
- Improving medication adherence
- Recording digital notes
- Automating laborious tasks

Limitations:

- Lack of human touch
- Lack of own creativity
- Lack of common sense
- Abilities of human may diminish.

Conclusion:

Artificial intelligence in healthcare is overreaching rum used to describe the use of machine-learning algorithms & software or out intelligence to mimic human cognition in the analysis present & comprehension of complex medical health and care data. The primary aim of health-related artificial intelligence is to analyze relationships between prevention or treatment techniques & patient outcomes.

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Integration of Nursing Education into Nursing Services

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Introduction:

The nursing profession is faced with increasingly complex health care issues driven by technological & medical advancements, an ageing population, increased numbers of people living with chronic disease and increased costs of health care services.

Collaboration is a substantive idea, repeatedly discussed in health care circles.

Meaning:

- The word collaboration is derived from the Latin word laborate which means "Work Together"
- That means the interaction among two or more individual
- Collaboration encompasses a variety of action such as
- Communication
- Information sharing
- Coordination
- Cooperation
- Problem solving

Definition:

- Education: - Education is not preparation for life, education is life itself. - John Dewey
- Nursing Services: -the nursing services as the part of the total health organization which aims to satisfy major objective of the Nursing Services is to provide prevention of disease and promotion of health. – WHO Expert Committee
- Strategies to Integrate Teaching with practice
- Problem based Learning
- Clinical Correlation map
- Clinical studies assignments
- Clinical presentation/ case presentations
- Learning diaries
- Concept Mapping
- Simulation
- Reflective Learning
- Major function of Hospital Nursing Services
- Education training & staff development
- Personal working relationships.
- Maintaining an appropriate environment for patient care.
- Personal management
- Planning organizing directing & coordinating individualized patient care.
- Constraints that The Gap Between theory practice
- Faculty
- Student
- Tim
- Resources

Conclusion:

Integration of nursing education with service is very much important to provide the quality care to the patient and for this student should practice direct in clinical settings or in laboratories. They should have first-hand experience of clinical setting and the uses of advance technology. A teachers should use different types of methods to treat the students so that they learn more and use this knowledge in clinical area

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Advancement in Geriatric Nursing

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Introduction:

The world is witnessing an unprecedented demographic shift, with the proportion of elderly individual in the global population steadily increasing as a result the field of geriatric nursing has become increasingly critical in addressing the unique healthcare need of aging population.

Geriatric passing, a specialized branch of health care sources providing holistic &compassionate to older adults considering their distinct physiological, psyche logical & social requirements. Advancements in health care & improved living conditions have contribute to an aging global population.

As a consequence the proportion of individual, aged 65 & above has died substantially in recent decades. This demographic shifts brings both challenges & opportunities for healthcare systems in necessitating specialized care & services to address the unique health care needs of older adults.

Geriatric nursing plays a pivotal role in optimizing the health & wellbeing of elderly Individuals. Nurses in this field are equipped with the knowledge & expertise to manage the complex health conditions often associated with aging, including chronic illness, cognitive impairments, fertility & falls. Their focus extends beyond mere disease management embracing person centered disease management, case & the overallquality of life for older adults,

Preparing for Future:

Technological Advancements:

As with all aspects of modern life, rapid advancements in human technology will have some unforeseeable impact on the field of geriatrics. It is important to consider & Plan too these possibilities in orders to ensure that any advancements that may come to the field are safe & ethical.

Technology can be a game changes in Improving communication & quality of life for older adults in need of care, decreasing some of the loneliness that is all too common in the older population. But by the same token, future technological implementations could have the opposite effect

Socially Assistive Robotics:

A recently new field discussed in the American Journal of Geriatric psychology, socially assistive robotics, will likely become far more intertwined with geriatrics in the future, These robots aid in performing daily needs like eating, drinking, personal hygiene & keeping up with medication.

Machine Learning:

Machine learning already coming to popularity in tech industries, is a form of artificial intelligence that excels in large-scale pattern recognition moving forward, machine learning can help determine how individuals may respond to particulars treatment options, Case method & ultimately finds unstable data from situational with many variables.

Motion Mapping:

Motion mapping can also be used to final patterns in behavior for geriatric syndromes. Such as dementia by tracking patient's Spatial location, sleep patterns, & more. This can also be helpful in quick response times for patients who get injured & are otherwise unable to call for help.

Personalized Case Plans:

Recognizing that one sized does not fit all," Personalized case plans are becoming the now Standard is geriatric care. These plans take into account each individual's unique needs, Preferences & goals.

With this holistic approach, health care provides work alongside older adults & their families to develop tailored care plans that prioritize their well being & quality of life. These care plans may include a combination of medical treatments, physical therapy, cognitive exercises & social engagement activities

Conclusion:

Advancement in geriatric nursing are cordial to meet the growing needs of an population, requiring specialized knowledge & skills to address the complex physical, mental & social needs of older adult's: by incorporating innovating. Practical, technology & pexon-centered care approaches geriatric nurses can significantly improve the quality of life of independence for the elderly.

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1. “Innovative Approaches is Geriatric Nursing: Enhancing Elderly care in a changing b Landscape by sandy hayer 01 August 20023.
2. “The future of geriatric Care"Technology & innovations.".By keystone health 2003”.

Advantages of Mobile Nursing for Patient

Ms. Priya Sahu, B.Sc N IV Year, CCON, Bhopal

Introduction:

Mobile nursing has several advantages for patients including Increased access to health care services:-Mobile nursing allow patient to receive health care services without having to travel to a hospital or clinic. This is particularly beneficial to patient with chronic condition who required frequent monitoring and follow up care. With mobile nursing patient can receive care in the comfort of their own homes which can be especially beneficial for patient who have mobility issue on live remote areas.

Example:- a patient with diabetes who lives in a rural area may have difficulty accessing healthcare services with mobile nursing a nurse can visit the patient at home to monitor their blood sugar level. Providing education on managing their condition and ensure that they are taking their medication properly.

Personalized and Holistic Care:

Mobile nursing allows nurses to provide personalized and holistic care to patient they can assess the patient environments life style and social support system develop a care plan that addresses the patients needs and goals.

Example :- a patient with heart disease may benefit from a care plan that includes dietary changes exercise and stress management techniques. A mobile nurse can work with the patient to develop a plan that is tailored to their individual needs and preferences.

Reduced Hospital Readmission:

Mobile nursing can help reduce hospital readmission as patient can receive follow up care at home this is particularly beneficial for patient who have undergone surgery or have a chronic condition that required on ongoing care.

Example: a patient who has had hip replacement surgery may required physical therapy and wound care after the are discharge from the hospital with mobile nursing. A nurses can visit the patient at home to provide these services and monitor their recovery. This can help prevent complication and reduce the risk of hospital readmission.

Improved Patient Satisfaction:

Mobile nursing can improve patient satisfaction by allowing patient to receive care in the comfort of theirs own homes. It also allows patient to have more control over their health care which can improve their overall experience.

Example: an elderly patient who required frequent medical appointment may find it difficult to travel to a hospital or clinic with mobile nursing, the patient can receive care at home which can be less stressful and more convenient. This can improve the patient overall experience and satisfaction with their health care.

Benefits for Health Care Provider: mobile nursing is a rapidly growing field that offers range of benefits for health care provider. In addition to improving patients outcome mobile nursing can also health care providers in several way including

- **Efficient use of resources**
- **Enhanced collaboration and communication**
- **Opportunities for professional growth**

Efficient use of resources:-

Recent Advancement in Mental Health Nursing

Ms. Tisha Naidu, B.Sc N IV Year, CCON, Bhopal

Introduction:

Recent advancement in mental health nursing are reshaping the landscape of care, empowering nurses to adopt more holistic and innovative approaches to mental health treatment these developments aim to enhance the quality of patient care, improve outcomes and reduce stigma surrounding mental health. key advancement include the integration of cutting edge technologies like artificial intelligence (AI), virtual reality (VR) & telehealth, which are improving diagnosis, treatment delivery, & patient engagement. Additionally nurses are taking on expanded roles, integration trauma informed care & promoting compassionate practices that prioritize patient well-being. With these advancements mental health nursing is evolving to meet the growing demand for accessible, effective & personalized mental health care.

Key Developments in Mental Health Nursing:

1. Integration of Artificial Intelligence (AI) :

AI is being utilized to improve mental health support & patient care. Nurses are leveraging AI tools to assist in diagnosing mental health conditions, personalizing treatment plans & monitoring patient progress. This integration aims to enhance the efficiency & effectiveness of mental health services.

2. Expansion of Tele-health Services :

Telehealth has become a vital component in mental health care, especially in under served areas. Nurses are now providing remote consultations, therapy session & support through telecommunication technologies ensuring continuous care for patients who may have limited access to traditional in person services.

3. Adoption of Virtual Reality (VR) Therapies :

Virtual reality is being explored as a therapeutic tool for mental health patients, For instance, VR is used to create immersive environments that help patients confront and manage hallucinations. Offering a novel approach to treatment.

4. Emphasis on Trauma Informed Care :

There is a growing focus on trauma- informed care practices within mental health nursing. Research is exploring alternatives to restrictive practices like seclusion & restraint, aiming to provide more compassionate & effective care for patients with mental health condition.

5. Enhanced Role of Nurses in Mental Health Care :

Nurses are taking on expanded responsibilities in mental health care, including conducting assessments, developing treatment plans, & providing ongoing support. This shift is part of a broader movement to integrate mental health services into primary health care settings, allowing for more comprehensive & accessible care.

6. Robotics in Mental Health Nursing :

Robots are increasingly used as companions for patients especially for dementia, autism or severe anxiety. They provide comfort, alleviate loneliness & improve engagement with care. In some settings robots are being integrated into therapeutic techniques e.g. humanoid robots lie proper are used in CBT. Other than this robots are equipped with sensor that can monitor patient's emotional state, behavior and vital signs.

Conclusion:

The expansion of advanced practice nursing tools, along side the growing use of digital & robotic technologies, has also empowered nurses to deliver more personalized & timely interventions. As these advancements continue to evolve, they hold the potential to further bridge gape in mental health care, reduce stigma, and promote recovery ensuring the mental health services are more inclusive effective and responsive to the need of disease population**.**

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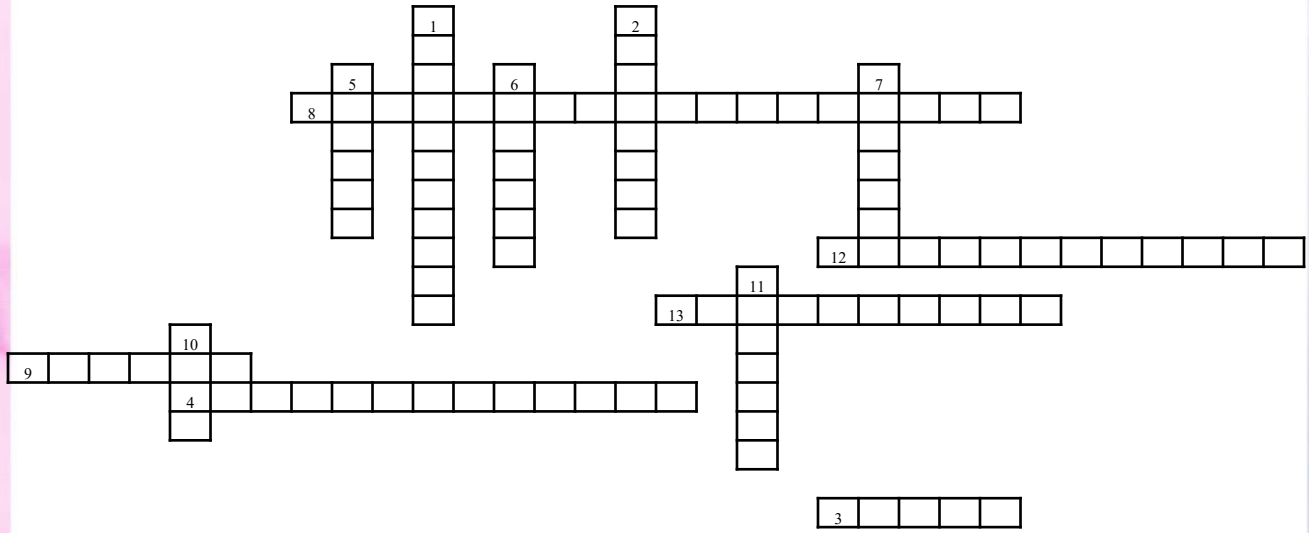
1. "Geelong alternative to traumatizing mental treatment" journal heral sun, November ,25,2024
2. "Artificial intelligence in nursing ;technology benefits to nurses" pub med central, December 18,2024
3. www. Wikipedia .com (telenursing**)**

Child Development

Ms. Gori Sharma, B.Sc N III Year, CCON, Bhopal



Across

3. First facial expression
8. When a developmental milestones are not reached by the expected time period
9. The stage that deals with how you interact with other
10. Every child develops at different
12. Mental processes through which we think,learn and communicate
13. Use of large muscles

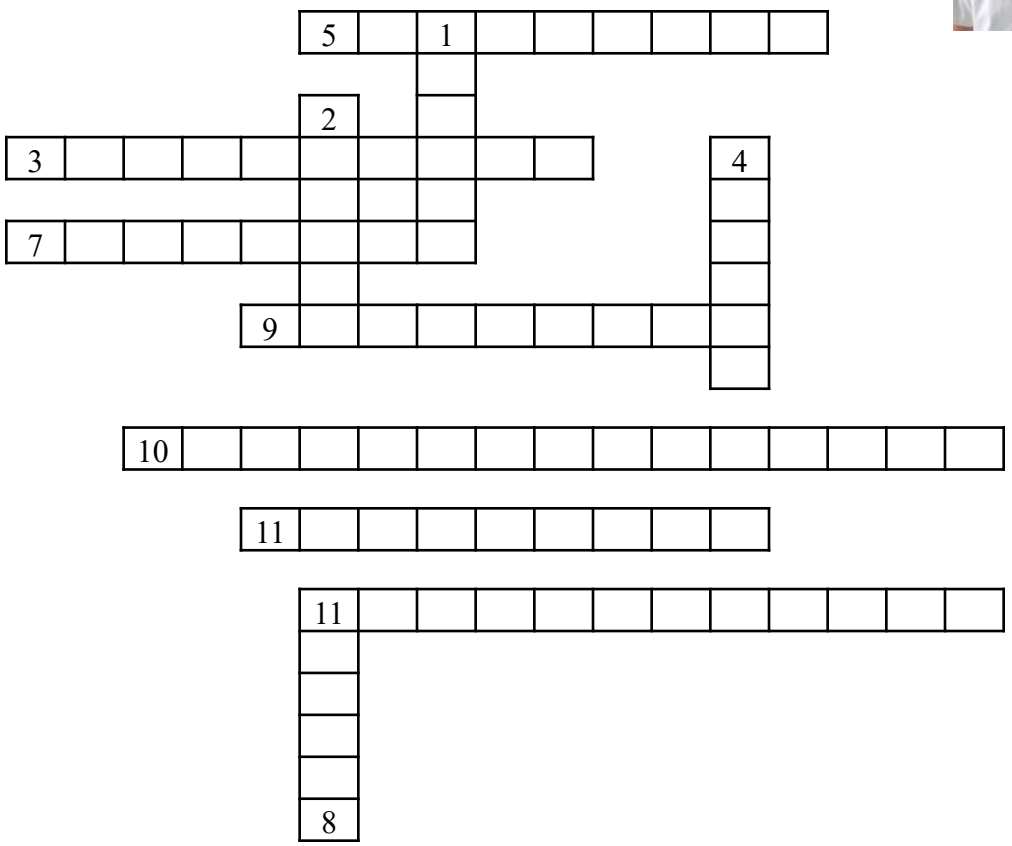
Down

1. Babies learn to feel secure, talk and enjoy being with other people
2. Use of small muscles
4. Provide energy and nutrients for a child to grow and develop
5. First solid food a baby should eat
6. A child between the ages of 2 to 3
7. Recently born
11. Involves understanding and responding

Note: Please find answers on page number

Cross Word Puzzle on Cell Cycle

Ms. Nikita Mewada, B.Sc N III Year, CCON, Bhopal



Across

3. The first stage in the cell cycle is _____.
7. what is the first phase of mitosis
9. What part of mitosis is the middle stage?
10. What is the part of the cell that goes away during mitosis
11. The last stage of Mitosis

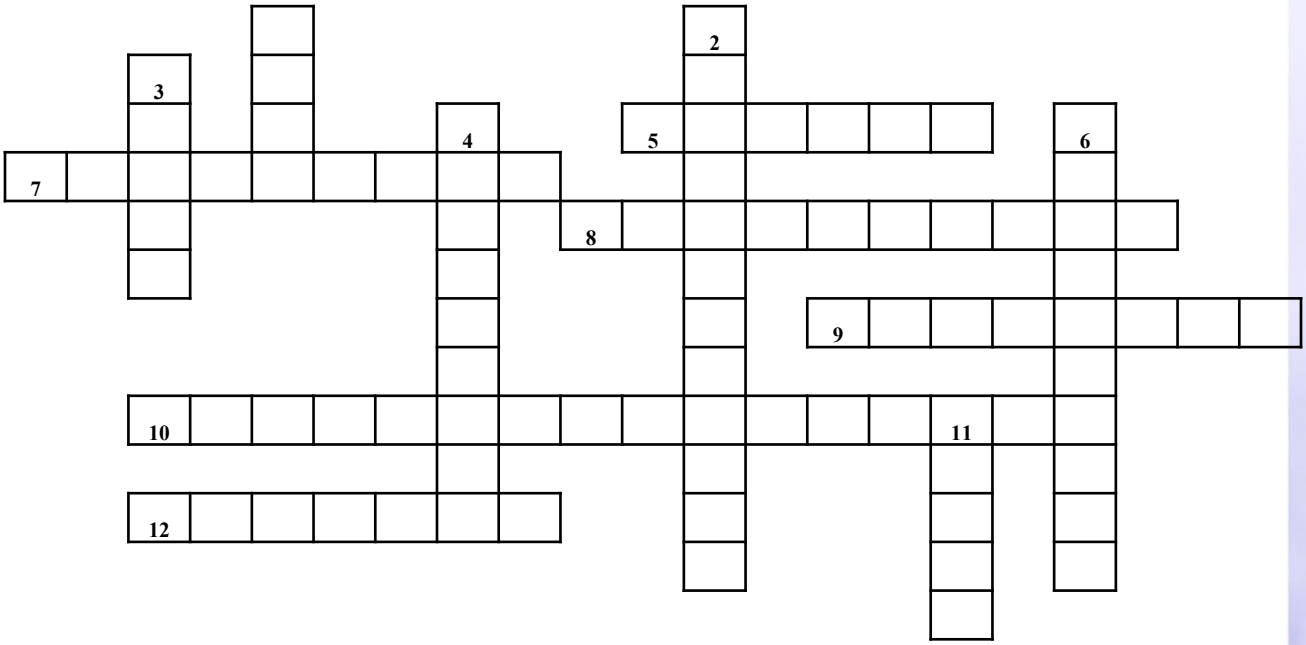
Down

1. What is the first part of interphase called?
2. what is the last stage of interphase called
4. cells that grow rapidly that can hurt or kill people
5. What do you call a detect in a cell
6. what do you call the strands that attach to the Chromosomes and pull them apart
8. what is the second part of interphase called

Note: Please find answers on page number

Nervous System

Ms. Sanjana Goyal, B. Sc. N III Year, CCON, Bhopal



Across

5. A cell that carries message between the brain and other part of the body.
7. The part of the brain connecting it to the spinal and control breathing and heart rate.
8. A bundle of nerves enclosed in the spine that connects the body to the brain
9. The largest part of the brain controlling higher order thinking and decision making.
10. A bulb at the end of a neuron when neurotransmitter molecules are released to the next cell.
12. The space where a signal passes from one nerve cell to another.

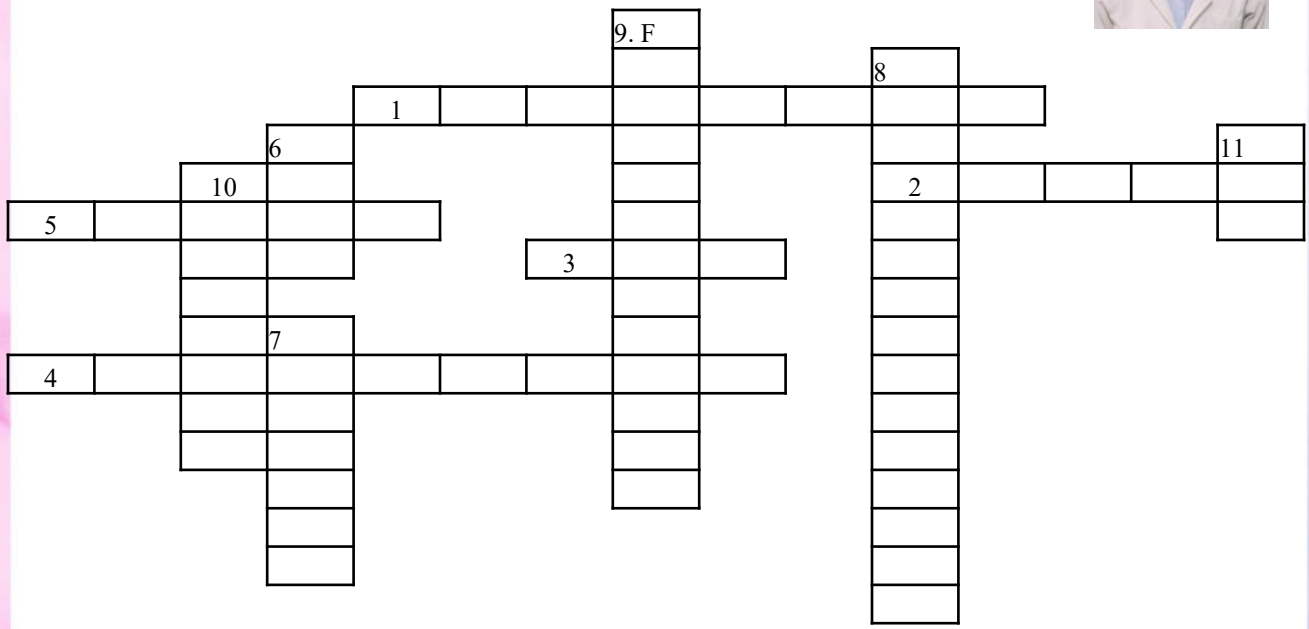
Down

1. The part of a neuron that sends impulses to the other cells
2. An insulating covering surrounding an axon that allows electrical impulses to travel faster.
3. The organ which is the main control center of the nervous system
4. Short branches of a neuron that receive impulses from other cells.
6. The part of the brain at the back of the skull controlling body movements and balance
11. A collection of neurons that allow impulses to travel through the body

Note: Please find answers on page number

Community Health Nursing

Ms. Deeksha Nagar, B.Sc N III Year, CCON, Bhopal



Across

1. The infection is transmitted from one person to another through which route ?
2. Which species of salmonella inject only human hint: start with T
3. S. chalena- suit effects which particular type of animal ?
4. Bacteria typically lives in animal & Human_____
5. In salmonella then septicemia with local lesion occurs, which culture is positive ?

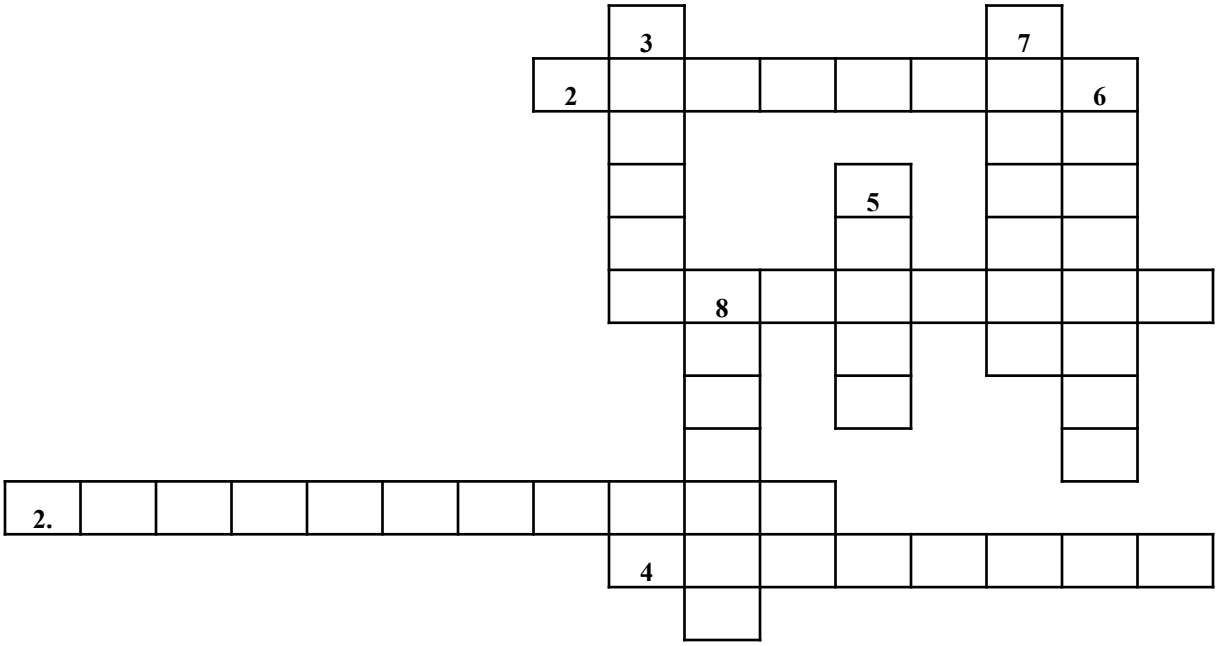
Down

6. Salmonella causes _____ poisoning bone injection
7. What's the maximum temperature up to which salmonella can survive ? (OC)
8. Which is the most common & important manifestation of salmonellosis ?
9. What condition is associated with infection from salmonella_____
10. Salmonellosis is an _____ Organism.
11. Maximum incubation time for salmonellosis is now many hours ?

Note: Please find answers on page number

Medical Terms

Ms. Harshita Markad, B.Sc N III Year, CCON, Bhopal



Across

1. A place where people go for health checkup
2. A instrument (Total) used by doctors to listen to the heart
4. A substance taken to help prevent or care an illness
8. A tool used to inject medicine or draw out fluids

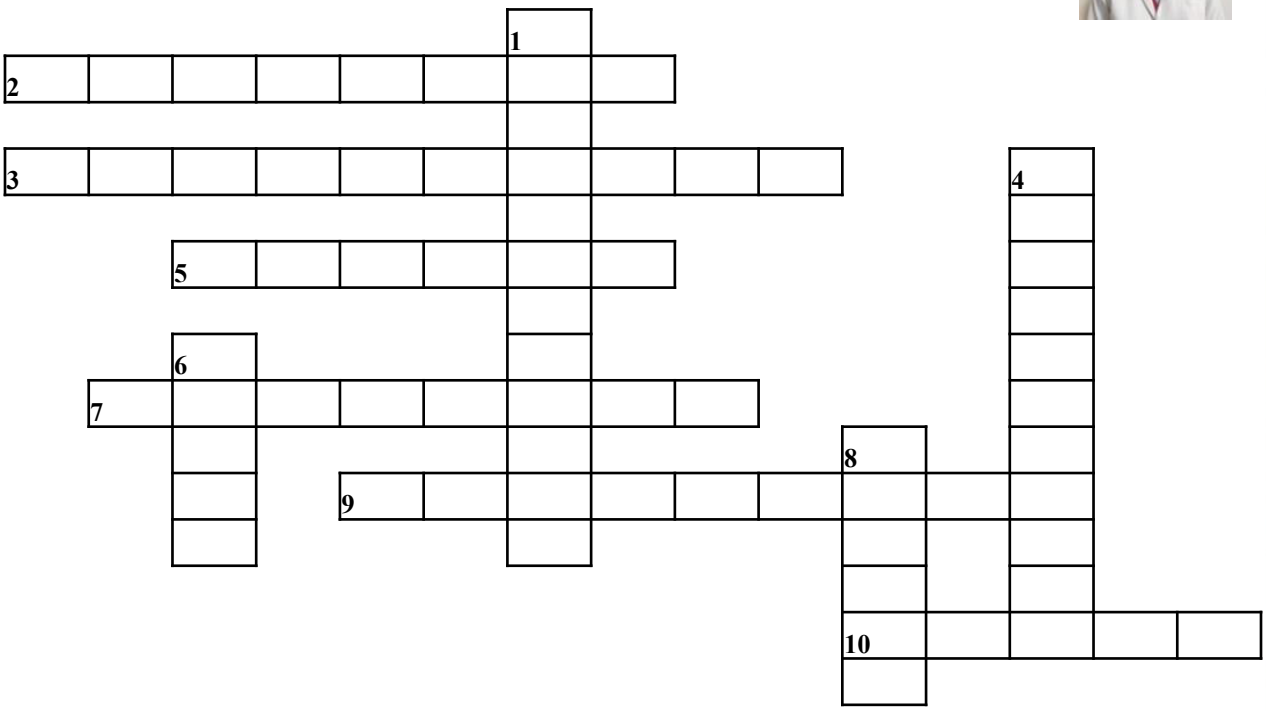
Down

3. A person who helps diagnose and treat medical conditions
5. A person who assist a doctor in providing medical care
6. A medical procedure done to repair or remove body part
7. A shot given to help protect against a disease
8. A sharp tool used by surgeons to cut through skin.

Note: Please find answers on page number

Breast Feeding

Ms. Khushi Choudhary, B.Sc N III Year, CCON, Bhopal



Across

2……. Is the hormone responsible for milk let down. Is also known as the "feel good" hormone

3. A device that a breast feeding mother use to extract milk from her breast.

5. Breast milk is ……. to digest than formula

7. This term describes the richer milk available forward the latter patet of the feeding more opaque and creamy white in colour

9. This type of milk is produced only in the first few days and is high in protective immunological factors.

10 A term that refers to the way a baby attaches to the breast?

Down

1. A Flexible silicone nipple worn over mom's nipple to assist with latching difficulties

4. When breasts reach their milk storage capacity and become swollen hard and even painful

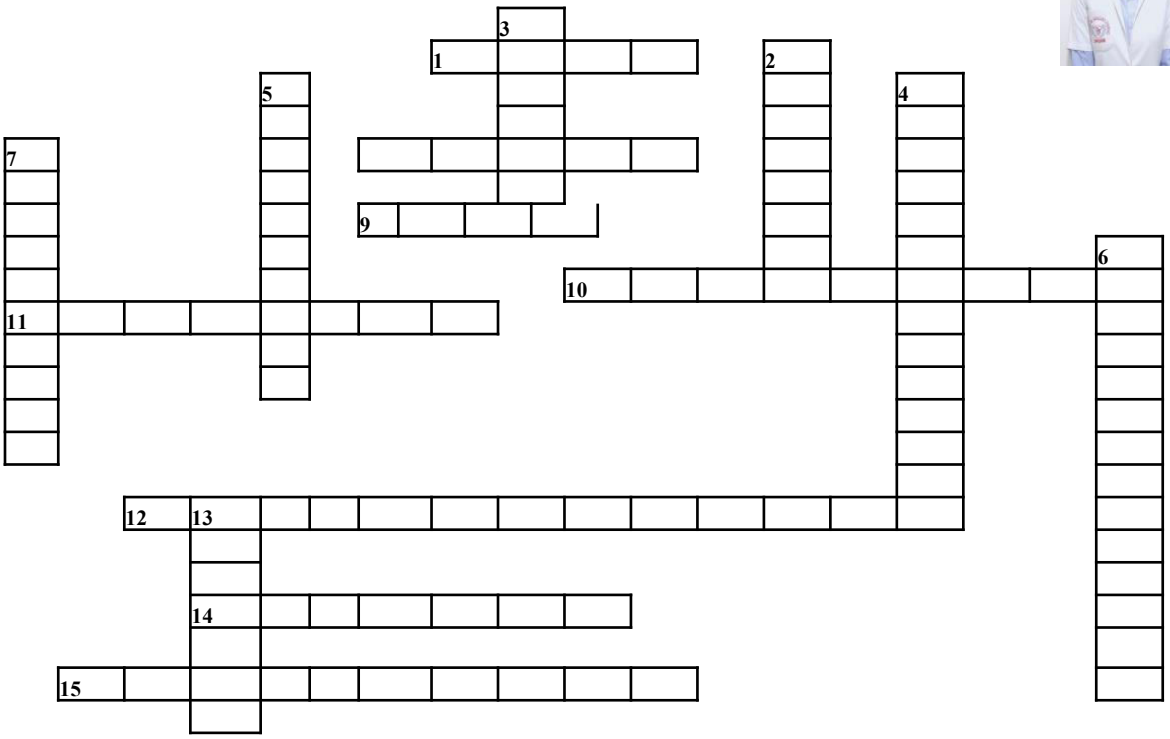
6. It is recommended that exclusively breastfeeding nurse should provide at least ……. times in 24 hours

8. The darker colored skin around the nipple

Note: Please find answers on page number

Development

Ms. Aarti Rajput, B.Sc N III Year, CCON, Bhopal



Across

1. Vygotsky's space
8. Child from birth to one year of age
9.Cicullym for development domain
10. Picking up small items is an example of
11. Development invoving the gaill/retention of knowledge
12. Head to toe development
15. Development using muscles in arms and legs

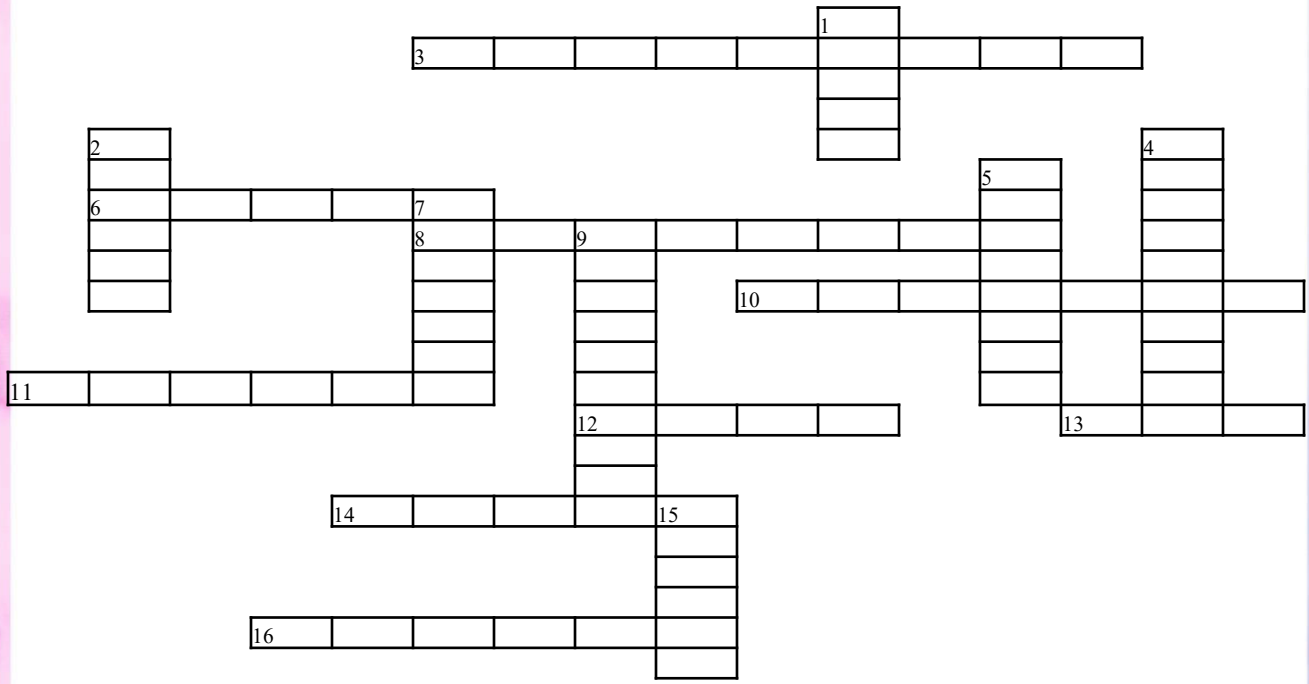
Down

2. An example of approaches to learning
3. The way we relate to others
4. Development in an outward direction
5.What children are expected to be able to do at a certain age
6. The understanding that words are related to print is one aspect of this development
7.Assisstance for building on previous knowledge
13. Development that involves understanding and expressing feelings

Note: Please find answers on page number

Kidney

Ms. Shivani Patel, B.Sc N III Year, CCON, Bhopal



Across

3. if you find this in your urine you may have kidney failure
6. The organ that monitor water levels in the blood
8. You will need to reabsorb and conserve more water if doing this.
10. Bowman discovered this
11. Urea and carbon dioxide in the body are examples of this
12. These are reabsorbed in the (convoluted) tubules along with glucose.
13. This hormone makes the kidney reabsorb more water.
14. If you do a lot of this, the kidney will not reabsorb much water in the tubules.
16. If you find this in your urine, you may have diabetes.

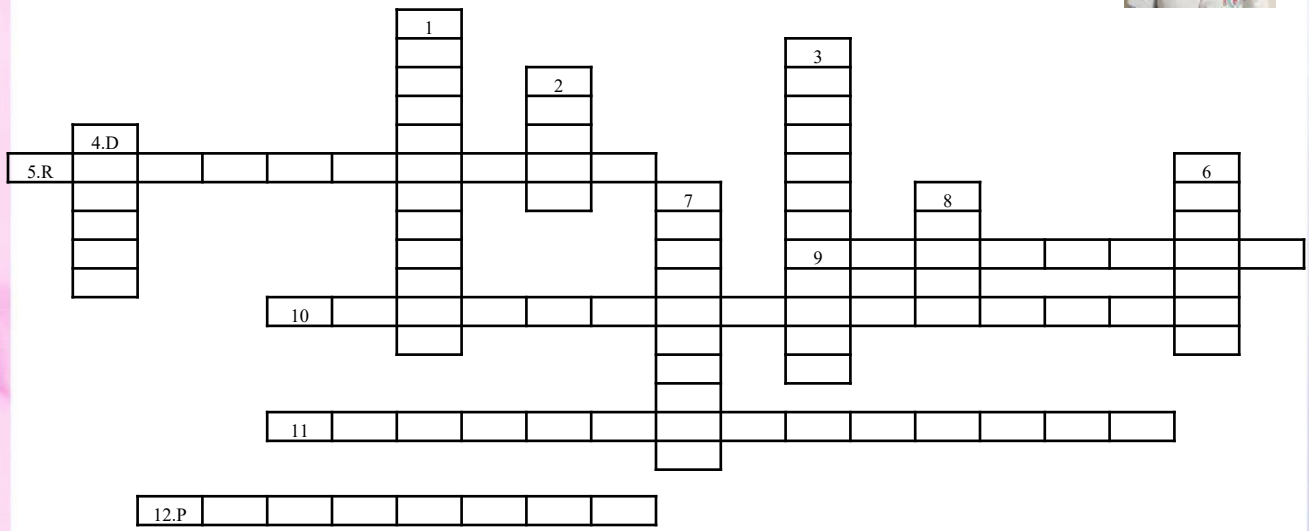
Down

1. Salts are forced out of the blood into the bowman's capsule because of extreme high pressure.
2. This is a very long and windly little thing connecting the bowman's capsule to the ureter
4. The long little windly tubule is called
5. Water is forced out of the glomerulus into the bowman's capsule because
7. Each working unit or section of the kidney is called this.
15. This organ carriers out the process of excretion

Note: Please find answers on page number

Mental Health

Ms. Diksha Chandrawanshi, B.Sc N III Year, CCON, Bhopal



Across

5. Acting in an immature way
9. Excessive dieting
10. Sleep shortage leading to health problems
11. Trying to make the best of a situation
12. Consistent mistrust of others

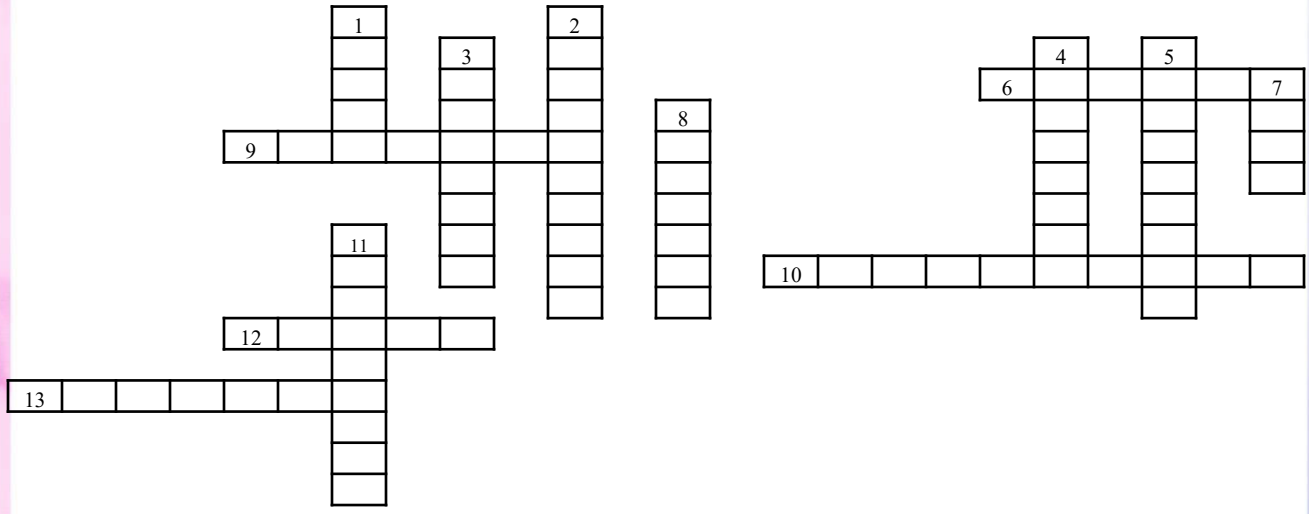
Down

1. Function well with short sleep
2. Prefer to be distant from others
3. A moment of disengaging
4. Not able to accept reality
6. Bingeing on food then vomiting
7. Blocking ot painful memories
8. Persistent fear of something

Note: Please find answers on page number

Awareness of Mental Health

Ms. Manisha Yadav, B.Sc N III Year, CCON, Bhopal



Across

6. Prevention, PPE and Education are ways to encourage and promote this
9. A network of people who provide an individual with practical or emotional _____
10. Recognizing the signs of stress and taking time for yourself helps build this
12. A state of mental or emotional strain
13. Having a positive one of these can contribute to success and happiness

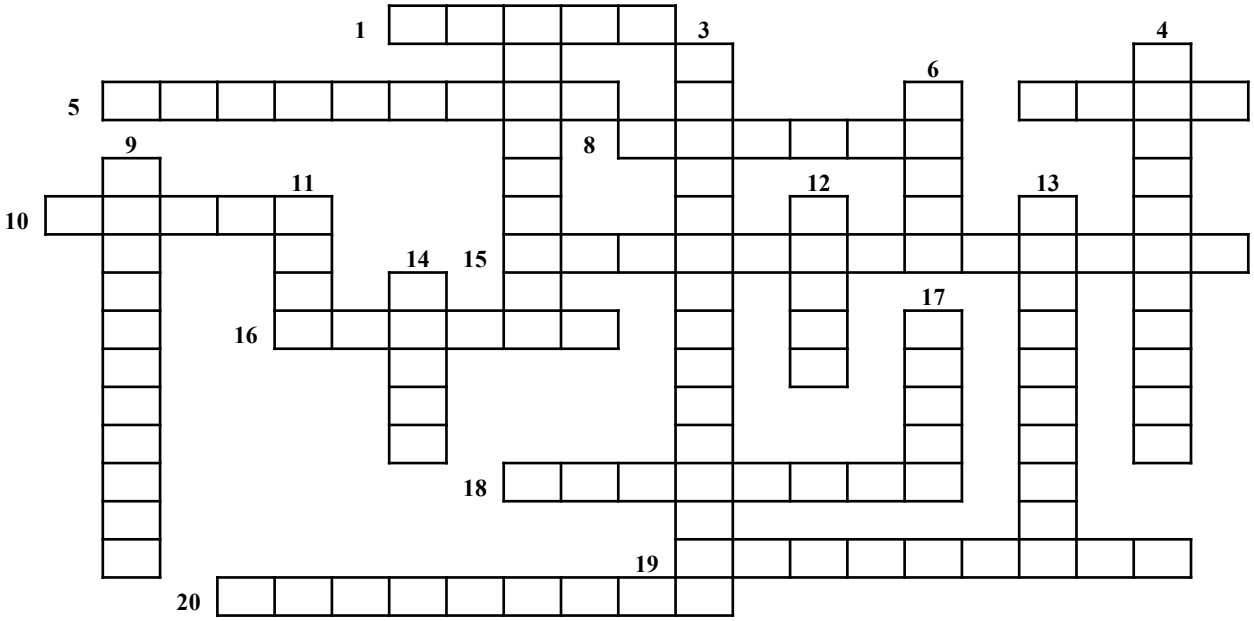
Down

1. A good night's _____ helps improve concentration and contributes to overall wellness
2. Something you can practice to relax your mind
3. Sleep shortage which could lead to health problems
4. Work, Life, _____
5. Emotional, Intellectual, Physical and Social _____
7. A form of exercise that includes breath control, simple meditation and body postures
8. Emotional awareness, Self-Soothing and Distraction are forms of this mechanism
11. A heathy diet and _____contribute to your overall wellness

Note: Please find answers on page number

Human Body Parts

Ms. Sakshi Pancholi, B.Sc N III Year, CCON, Bhopal



Across

1 Largest internal organ and gland in the human body.
5. Set of Veins that deliver oxygenated blood from the lungs to the heart.
7 .Largest Organ of the human body.
8 This Organ Filter the blood and remove the wastes.
10. Biggest bone in human body.
15. Erythrocytes
16 Smallest bone in human body
18. Blood vessels that carry blood away from the heart.
19. they are often called thrombocytes and are responsible for blood clotting.

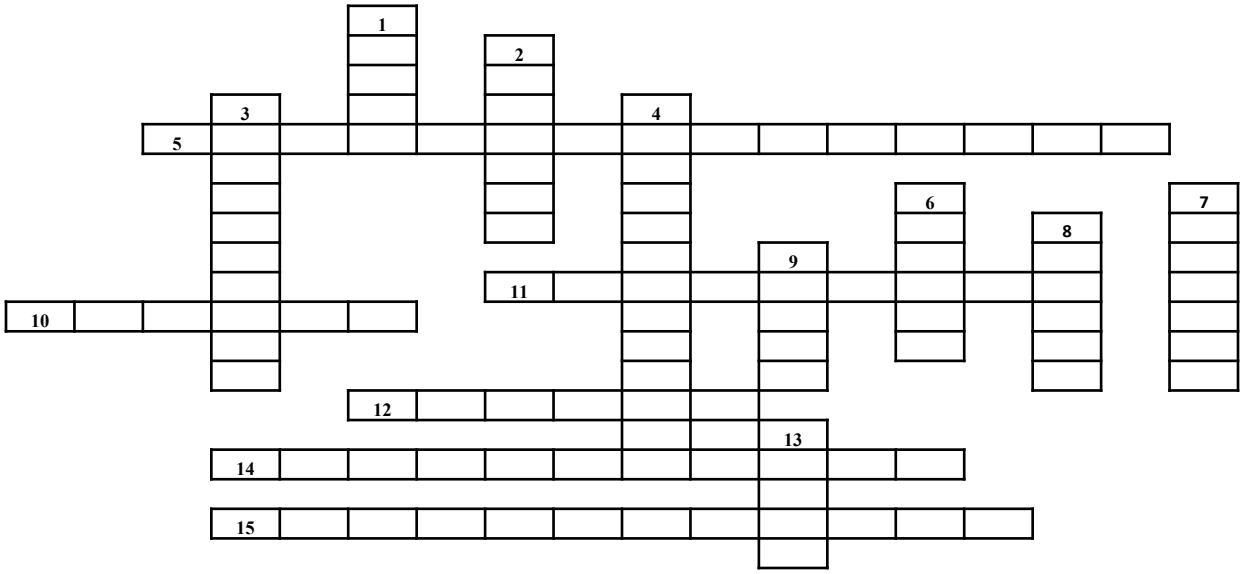
Down

2. Bones Which protect our Spinal cord
3. Leukocytes
4 Arteries, capillaries and veins are all part of ---------- system.
6. Bone in the body that does not meet another bone.
9. ---------- System brings in oxygen and remove carbon dioxide.
11. Bones that cover the lungs.
12 ---------- Support and protect the various organs of the body.
13. full form of Hb.
14. It is a muscular organ that provides blood circulation
17 Blood vessels that carry blood towards the hearts.

Note: Please find answers on page number

Labour and Birth

Ms. Diksha Vishvakarma, B.Sc N III Year, CCON, Bhopal



Across

6.The lower part of uterus

8. The tightening and releasing of the muscles of the uterus

9. The first menstruation in a female is called as

10. What is the first organ to form in a developing fetus

11. What is the term for the first milk produced by the mother breast after giving birth

Down

1.Normal labor is also known as

2. The delivery of a baby through surgical incision

3. What is the name for the first hair produced by the fetal hair follicles

4. A Special enclosed crib where the oxygen supply temperature and humidity can be closely controlled

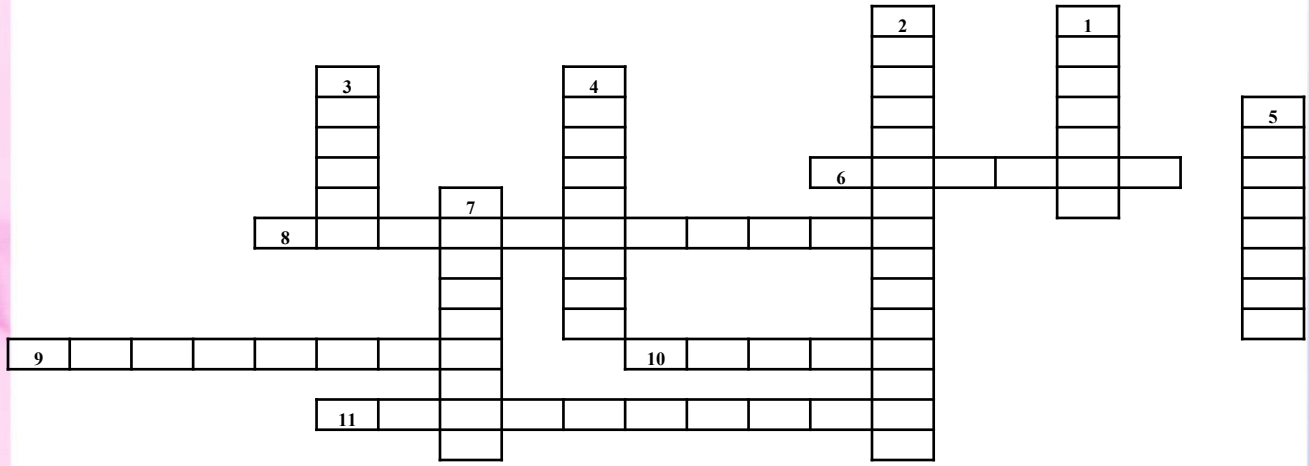
5. Drugs that cause a loss of feeling used for pain relief during childbirth

7. Cells capable of producing all types of blood cells

Note: Please find answers on page number

Pregnancy

Ms. Saloni Yadav, B.Sc N III Year, CCON, Bhopal



Across

5. A Cycle that women have typically every month
10. The tube that leads from the uterus to the exterior
11. Called a period in which the baby grows
12. Where offspring are cerceived
15. Abnormality that is present at is a women going through during birth
14. Abnormality that is present at or before birth

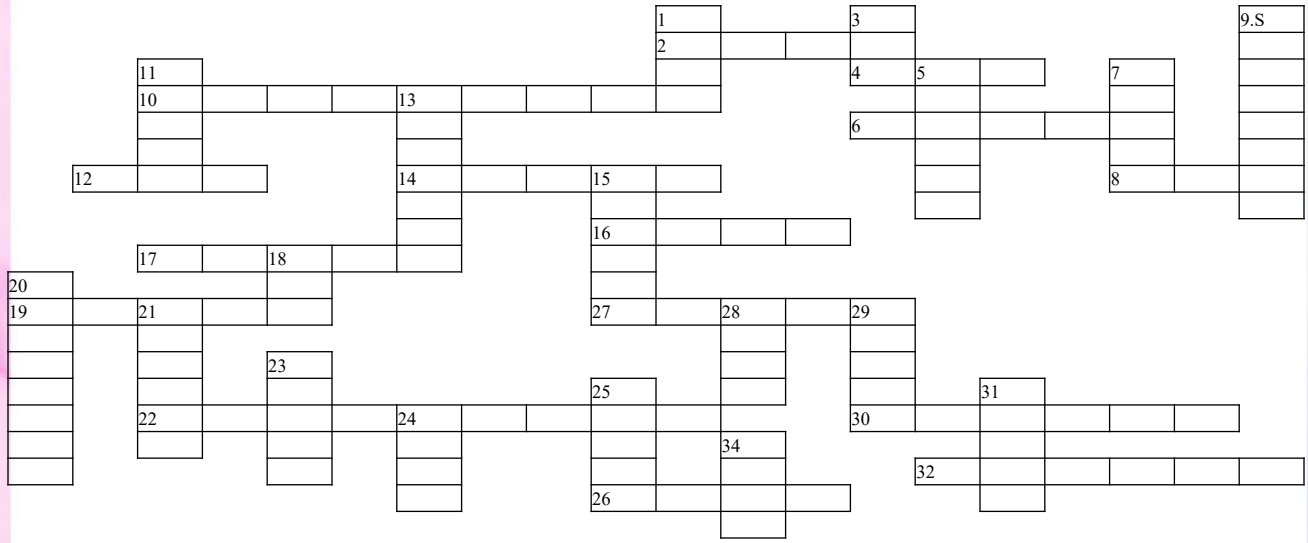
Down

1. Similar features that a child has of both their father and mother
2. where the female eggs are produced
3. The ability to conceive children
4. A pair of tubes that eggs travel from the ovaries to the uterus
6. Argans that produce sperm
7. How long should an unborn child stay in the stomach
8. The opening of the uterus
9. An unborn offspring
13. The external male sex organ

Note: Please find answers on page number

Human Body Parts

Mr. Shubham Dangi. , B.Sc N III Year, CCON, Bhopal



Across

2. Primary organ of small
4. The gostrointestinal tract
6. Perform signal transmission between body and the brain
8. Front end of the leg
10. Most absorption of nutrients and water happen in this organ
12. Human can extend their and through this structure
14. Speaking and eating through their structure
16. Structure that protects lip of fingers

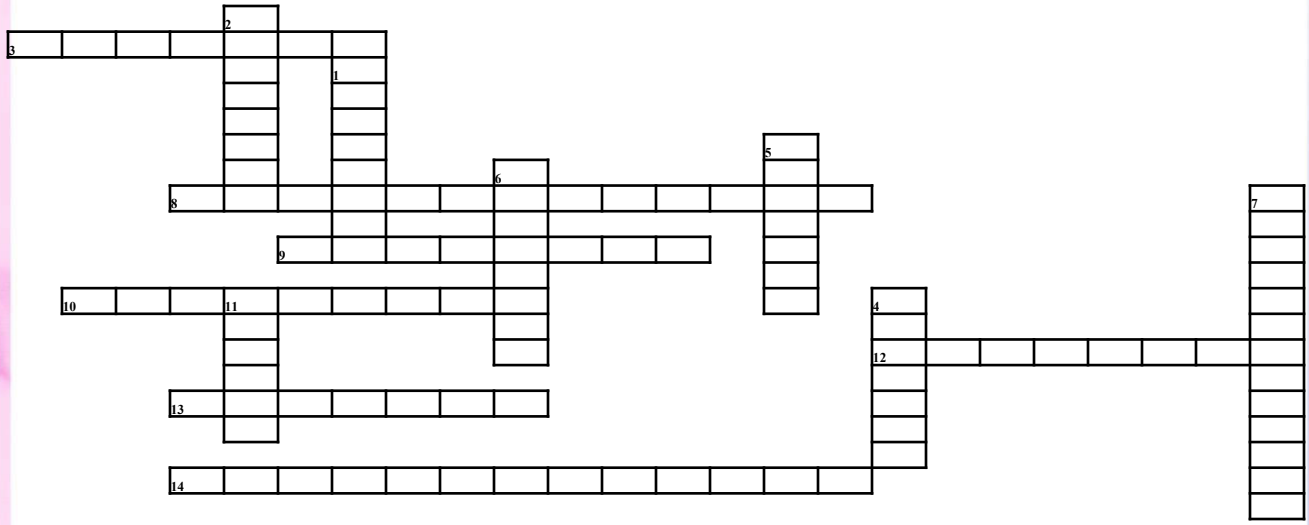
Down

1. Important joint in the leg
3. Anatomical structure help to work
5. A female reproductive organ
7. Part of the body between neck and abdomen
9. An important joint which joints hand to the body
11. Detoxification organ in human body
13. The organ receiving food
15. Testing food through this structure

Note: Please find answers on page number

Communication Education Technology

Ms. Pranita Chandravanshi, B.Sc N III Year, CCON, Bhopal



Across

6.The low lower part of uterus
8. The tightening and releasing of the museles of th uterus
9. The first menstrucation in a female is called as
10. What is the first organ to form in a developing festus
11. What is the term for the first milk produced by the mother breast after giving birth

Down

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2. The delivery of a baby through surgical incision
3. What is the name for the first hair produced by the fetal hair follicles
4. A Special enclosed crib where the oxygen supply temperature and humidity can be closely controlled
5. Drugs that cause a loss of feeling used for pain relief during childbirth
7. Cells capable of producing all types of blood cells

Note: Please find answers on page number

ANSWER KEY (PUZZLE)

Child Development (Puzzle)
Ms. Gori Sharma, B.Sc Nursing III Year
Answer:

1. Attachment	2. Movements	3. Smile
4. Carbohydrates	5. Cereals	6. Toddler
7. Newborn	8. Developmental Delay	9. Social
10. Pace	11. Listening	12. Encompassing
13. Metabolism		

Cross Word Puzzle on Cell Cycle (Puzzle)
Ms. Nikita Mewada, B.Sc Nursing III Year
Answer:

1. G1 Phase	2. G2 Phase	3. Interphase
4. Cancer	5. Organelle	6. Spindle fiber
7. Prophase	8. S Phase	9. Metaphase
10. Nuclear membrane	11. Telophase	

Nervous System (Puzzle)
Ms. Sanjana Goyal, B.Sc Nursing III Year
Answer:

1. Axon	2. Myelin sheath	3. Brain
4. Dendrites	5. Neuron	6. Cerebelium
7. Brainsystem	8. Spinal ward	9. Cerebrum
10. Synaptic terminal	11. Nerve	12. Synapse

Community Health Nursing (Puzzle)
Ms. Deeksha Nagar, B.Sc Nursing III Year
Answer:

1. Feco/Oral	2. Thyphi	3. Pig
4. Intestine	5. Blood	6. Food
7. Seventy	8. Gastroenteritis	9. Food Poisoning
10. Zoonotic	11. Six	

Medical Terms (Puzzle)
Ms. Harshita Markad, B.Sc Nursing III Year
Answer:

1. Hospital	2. Stethoscope	3. Docter
4. Medicine	5. Nurse	6. Surgery
7. Vaccine	8. Syringe (Across)	8. Scalpel (Down)

ANSWER KEY (PUZZLE)

Breast feeding (Puzzle)
Ms. Khushi Choudhary, B.Sc Nursing III Year
Answer:

1. Nipple Shield	2. Oxytocin	3. Breast Pump
4. Engorgement	5. Easier	6. Eight
7. Hind Milk	8. Areola	9. Colostrum
10. Latch		

Development (Puzzle)
Ms. Aarti Rajput, B.Sc Nursing III Year
Answer:

1. Zopd	2. Guidance	3. Social
4. Proximodistal	5. Mile Stone	6. Print Awareness
7. Scefolding	8. Infant	9. Cfod
10. Fine Motor	11. Learning	12. Cephalocaudal
13. Emotion	14. Toddler	15. Grossmotor

Kidney (Puzzle)
Ms. Shivani Patel, B.Sc Nursing III Year
Answer:

1. Water	2. Tubule	3. Amino Acid
4. Convoluted	5. Pressure	6. Brain
7. Nephron	8. Exercise	9. Excretion
10. Capsule	11. Poison	12. Ions
13. Adh	14. Urin	15. Kidney
16. Giucos		

Mental Health (Puzzle)
Ms. Diksha Chandrawanshi, B.Sc Nursing III Year
Answer:

1. Short Sleeper	2. Avoidant	3. Dissociation
4. Denial	5. Regression	6. Bulimia
7. Repression	8. Phobia	9. Anorexia
10. Insomnia	11. Adaption	12. Paranoia

Awareness of Mental Health (Puzzle)
Ms. Manisha Yadav, B.Sc Nursing III Year
Answer:

1. Sleep	2. Meditation	3. Insomnia
4. Balance	5. Well Being	6. Safety
7. Yoga	8. Cooping	9. Support
10. Resilience	11. Nutrition	12. Stress
13. Mindset		

ANSWER KEY (PUZZLE)

Human Body Parts (Puzzle)
Ms. Sakshi Pancholi, B.Sc Nursing III Year
Answer:

1. Liver	2. Vertebrae	3. White Blood Cells
4. Circulatory	5. Pulmonary	6. Hyoid
7. Skin	8. Kidney	9. Respiratory
10. Femur	11. Ribs	12. Bones
13. Hemoglobin	14. Heart	15. Red Blood Cells
16. Stapes	17. Venis	18. Arteries
19. Ligaments	20. Platlets	

Labor and Birth (Puzzle)
Ms. Diksha Vishvakarma, B.Sc Nursing III Year
Answer:

1. Eutocia	2. Cesa Rean Section	3. Lanugo
4. Incubator	5. Epidural	6. Cervix
7. Stem Cells	8. Contraction	9. Menarche
10. Heart	11. Colostrum	

Pregnancy
Ms. Saloni Yadav, B.Sc Nursing III Year
Answer:

1. Genes	2. Ovaries	3. Fertility
4. Fallopian tube	5. Men strualperiod	6. Testes
7. Yoweeks	8. Cervix	9. Fetus
10. Uterus	11. Trimester	12. Vagina
13. Penis	14. Birth defect	15. Contractions

Human Body Parts
Ms. Shubham Dangi, B.Sc Nursing III Year
Answer:

1. Knee	2. Nose	3. Leg	4. Gut	5. Uterus
6. Nerve	7. Chest	8. Toe	9. Shoulder	10. Intestine
11. Liver	12. Arm	13. Stomach	14. Mouth	15. Tongue
16. Nail	17. Teeth	18. Eye	19. Ankle	20. Pancreas
21. Kidney	22. Esophagus	23. Blood	24. Hagus	25. Lungs
26. Skin	27. Elbow	28. Bone	29. Wrist	30. Throat
31. Brain	32. Finger	34. Hair		

Labour and Birth
Ms. Pranita Chandrawanshi, B.Sc Nursing III Year
Answer:

1. Barrier	2. Decoding	3. Context	4. Orating	5. Channel
6. Feed Back	7. Interpersonal	8. Interpersonal		9. Encoding
10. Mass media	11. Sender	12. Audience	13. Message	14.Communication

Obstetrics & Gynecology (Riddle)

Ms. Mateswari Patel, GNM III Year

1 .I am a process in which a pregnant woman is prepared for child birth. What am I ?
Ans.-
2. I am a symptom that can occur in a pregnant woman during childbirth what am I?
Ans.-
3. I am a device use to check the health of a fetus during pregnancy. What am I?
Ans.-
4. I am a procedure in which a fetus is delivered surgically what am I?
Ans.-
5. I am a symptom that can occur in a pregnant woman during pregnancy what am I?
Ans.-
6. I am a device used to monitor a fetus hearth rate during pregnancy what am I?
Ans.-
7.I am a procedure in which a fetus is protected during pregnancy what am I?
Ans.-
8.I am a symptom that can occur in a woman after childbirth what am I?
Ans.-
9. I am a device used to measure a fetus weight during pregnancy. What am I?
Ans.-
10. I am a procedure in which a woman is cared for after childbirth .what am I?
Ans.-
11. I am process by which a baby is born what am I?
Ans.-
12. I am a medical condition that can occur during pregnancy , causing high blood pressure.
Ans.-
13. I am a test used to check for genetic disorder in a fetus. What am I?
Ans.-
14. I am the period of time when a woman is pregnant. What am I?
Ans.-
15. I am a medical term for a baby's first bowel movement what I am?
Ans.-
16. I am a medical condition that can occur during pregnancy causing a women water to break too early what I am?
Ans.-
17. I am the medical term for a cesarean section performed after a woman has already given birth vaginally what am I?
Ans.-
18. I am a complication that can occur during pregnancy, causing a woman's placenta to separate from her uterus. What am I?
Ans.-
19. I am the medical term for a baby's first cry after birth what am I?
Ans.-

Note: Please find answers on page number

Obstetrics & Gynecology (Riddle)

Ms. Madhu Kushwah, GNM III Year

1. I am a condition that occurs, during pregnancy causing discomfort and pain, a real misery. I can affect fetal growth and development to, and make women worry about their health it's true what I Am?

Ans.-

2. I am a procedure that's quite a sight helping women conceive, I shine so bright a tiny tube, I help to guide , sperm to egg I am always by their side. What am I?

Ans.-

3. I am a test that checks for cervical health a screening tool that helps detect abnormal cell wealth I am a procedure that's quick and simple to do help's prevent cancer it's true what amI?

Ans.-

4. I am a condition that's quite a fear affecting women, I am always near, cells that grow I am a common sight cancer of the cervix I am a constant fight what am I?

Ans.-

5. I am a condition that causes heavy bleeding during periods it's A real needing?

Ans.-

6. I am test that checks for breast health to detect any problems, it's wealth

Ans.-

7. I am a procedure that helps with fibroids a minimally invasive method, that's employed

Ans.-

8. I am a Condition that caused painful sex common problem that's often a complex

Ans.-

9 .I am a condition that affects the ovaries hormone regulation. Causing polycystic ovary syndrome and making life's regulation.

Ans.-

10 .I am procedure that helps women conceive assist sperm to reach the egg, I am a technique to believe. I am a method that helps families grow an brings joy to women don't you know.

Ans.-

11. I am a procedure that helps with family planning a permanent method with no more expanding.

Ans.-

12. I am a condition that affects the uterus linings causing heavy bleeding and making life re-align.

Ans.-

13. I am a condition that causes pelvic pain and pressure, a cyst that forms on the ovary a common treasure I am a condition that's treatable don't you fret. And can be managed with medication or surgery you won't forget.

Ans.-

14. I am a condition that occurs after menopause causing not flashes and discomfort a real propose I affect women health and daily life, and make them worry about their well- being can no sterile

Ans.-

15. I am a procedure that's quite a test helping women, I am always at my best, a scope that's inserted, I, am a common sight, inspecting the uterus, I shine so bright. What am I?

Ans.-

Note: Please find answers on page number

Nursing Foundation (Riddle)

Ms. Diksha Panwar, GNM III year

1. Seize me and clutch me light I will help you uncover your hidden plight
What am I?
Ans.-
2. I am no musician , yet I hold the key to calming your nerves, with fluid harmonies
What am I?
Ans.-
3. I assist with cleansing your blood with care, providing treatment when you are in despair, **what am I, for blood cleansing?**
Ans.-
4. I hold the IV bags high and secure, ensuring fluids are delivered pure.
What am I, for intravenous use?
Ans.-
5. I contain items for treating minor wounds, providing help when injuries make their rounds.
What am I, for emergency care?
Ans.-
6. I don't have to travel, but I am always on the go, helping those in need of rest, I am always busy
What am I?
Ans.-
7. Wrapped with care, but no gifts when wounds need me I am swift
What am I?
Ans.-
8. In case of emergency I will show the way, take the needy to their place of stay
What am I?
Ans.-
9. I come in many forms tiny or large helping you get well that's may charge
What am I that you take with a sip
Ans.-
10. I hold all the notes and papers you need organizing you tasks for you to succeed
What am I for keeping track?
Ans.-

Note: Please find answers on page number

Nursing Foundation (Riddle)

Ms. Shrasthi Gour, GNM III Year

1. Without me surgeries would be painful. I make sure you sleep, but I am not bed, what I am I?

Ans.-

2. I do not speak but I can reveal lies I tell nurses if a patient has been using something harmful what am I?

Ans.-

3. I help doctor see what is hidden. I do not touch the patient, but I create a picture of what's inside what am I?

Ans.-

4. I am invisible but can be deadly. Nurses wear special gear to keep me away. What am I?

Ans.-

5. I have no pulse yet I mimic the beat of a heart I help patients survive when their own heart is too weak, what am I?

Ans.-

6. I am small but powerful I can stop infection but I can also cause harm if not used correctly, what am I?

Ans.-

7. I have a strong grip but I don't have hands. I help nurses stop bleeding in an emergency, what am I?

Ans.-

8. I hang on the on wall and hold a special liquid when an emergency happens, I help stop the fire, what am I?

Ans.-

9. I help nurses clean hands and kill germs but I am not water, what I am?

Ans.-

10. I touch you but you don't feel me. I travel silently through you body, showing hidden truths to doctors, what I am?

Ans.-

11. Though I am not alive, I breathe for you. I help patient who cannot breathe on their own, what am I?

Ans.-

12. I am used in emergencies to restart a silent heart. I send a powerful shock but have no voice what am I?

Ans.-

13. I am warn by nurses and doctors. I come in many colours and protect against germs. What am I?

Ans.-

14. I don't have lungs, but I help you breathe you might need me if your oxygen levels drop too low, what am I?

Ans.-

15. I fight against disease, but I am not a doctor. I am inside your body, depending you every second what am I?

Ans.-

16. I am neither food for drink, but I must be swallowed. I can be sweet or better, but my purpose is always to heal. What am I.

Ans.-

17. I am found in hospitals, but I am not a doctor. I move without legs and hold a clear liquid that enters your veins, what am I?

Ans.-

18. I am not a scientist, but I discover disease. I search through samples to find hidden threats what am I?

Ans.-

19. I am not a weapon, but I can be sharp. I am used once and then thrown away safely, What I am?

Ans.-

20. I am not a disease but I make people feel weak. I am a sign that something is wrong in the body, what am I?

Ans.-

Note: Please find answers on page number

Nursing Foundation (Riddle)

Ms. Mousumi Das, GNM III Year

1. I speak without a mouth and heart without ear. I have no body, but I come to life with the help of doctors, what am I?

Ans.-

2. I am a fatal part of health care release

Ans.-

3. People make me, care me, save me, treat me, who am I?

Ans.-

4. I'm often under the longer in the ear so fines. I measure the heat, that the body does make.

Ans.-

5. My readings help doctors, young and old. This reading assist healthcare professions in diagnosing heart condition, what am I?

Ans.-

6. I hold you up and let you bend without me you couldn't stand who am I?

Ans.-

7. I am round and mainly two colors white and black for same I am white and blue other I am white and brown what am I?

Ans.-

8. I am a place where heat are fixed, where lives are saved, & hope is mixed. I have room for rest and recovery and rooms for care. A place where heaters work with skill and their

Ans.-

9. A sign of life's presence, a vital sign drive. Its indicates that a person is drive.

Ans.-

10. I' am a moment of joy a time of great cheer a new life arrives than celebratory moment for families.

Ans.-

Note: Please find answers on page number

Nursing Foundation (Riddle)

Mr. Ayush Chandrawanshi, GNM III Year

1. I have a heart but no blood. I can be opened but never close. I help to save lives, but I am not a doctor. What am I?

Ans.-

2. I can measure but have no trends, I help doctors and nurses understand your health. What am I?

Ans.-

3. I am soft but strong. I can cover wounds and stop the bleeding. What am I?

Ans.-

4. I wear a white coat but I am not doctor. I carry medicine but I am not a nurse. What am I?

Ans.-

5. I can be injected or swallowed. I help to light sickness, but too much of me can be dangerous. What am I?

Ans.-

6. I am found in every hospital. I carry hospital 'patients' but I do not walk. What am I?

Ans.-

7. I have numbers but no voice. I beep when something is wrong. I keep track of life, but I am not alive. What am I?

Ans.-

8. I help people's health, but I am not alive. I can be found in hospital and ambulances. What am I?

Ans.-

9. I am filled with liquid, but I am not a bottle, I have a sharp end, but I am not a knife. What am I?

Ans.-

10. I work day and night to help the sick, I wear scrubs, but I am not a doctor. What am I?

Ans.-

11. I am soft piece of cloth used to clean, but I am not a towel, I help nurses and doctors during procedure. What am I?

Ans.-

12. I am a medical too that help doctors look inside your body without opening it. What am I?

Ans.-

13. I am used measure the pressure of life, but I am not a scale. What am I?

Ans.-

14. I am a tiny thread, but I help in wound healing. What am I?

Ans.-

15. I am a room full of life-saving machines and medical professions. Patients come there when they are in critical conditions. What am I?

Ans.-

Note: Please find answers on page number

Cervical Cancer

Ms. Pinku Hazra, GNM III Year

1. The commonest cause of death in women with cervix cancer is…….. .

Ans.-

2. The most common area for finding cancer in women is the…….. .

Ans.-

3. Pap smear test used to diagnose which disease?

Ans.-

4. Which micro-organism is associated with cervical cancer?

Ans.-

5. The best method for early diagnosis of cervical cancer is…….. .

Ans.-

6. Genital herpes simplex increases the risk of which cancer?

Ans.-

7. Which vaccine prevents HPV- related cervical cancer?

Ans.-

8. What is the most common symptoms of cervical cancer?

Ans.-

9. What is the FIGO stage for cervical cancer confined to the cervix?

Ans.-

10. Which age group is most community affected by cervical cancer?

Ans.-

11. What is the most common cause of cervical cancer?

Ans.-

12. Which treatment best is for early- stage of cervical cancer (stage- I AI)?

Ans.-

13. What is the most common symptoms of cervical cancer?

Ans.-

14. What is the primary treatment for early stage of cervical cancer?

Ans.-

15. Which condition is considered a precancerous lesion for cervical cancer?

Ans.-

16. What is the most common site of distance metastasis in cervical cancer?

Ans.-

17. What is the most community part affected by cervical cancer?

Ans.-

Note: Please find answers on page number

ANSWER KEY (RIDDLES)

Obstetrics & Gynecology (Riddle)
Ms. Mateswari Patel, GNM III Year
Answer:

1. Labor preparation	2. Abdominal pain	3. Ultrasound machine
4. Cesarean section	5. Morning sickness	6. Fetal heart monitor
7. Fetal protection	8. Post partum depression	9. Fetal weight scale
10. Postpartum care.	11. Child birth	12. Preeclampsia
13. Amniocentesis.	14. Gestation	15. Meconium
16. Premature rupture of membrane.		17. Repeat cesarean section.
18. Placental abruption		19. First cry.

Obstetrics & Gynecology (Riddle)
Ms. Madhu Kushwah, GNM III Year
Answer:

1. Preeclampsia.	2. Invitro fertilization (IVF).	3. Pap Smear.
4. Cervical cancer.	5. Manorrnagia.	6. Mammogram
7. Uterine fibroid embolization		8. Dyspareunia
9. Polycystic ovary syndrome	10. IVI (intrauterine Insemination)	
11. Tubal ligation	12. Adenomyosis	13. Ovarian cyst.
14. Hot flashes	15. Hysteroscopy.	

Nursing Foundation
Ms. DIKSHA PANWAR, GNM III Year
Answer:

1. Tourniquet	2. IV Drip	3. Dialysis Machine
4. Drip Stinted	5. First AID Kit	6. Hospital Bed
7. Bandage	8. Ambulance	9. Pill [Medicine]
10. Clip Board		

Nursing Foundation
Ms. Shrasthi Gour, GNM III Year
Answer:

1. Anesthesia	2. Drug Test	3. MRI/ CT Scan
4. Virus	5. Pace Maker	6. Antibiotic
7. Tourniquet	8. Fire Extinguisher	9. Hand Sanitizer
10. X- Ray	11. Ventilator	12. Defibrillator
13. Scrubs	14. Oxygen Mask	15. White Blood Cells
16. Pill/ Tablet	17. IV Drip	18. Microscope
19. Syringe/ Needle	20. Symptom	

ANSWER KEY (RIDDLES)

Nursing Foundation
Ms. Mousumi Das, GNM III Year
Answer:

1.Stethoscope	2. Nurse	3. Baby
4. Thermometer	5. ECG	6. Spine
7. Eye	8. Hospital	9. Pulse
10. Childbirth		

Nursing Foundation
Mr. Ayush Chandravanshi, GNM III Year
Answer:

1. Stethoscope	2. Thermometer	3. Bandage
4. Pharmacist	5. Medicine	6. Wheelchair
7. Heart Monitor	8. Oxygen Cylinder	9. Syringe
10. Nurse	11. Gauze	12. X-Ray
13. Blood pressure monitor	14. Suture (Stitches)	15. ICU (Intensive care unit)

Cervical Cancer
Ms. Pinku Hazra, GNM III Year
Answer:

1. Hemorrhage	2. Cervix	3. Cancer of cervix
4. Human papilloma virus	5. Pap smear	6. Cervix Cancer
7. Gardasil vaccine	8. Postcoitas bleeding	9. Stage 1
10. 30-50 Years	11. Human papilloma Virus (HPV)	
12. Radical trachelectomy	13. Abnormal vaginal bleeding	
14. Surgery	15. Cervical intraepithelial neoplasia (CIN)	
16. Lungs	17. Transformation zone	

Artificial Intelligence in Paramedical Services

Ms. Bhavika Patidar, BPT IV Year

Abstract:

Artificial Intelligence (AI) is transforming paramedical services by improving diagnostic accuracy, patient care, and operational efficiency. With its ability to analyze complex data and provide real-time insights, AI is enhancing medical imaging, rehabilitation, emergency services, and patient monitoring. This article explores the applications, benefits, and future prospects of AI in the paramedical field.

Introduction

The healthcare industry is undergoing a digital revolution, with Artificial Intelligence (AI) playing a pivotal role in reshaping paramedical services. From advanced diagnostics to personalized rehabilitation, AI is enhancing the quality and accessibility of healthcare. Paramedical professionals, including radiologists, physiotherapists, and emergency medical technicians, are now leveraging AI to deliver faster, more accurate, and more efficient care. This article delves into the key applications and benefits of AI in paramedical services.

AI in Diagnostics and Imaging

One of the most significant impacts of AI is in the field of diagnostics, particularly medical imaging. AI-powered systems can analyze X-rays, MRIs, and CT scans with remarkable accuracy, detecting conditions such as fractures, tumors, and organ abnormalities. By automating image analysis, AI reduces human error and accelerates diagnosis, enabling healthcare professionals to provide timely treatment. Furthermore, AI applications in pathology assist in analyzing blood tests, biopsies, and genetic data, improving the accuracy of disease detection.

Patient Monitoring and Remote Care

AI-powered wearable devices have revolutionized patient monitoring by continuously tracking vital signs such as heart rate, blood pressure, and oxygen levels. The devices provide real-time data, allowing health care professionals.
to detect health issues early and intervene promptly. Remote patient monitoring systems, enabled by AI, have become particularly valuable in rural and underserved areas, where access to healthcare is limited.

Rehabilitation and Physical Therapy

In rehabilitation, AI plays a crucial role in developing personalized treatment plans tailored to each patient's needs.AI-powered systems analyze patient data to recommend exercises and monitor progress, ensuring optimal recovery. Robotic devices, controlled by AI, assist patients in regaining mobility and strength, particularly after injuries, surgeries, or strokes. These advancements not only improve patient outcomes but also reduce the workload of physiotherapists, allowing them to focus on more complex cases.

Emergency Medical Services

AI is transforming emergency medical services by enhancing both response times and decision-making. Predictive analytics can analyze emergency calls and patient data to anticipate health crises such as heart attacks or strokes, enabling faster and more effective responses. In addition, AI helps optimize ambulance routes, ensuring that patients reach healthcare facilities as quickly as possible. AI-powered triage systems assess symptoms and prioritize patients based on the severity of their condition, ensuring that critical cases receive immediate attention.

Education and Training for Paramedical Professionals

AI is also revolutionizing the education and training of paramedical professionals. Virtual simulations powered by AI provide realistic training scenarios, allowing students to practice emergency procedures, diagnostics, and patient care in a safe and controlled environment. These simulations help build confidence and competence, preparing students for real-life situations. Moreover, AI systems can assess the performance of healthcare professionals, providing personalized feedback to help them improve their skills.

Conclusion

Artificial Intelligence is revolutionizing paramedical services, enhancing both patient care and operational efficiency. From advanced diagnostics and remote monitoring to personalized rehabilitation and emergency response, AI is transforming the way healthcare is delivered. As AI technology continues to evolve, its integration into paramedical services will become even more profound, leading to better patient out comes and amore efficient health care system. Embracing AI will be essential for paramedical professionals to stay at the forefront of modern healthcare.

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AI in Paramedical Services

Ms. Neha Kumari, Paramedical, BPT IV Year

Introduction

Artificial Intelligence (AI) is revolutionizing various sectors, including healthcare. In paramedical services, AI is enhancing patient care, diagnostics, treatment plans, and emergency response. With advanced machine learning algorithms, AI aids paramedics in making quick and accurate decisions, ultimately saving lives. This article explores the role, benefits, challenges, and future of AI in paramedical services.

Role of AI in Paramedical Services

A. Emergency Response and Ambulance Services

- AI-powered predictive analytics help in identifying accident- prone areas and preparing ambulances in advance.
- Smart navigation systems optimize ambulance routes, ensuring faster patient transport.
- AI chat bots and virtual assistants guide first responders with real-time instructions.

B. Diagnostics and Medical Imaging

- AI assists in analyzing X-rays, MRIs, and CT scans with high accuracy.
- Machine learning models detect diseases like fractures, tumors, and infections quickly.
- AI reduces human error in diagnostics, ensuring precise treatment plans.

C. Remote Patient Monitoring and Telemedicine

- Wearable AI devices track vital signs, alerting paramedics to any abnormalities.
- AI-driven telemedicine platforms enable remote consultations with specialists.
- Real-time data sharing improves decision-making in emergency scenarios

D. Drug Administration and Dosage Control

- AI predicts the correct drug dosage based on patient history and vitals.
- Automated medication dispensers sure timely administration, reducing errors.

E. Drug Administration and Dosage Control

- AI predicts the correct drug dosage based on patient history and vitals.
- Automated medication dispensers sure timely administration, reducing errors.

F. AI Powered Training for Paramedics

- Virtual reality (VR) and AI simulations provide hands-on emergency response training.
- AI powered assessment tools analyse paramedics' decision- making skills.

Benefits of AI in Paramedical Services

- **Speed and Accuracy:** AI driven tools improve the speed of diagnosis and treatment.
- **Predictive Analysis:** AI predicts potential health crises, allowing preventive measures.
- **Reduced Workload:** Automating routine tasks enables paramedics to focus on critical cases.
- **Improved Patient Outcomes:** AI enhances decision-making, leading to better patient care.
- **Cost Efficiency:** AI- driven automation reduces operational costs in healthcare services.
- **Challenges and Limitations**
- **High Implementation Costs:** AI technology requires significant investment.

- **Data Privacy Concerns:** Handling sensitive patient data requires strict cyber security measures.
- **Limited Human Interaction:** AI cannot replace the human touchin patient care.
- **Ethical and Legal Issues:** AI-driven medical decisions raise concerns regarding liability and responsibility.

Future of AI in Paramedical Services

- **AI-Powered Robotics:** Assisting paramedics in emergency surgeries and procedures.
- **Enhanced AI Algorithms:** Improving accuracy in diagnostics and patient monitoring.
- **Integration with Io T:** Smart devices providing real-time health insights.
- **AI in Mental Health Support:** AI- driven at bots offering psychological first aid.

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Advanced Technologies used in Physiotherapy

Ms. Neha kumari, Physiotherapy, BPT IV Year

Introduction

Physiotherapy has evolved significantly with the integration of advanced technology. Modern innovations have enhanced diagnosis,
Treatment, and rehabilitation, making therapy more effective, efficient, and personalized. This article explores the most cutting-edge technologies transforming physiotherapy today.

A. Wearable Technology and Smart Sensors

- **Motion Sensors**: Devices like inertial measurement units (IMUs) track body movements and provide feedback on posture, gait, and range of motion.
- **Electromyography (EMG) Sensors**: EMG sensors measure muscle activity, helping assess neuromuscular function and rehabilitation progress.
- **Smart Clothing**: Compression garments with embedded sensors track muscle engagement and posture, ensuring optimal recovery.

B. Robotics and Exoskeletons

- Robotic- assisted physiotherapy has revolutionized rehabilitation for stroke patients and individuals with mobility impairments.
- **Exoskeletons:** Wearable robotic devices support patients with paralysis or severe mobility issues, allowing them to regain movement.
- **Robotic Therapy Devices:** These include robotic arm sandle graces that assist in repetitive motion therapy to enhance motor recovery.

C. Virtual Reality (VR) and Augmented Reality (AR)

- VR and AR provide immersive environments for rehabilitation exercises, improving engagement and effectiveness.
- **VR Rehabilitation**: Patients perform guided exercises in a virtual setting, which improves motivation and adherence to therapy.
- **AR Therapy**: Augmented reality over lays digital information on to the real world, aiding in movement training and corrective exercises.

D. Artificial Intelligence (AI) and Machine Learning

- AI-driven tools analyse patient data to optimize treatment plans and predict recovery patterns.
- **AI-Powered Assessment**: Machine learning algorithms assess movement disorders and provide real-time recommendations.
- **Personalized Therapy Programs**: AI customizes rehabilitation plans based on patient progress, improving outcomes.

E. Electro therapy and Neuromuscular Electrical Stimulation (NMES)

- Advanced electrotherapy techniques enhance muscle function and pain management.
- **Trans cutaneous Electrical Nerve Stimulation (TENS)**: Reduces pain by stimulating nerves with low-voltage electrical currents.
- **NMES**: Stimulates weak muscles to prevent atrophy and improve strength in post-surgical or stroke patients.

F. 3D Printing and Biomechanical Analysis

- 3D printing technology and biomechanical analysis provide customized physiotherapy solutions.
- **Custom Orthotics and Prosthetics**: 3Dprinting allows for patient- specific orthotic supports and prosthetic limbs.
- **Gait Analysis Systems**: High-tech motion capture and pressure- mapping systems analyze walking patterns to correct abnormalities.

G. Tele-Rehabilitation and Mobile Applications

- Remote physiotherapy solutions have gained popularity, providing patients with access to therapy at home.
- **Tele-Rehabilitation Platforms**: Patients receive real-time guidance from physiotherapists through video consultations.
- **Physiotherapy Apps**: Mobile applications offer exercise guidance, tracking, and AI-powered feedback to improve adherence.

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Artificial Intelligence in Paramedical Services

Mr. Shubham Patidar, BPT IV Year

Abstract:
Artificial Intelligence(AI) is increasingly shaping the land scape of paramedical services, enhancing the efficiency, accuracy, and speed of patient care. This article explores the integration of AI technologies in paramedical fields, focusing on applications such as telemedicine, emergency medical services (EMS), decision support systems, medical imaging, robotic assistance, and predictive analytics. AI tools are transforming how paramedics interact with patients, make critical decisions, and manage resources, ultimately improving patient outcomes and reducing human error. By streamlining operations and
Supporting real-time decision-making, AI holds the potential to revolutionize the paramedical sector, optimizing both care delivery and resource management in emergency and non-emergency settings.

Keywords: Artificial Intelligence, Paramedical Services, Telemedicine, Emergency Medical Services, Decision Support Systems, Medical Imaging,
Robotic Assistance, Predictive Analytics, Healthcare Technology, Patient Care, Resource Management, Emergency Response.

Introduction:

Artificial Intelligence (AI) in paramedical services refers to the integration of advanced machine learning algorithms, data analytics, and automation
technologies into the field of emergency medical care. These technologies are revolutionizing how paramedics, emergency responders, and healthcare professionals manage patient care in critical situations. By enhancing diagnostic accuracy, improving decision- making, and stream lining work flows, AI has the potential to significantly improve out comes in pre-hospital care. From real-time monitoring to predictive analysis and automated triage, AI is enabling faster, more effective responses in life-threatening scenarios, ultimately supporting
better patient care and efficient use of resources. Below are key areas where AI is making a difference in para medical services:

1. Pre-Hospital Diagnosis and Triage:

- AI tools can assist paramedics in making quick, accurate decisions about the severity of a patient's condition, prioritizing care base do real-time data. For example:
- AI algorithms can analyze symptoms, medical history, and vital signs to determine the urgency of a medical situation.
- AI-powered apps and systems can support para-medical diagnosing
- Conditions such as heart attacks, strokes, or severe trauma, helping them make timely interventions.

2. Patient Monitoring and Vital Sign Analysis:

Wearable devices and portable medical equipment using AI can continuously monitor a patient's vital signs (heart rate, oxygen levels, blood pressure, etc.). AI-based systems help paramedics detect abnormal patterns early, allowing for real-time intervention.

3. Decision Support Systems:

AI systems can provide decision support for paramedics on-site, offering evidence-based recommendations based on available patient data. These systems can guide paramedics in choosing the best course of action, from suggesting appropriate medical intervention store commending transportation to the nearest hospital. This allows for more accurate and effective pre-hospital care.

4. Automated Documentation and Workflow Management:

AI can automate various administrative tasks, such as patient data entry, ensuring accurate record-keeping, reducing human error, and freeing up paramedicstofocusmoreonpatientcare.Automateddocumentationtoolscan also streamline workflow, making it easier to follow protocols and improve communication within EMS teams.

5. Enhanced Communication and Co ordination:

AI-powered communication tools can enhance coordination between paramedics, emergency dispatchers, and hospitals. These tools can share patient data in real-time, ensuring a smooth handoff when the patient reaches the hospital, reducing delays in critical care. AI can also optimize dispatching, Ensuring that the nearest and most suitable medical team is sent to the emergency location.

Conclusion:

The integration of AI in paramedical services is shaping the future of emergency care by improving response times, enhancing diagnostic accuracy, and streamlining operations. As technology continues to evolve, AI's role in pre-hospital care will likely expand, offering even more innovative solutions to improve patient outcomes and the efficiency of emergency medical services.

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Artificial intelligence (AI) in Paramedical service

Mr. Pawan Prajapati, BPT IV Year

Artificial Intelligence (AI) has the potential to revolutionize the paramedical services sector by improving decision-making, enhancing patient care, and increasing the efficiency of medical processes. Paramedical services include emergency medical services (EMS), physiotherapy, radiology, laboratory services, and other support services that assist in diagnosing, treating, and rehabilitating patients. Here's how AI is being utilized in these areas:

1. AI in Emergency Medical Services (EMS)

Ambulance Dispatch and Routing: AI algorithms can analyze traffic patterns, road conditions, and real-time data to optimize ambulance dispatch and routing. This helps paramedics reach patients faster, especially in high-traffic or congested areas, ensuring timely medical interventions.

Predicting Medical Needs: AI-powered systems can analyze past patient data, environmental factors, and emergency calls to predict the type of medical assistance required. This allows paramedics to prepare for the appropriate intervention even before arriving at the scene.

Telemedicine Integration: AI can support remote telemedicine consultations, enabling paramedics to connect with doctors or specialists for immediate guidance during emergency situations. This improves the accuracy of assessments and treatments on-site.

2. AI in Physiotherapy

Personalized Treatment Plans: AI algorithms can analyze patient data, including medical history, current condition, and response to therapy, to design personalized physiotherapy plans. These plans can adjust over time based on the patient's progress, ensuring optimal outcomes.

Movement Analysis and Rehabilitation: AI-powered wearable devices, sensors, and computer vision technology can monitor and analyze a patient's movements during rehabilitation. This helps physiotherapists assess the effectiveness of exercises and correct any improper movements in real-time.

Virtual Physiotherapy Assistants: AI-driven virtual assistants can guide patients through exercises, monitor their performance, and provide feedback. These tools can also ensure that patients adhere to their rehabilitation schedules.

3. AI in Radiology and Diagnostics

Image Recognition and Interpretation: AI technologies like deep learning and neural networks are used for analyzing medical imaging such as X-rays, CT scans, and MRIs. AI algorithms can identify patterns in the images, detect abnormalities (e.g., tumors, fractures), and provide initial diagnostic insights to radiologists. This helps speed up the diagnostic process and reduces human error.

Predictive Diagnostics: AI can analyze patient records, medical history, and imaging data to predict potential health risks, such as early-stage cancers, cardiovascular diseases, or

neurological disorders. Early detection allows for quicker interventions and better patient outcomes.

4. AI in Laboratory Services

Automated Testing and Analysis: AI-powered systems in labs can automate the process of conducting various tests (e.g., blood tests, urine tests), analyzing the results, and identifying patterns or anomalies that human technicians might overlook. This improves the speed, accuracy, and consistency of laboratory results.

Predictive Analytics for Disease Trends: AI can analyze large sets of lab data to identify disease outbreaks, predict patient trends, and help in resource management. This is particularly valuable in monitoring public health and managing healthcare resources efficiently.

Error Reduction: AI systems in laboratories can ensure quality control by detecting errors or inconsistencies in testing procedures or results. This reduces human errors, enhances reliability, and ensures that patient care is based on accurate data.

5. AI in Patient Monitoring

Wearable Health Devices: AI-integrated wearables, such as smartwatches and health trackers, can continuously monitor vital signs like heart rate, blood pressure, oxygen levels, and more. These devices can alert paramedics or healthcare professionals when abnormalities are detected, facilitating early interventions.

Remote Patient Monitoring: AI systems can be employed to remotely monitor patients with chronic conditions, providing real-time data that can trigger automatic alerts if any health metrics fall outside of normal ranges. This reduces hospital visits and enhances the management of chronic diseases.

AI-Powered Predictive Models: AI models can predict deteriorating conditions in patients by analyzing real-time health data, enabling paramedics to take preventive measures before complications arise.

6. AI in Support Services

Chatbots for Patient Interaction: AI-powered chatbots can be used to provide support to patients and their families. They can answer general medical questions, schedule appointments, offer health tips, or provide information on medication and procedures.

Virtual Health Assistants: These AI-driven systems can help patients navigate the healthcare system, assist in appointment scheduling, remind patients about medications or exercises, and provide emotional support during rehabilitation.

AI for Resource Management: In paramedical services, AI can be used to optimize the scheduling of medical staff, manage inventory (such as medical supplies), and allocate resources efficiently based on patient needs and emergencies.

Benefits of AI in Paramedical Services

Increased Efficiency: AI automates time-consuming tasks, such as data analysis, diagnostic interpretation, and administrative work, allowing medical professionals to focus on patient care.

Improved Accuracy: AI enhances diagnostic accuracy by identifying subtle patterns and abnormalities that might be missed by human providers, leading to better patient outcomes.

Cost Reduction: By streamlining processes, automating repetitive tasks, and reducing errors, AI can help reduce operational costs in paramedical services.
Enhanced Patient Experience: AI helps provide more personalized care, faster response times, and better treatment, leading to improved patient satisfaction.
Challenges and Considerations
Data Privacy and Security: The use of AI in paramedical services requires handling sensitive patient data, making data security and privacy a major concern. Ensuring compliance with regulations like HIPAA is essential.
Integration with Existing Systems: For AI to be effective, it needs to be integrated into the existing healthcare infrastructure, which can be complex and costly.
Trust and Adoption: Paramedics and healthcare professionals may be hesitant to trust AI systems fully, especially when they are used in high-stakes situations like emergency care. Training and demonstrating the reliability of AI tools are essential for gaining their trust.
Regulation and Ethics: There is a need for clear regulatory frameworks to govern AI in healthcare, ensuring that these technologies are safe, reliable, and ethically used.
Future Prospects
The role of AI in paramedical services is likely to expand as technology continues to evolve. The development of more advanced AI tools for diagnostics, patient monitoring, and administrative tasks will make paramedical services more effective and accessible. As AI becomes more integrated into healthcare systems, its potential to save lives, reduce costs, and improve overall healthcare quality will continue to grow.
In conclusion, AI has already begun reshaping paramedical services, and its continued growth holds the promise of transforming healthcare delivery, making it more efficient, accurate, and patient-centric.

Advance technology used in physiotherapy

Advanced technologies have significantly impacted the field of physiotherapy, offering enhanced treatment options, faster recovery times, and more precise therapeutic interventions. These technologies combine innovative tools with evidence-based practices to improve patient outcomes. Here are some of the advanced technologies used in physiotherapy in detail:

1. Electrical Stimulation Therapy (EST)

Types: TENS (Transcutaneous Electrical Nerve Stimulation), NMES (Neuromuscular Electrical Stimulation), and FES (Functional Electrical Stimulation).
How It Works: Electrical impulses are delivered through electrodes placed on the skin to stimulate nerves and muscles. This can help reduce pain, improve muscle function, and enhance circulation.
Applications: Used for pain management, muscle rehabilitation, and improving joint movement. It's effective in treating conditions like chronic pain, muscle weakness, and paralysis.

2. Laser Therapy (Low-Level Laser Therapy – LLLT)

How It Works: LLLT uses specific wavelengths of light to penetrate tissues, promoting cellular regeneration and reducing inflammation. The energy from the laser enhances tissue repair by stimulating mitochondria in the cells, leading to faster healing.

Applications: It's effective for treating musculoskeletal injuries, soft tissue damage, arthritis, and reducing pain and inflammation.

3. Ultrasound Therapy

How It Works: Therapeutic ultrasound uses high-frequency sound waves that penetrate deep into tissues. These sound waves generate heat, increase blood flow, and stimulate tissue healing.

Applications: Commonly used for soft tissue injuries, muscle strains, tendonitis, and joint inflammation. It helps reduce swelling and promotes the healing of deep tissues.

4. Cryotherapy and Heat Therapy

Cryotherapy (Cold Therapy): Involves applying cold to reduce inflammation and numb pain in injured areas. It can be in the form of ice packs or cryo chambers.

Heat Therapy: Uses hot packs or infrared lamps to increase blood flow, reduce muscle stiffness, and promote healing by relaxing muscles and joints.

Applications: Cryotherapy is often used post-injury, while heat therapy is used for chronic pain and muscle tightness.

5. Robotics in Rehabilitation (Robotic Physiotherapy Devices)

How It Works: Robotics in physiotherapy involves using robotic devices to assist patients with movement training, gait correction, and rehabilitation exercises. These devices can aid in controlling joint movements or providing assisted therapy in cases of neurological disorders like stroke or spinal cord injury.

Applications: Robotic exoskeletons help patients with severe mobility impairments, like those recovering from strokes or spinal cord injuries, to regain walking ability and improve motor skills.

6. Virtual Reality (VR) and Augmented Reality (AR)

How It Works: VR immerses patients in a simulated environment, where they can perform therapeutic exercises while receiving real-time feedback. AR, on the other hand, superimposes virtual objects onto the real world, guiding the patient through exercises with the help of 3D visualizations.

Applications: Used to treat neurological disorders (stroke rehabilitation, brain injury), balance training, and post-surgery recovery. VR can improve motor skills, coordination, and cognitive function in patients, while AR provides guidance for exercises and tracks progress.

7. 3D Motion Analysis and Biomechanics

How It Works: 3D motion analysis involves the use of specialized cameras and sensors to track a patient's movements in three dimensions. The data is then analyzed to evaluate the mechanics of movement, joint stability, posture, and gait.

Applications: Used for assessing and treating musculoskeletal disorders, postural imbalances, gait abnormalities, and for planning individualized rehabilitation programs.

8. Shockwave Therapy (ESWT)

How It Works: High-energy shockwaves are applied to areas of pain or injury, stimulating circulation, reducing muscle tension, and encouraging the healing process.

Applications: Commonly used to treat chronic pain conditions such as plantar fasciitis, calcific shoulder tendinitis, and other soft tissue injuries.

9. Biofeedback and Neurofeedback

How It Works: Biofeedback involves using sensors attached to the body to monitor physiological functions such as muscle tension, heart rate, or brainwave patterns. Patients receive real-time feedback to help them learn to control these functions.

Applications: Used for conditions like chronic pain, stress, muscle spasms, and even for improving posture and body awareness during rehabilitation.

10. Computer-Assisted Rehabilitation Systems

How It Works: These systems combine computer-based programs with physical exercises. Patients interact with the system, which tracks their movements and adjusts the exercise intensity based on real-time performance feedback.

Applications: Primarily used in neurorehabilitation, helping patients with neurological conditions, such as stroke or multiple sclerosis, to regain mobility and strength.

11. Hydrotherapy (Aquatic Therapy)

How It Works: Hydrotherapy uses water-based exercises to reduce joint impact while still providing resistance for strength building. The buoyancy of the water supports body weight, making exercises easier on joints and muscles.

Applications: Effective for individuals with arthritis, joint injuries, and those recovering from surgeries. It helps improve strength, flexibility, and range of motion without putting stress on the joints.

12. Artificial Intelligence (AI) and Machine Learning

How It Works: AI and machine learning are increasingly being integrated into physiotherapy to create personalized treatment plans based on patient data. These systems can analyze large amounts of data to predict outcomes, optimize therapies, and even assist in diagnosis.

Applications: Used for monitoring patient progress, predicting rehabilitation outcomes, and customizing treatment plans for specific conditions.

13. Wearable Technology

How It Works: Wearable devices, such as smartwatches and fitness trackers, monitor parameters like heart rate, step count, sleep quality, and movement patterns. These devices provide data that physiotherapists can use to adjust treatments and track progress.

Applications: Used in monitoring and promoting physical activity, providing feedback to patients on their exercises, and tracking rehabilitation progress.

14. Interferential Therapy (IFT)

How It Works: Interferential therapy involves using two medium-frequency electrical currents that intersect at a target area. This creates a low-frequency current that is said to be more effective at reaching deeper tissues.

Applications: Typically used for pain relief, swelling reduction, and improving circulation, particularly in cases of musculoskeletal pain, joint injuries, and soft tissue injuries.

15. Magnetic Field Therapy

How It Works: Pulsed electromagnetic fields (PEMF) are used to stimulate cells and tissues at a deep level. This therapy is believed to enhance cellular function, reduce inflammation, and promote tissue repair.

Applications: Used in the treatment of fractures, soft tissue injuries, arthritis, and even for conditions like osteoporosis and chronic pain.

Conclusion:

These advanced technologies in physiotherapy play a crucial role in improving the precision, efficiency, and effectiveness of treatment. By integrating these innovations, physiotherapists can provide better individualized care, accelerate recovery, and offer more comprehensive solutions to patients with a wide variety of conditions.

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Artificial Intelligence in Paramedical Services

Ms. Ankita Sharma, BPT IV Year

Introduction:

The use of Artificial Intelligence (AI) in paramedical services is revolutionizing healthcare, providing opportunities for improving patient care, diagnostics, and Administrative efficiency.AI technologies, such as machine learning, deep learning, and natural language processing, are being integrated in to paramedical practices to Augment health care professionals' capabilities, optimize work flows, and reduce human error.BelowaresomekeyareaswhereAIismakinganimpactinparamedicalservices:

1. AI in Diagnostics and Imaging:

AI algorithms are increasingly being used for diagnostics, especially in imaging, where they can assist in detecting conditions likecancer, fractures, and cardiac abnormalities.

Radiologists use AI-powered tools to analyze X-rays, CT scans, and MRI scans more efficiently, ensuring faster and more accurate diagnoses. Deep learning models are trained to recognize patterns in images, aiding para medics and health care workers in providing early intervention.

Example: In a study published in Nature Medicine (2020), an AI system was able to match or outperform radiologists in diagnosing breast cancer from mammograms.

2. Predictive Analytics for Emergency Response:

AI helps paramedics predict and respond to emergencies more effectively by analyzing vast amounts of patient data and environmental factors. Machine learning model scan predict patient outcomes based on historical data, improving triage decisions in

Emergency medical services (EMS).AI can also assist paramedics in determining the severity of a patient's condition on-site, thus ensuring that the appropriate care is delivered as quickly as possible.

Example: The use of predictive algorithms in ambulances can help anticipate traffic patterns, allowing paramedics to choose the best route to transport patients to the hospital.

3. Wear able sand Remote Monitoring:

Wearable devices powered by AI are playing a crucial role in monitoring patients in real- time. These devices can track vital signs such as heart rate, blood pressure, blood glucose levels, and oxygen saturation. The data collected can be sent to health care providers for analysis, allowing them to intervene when necessary. Paramedical staff can also use this data to monitor patients during transit, ensuring prompt interventions if there are signs of deterioration.

Example: Devices like the Apple Watch, which use AI to monitor heart rate and ECG readings, have saved lives by alerting users to potential medical emergencies such as atrial fibrillation.

4. Virtual Assistants for Paramedics:

AI-powered virtual assistants and chat boot scan support paramedics in various ways. These assistant scan provide up-to-date medical information,offer guidance on patient care procedures, and even assist in triaging patients.AI-powere dsystem scan answer questions from para-medics during emergencies, allowing them to focus on immediate care needs rather than searching for resources.

Example: Virtual assistants in EMS can help paramedics identify drug interactions or recommend interventions based on a patient's medical history.

5. AI in Paramedical Education and Training

AI is being used to enhance paramedical education and training. Simulation platforms powered by AI can create virtual patient scenarios, allowing trainees to practice their skills in a safe, controlled environment. These simulation scan mimic real-world emergencies, providing paramedics with the opportunity to respond to situations that they may not frequently encounter, thus improving their decision-making and clinical skills.

Example: Systems like the Virtual Reality Medical Training (VRMT)use AI to simulate real-world medical emergencies that paramedics might face in the field.

6. Administrative Automation

AI can reduce the administrative burden on paramedical professionals by automating routine tasks such as patient records management, billing, and scheduling. AI can process patient data efficiently, help with accurate coding for billing purposes, and manage appointments, thereby allowing paramedics of focus more on clinical tasks.

Example: AI software can automate data entry in Electronic Health Records (EHRs), reducing errors and saving time.

7. AI in Drug Administration and Dosage

AI tools are also assisting paramedics in administering the correct medications and dosages in emergency situations. By using patient data, including weight, age, and medical history, AI systems can recommend the proper drug dosages for different conditions, ensuring accurate treatment.

Example: AI-driven applications are being tested for use in paramedic-controlled environments to calculate and administer medication during emergencies.

Challenges and Ethical Considerations:

Paramedics and health care workers must be trained to use the technologies effectively, ensuring they understand both the potential and limitations of AI systems. Ethical concerns surrounding patient privacy and data security are also critical, as AI systems rely on large amounts of sensitive health data.

Conclusion: Artificial intelligence is rapidly transforming paramedical services by enhancing Diagnostic capabilities, improving patient outcomes, and stream lining operations. By harnessing the power of AI, paramedics can provide quicker, more accurate care while reducing administrative workloads. However, the implementation of AI must be approached with caution, ensuring that health care professionals are adequately trained, and ethical standards are upheld.

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Advanced Technologies in Physiotherapy

Mr. Saurabh, BPT IV Year

Introduction:

Physiotherapy has evolved significantly with the integration of advanced technologies, enhancing patient outcomes and rehabilitation efficiency. Technological advancements such as virtual reality (VR), robotics, wearable sensors, brain-computer interfaces (BCI), and artificial intelligence (AI) have transformed the field, offering innovative assessment and treatment methods.

1. Virtual Reality (VR): Virtual Reality (VR) in physiotherapy provides an immersive environment for rehabilitation. It enables patients to engage in interactive exercises that simulate real-life scenarios, improving motor skills, balance, and coordination. VR is widely used in stroke rehabilitation, neurological disorders, and pain management.

Reference: Sandrini, G. et al. (2018). Advanced Technologies for the Rehabilitation of Gait and Balance Disorders. Springer.

2. Robotics: Robotic devices assist in physiotherapy by providing controlled, repetitive, and precise movements. They help improve motor function, particularly in patients with spinal cord injuries, strokes, and other neuromuscular disorders. Robotic exoskeletons and robotic-assisted gait training are commonly used technologies.

Reference: Valera Garrido, F., & Muñoz, F. M. (2016). Advanced Techniques in Musculoskeletal Medicine & Physiotherapy. Elsevier.

3. Wearable Technology: Wearable sensors and smart garments provide real-time data on physiological and biomechanical parameters. They help monitor movement patterns, muscle activity, and posture, enabling personalized treatment plans. Common wearable technologies include motion sensors, accelerometers, and electromyography (EMG) devices.

Reference: Sharma, K. N. (2019). Advanced Techniques in Physiotherapy & Occupational Therapy. Amazon Publications.

4. Brain-Computer Interfaces (BCI): BCI technology enables communication between the brain and external devices, helping patients with neurological impairments regain motor function. BCIs translate neural signals into movement commands, assisting in neurorehabilitation.

Reference: Kauser, M. S. et al. (2023). Next Gen Rehabilitation: Artificial Intelligence in Physiotherapy. Springer.

5. Functional Electrical Stimulation (FES): FES uses electrical currents to stimulate muscle contractions, aiding in movement for individuals with paralysis or weakness. It is commonly used to restore function in stroke patients, spinal cord injury patients, and those with neuromuscular disorders.

Reference: Gaggioli, A. (2021). Advanced Technologies in Rehabilitation. Google Books.

The Rise of Technology in Physiotherapy

Ms. Arya Nair, BPT IV Year

As a Physiotherapy student, I've witnessed a remarkable transformation in our field over the past few years. It's no exaggeration to say that technology has fundamentally reshaped how we assess, treat, and empower our patients.

One of the most significant shifts has been the integration of motion capture and 3D analysis. These systems, similar to those used in gaming and film, provide objective data on movement patterns. This is invaluable when assessing gait abnormalities, postural issues, or the effectiveness of rehabilitation programs. Consider, for example, the use of markerless motion capture, which allows us to analyze movement in natural environments without the need for cumbersome sensors. This technology has significantly improved the accuracy of biomechanical assessments, allowing for more targeted interventions.

Beyond assessment, technology has revolutionized treatment modalities. Electrotherapy, once confined to basic TENS units, now encompasses sophisticated devices that deliver targeted electrical stimulation to muscles and nerves. Ultrasound imaging, now more portable and accessible, allows us to visualize soft tissue structures in real-time, guiding manual therapy and interventions like dry needling with greater precision. Furthermore, the rise of virtual reality (VR) has opened up new avenues for rehabilitation. VR environments can simulate real-life scenarios, helping patients regain motor skills and improve balance in a safe and engaging way. Think about patients recovering from strokes; VR can provide immersive experiences that promote neuroplasticity and functional recovery. Studies in the "Journal of NeuroEngineering and Rehabilitation" demonstrate the efficacy of VR in neurological rehabilitation. The proliferation of wearable technology has also empowered patients to take a more active role in their recovery. Smart watches, fitness trackers, and specialized sensors provide real-time data on activity levels, sleep patterns, and physiological parameters. This data can be shared with physiotherapists, enabling remote monitoring and personalized exercise programs. Telehealth platforms have further extended the reach of physiotherapy, allowing patients to access consultations and rehabilitation sessions from the comfort of their homes. Of course, the integration of technology is not without its challenges. We must ensure that these tools are used ethically and responsibly, and that they complement, rather than replace, the essential human interaction that forms the core of physiotherapy. We must also remain vigilant in evaluating the evidence-based effectiveness of new technologies, ensuring that they truly improve patient outcomes. Looking ahead, I believe that artificial intelligence (AI) and machine learning will play an increasingly important role in physiotherapy. AI algorithms can analyze vast amounts of data to identify patterns and predict patient outcomes, enabling us to personalize treatment plans and optimize rehabilitation strategies. For instance, AI could be used to analyze motion capture data and identify subtle deviations from normal movement patterns, allowing for early detection of musculoskeletal disorders.

In conclusion, the rise of technology has transformed physiotherapy into a more data-driven, precise, and patient-cantered profession. While technology will continue to evolve, our focus must remain on using these tools to enhance the quality of care and empower patients to achieve their optimal level of function.

AI in Paramedical Services: Transforming Emergency Response and Education

Ms. Rashmi, BPT IV Year

Artificial Intelligence (AI) is increasingly shaping the healthcare landscape, including paramedical services. AI-driven solutions are enhancing emergency response, education, and clinical decision-making, helping paramedics provide efficient and accurate care in high-stress environments. From predictive analytics to AI-powered training simulations, technology is revolutionizing the way paramedics operate in pre-hospital settings.

Enhancing Emergency Response with AI:

Paramedics work in high-pressure environments where quick decision-making can mean the difference between life and death. AI-powered systems can assist in triaging emergency cases by analyzing real-time data from emergency calls, patient history, and symptoms. AI-based predictive models can identify high-risk patients, allowing responders to prioritize critical cases effectively.

Additionally, AI-driven navigation systems optimize ambulance routes based on real-time traffic and hospital capacity data. These systems ensure that paramedics reach patients faster and transport them to the most appropriate medical facility.

AI in Paramedic Education and Training:

AI has significantly improved paramedic training by integrating virtual reality (VR) and augmented reality (AR) simulations. These technologies provide immersive, hands-on learning experiences without risking patient safety. AI-driven virtual patients react to treatments in real time, allowing students to practice emergency procedures and refine their clinical decision-making skills.

Moreover, intelligent tutoring systems personalize learning by adapting to individual strengths and weaknesses. Automated assessment tools analyze student performance, providing detailed feedback to improve their proficiency in handling emergencies.

Cognitive Load Management and AI:

Cognitive load—the mental effort required to process information—plays a crucial role in paramedic performance. High cognitive load can lead to errors, delayed decision-making, and increased stress. AI-powered decision-support systems can reduce cognitive overload by filtering essential information, providing real-time guidance, and automating routine tasks such as documentation and vitals monitoring.

Wearable AI devices can track physiological markers such as heart rate and stress levels, alerting paramedics when cognitive strain is high. This allows responders to adjust their workload and maintain peak performance in critical situations.

AI in Patient Monitoring and Predictive Analytics:

AI-driven wearable sensors and remote monitoring systems continuously track patient vitals, alerting paramedics to critical changes before symptoms worsen. Machine learning algorithms analyze vast amounts of patient data to detect patterns that human responders may miss, assisting in early diagnosis and treatment planning.

Ethical Considerations and Challenges:

While AI offers significant benefits, its integration into paramedical services must be approached with caution. Issues such as data privacy, algorithm bias, and over-reliance on AI in decision-making must be addressed. AI should complement, rather than replace, human expertise in emergency care.

Additionally, training paramedics to use AI tools effectively is essential to ensure seamless integration into their workflow. Continuous education and ethical guidelines will be necessary to balance technology with human-centered care.

Conclusion:

AI is revolutionizing paramedical services by enhancing emergency response, improving training, and supporting decision-making. By reducing cognitive load, optimizing patient monitoring, and offering real-time guidance, AI empowers paramedics to deliver more effective and timely care. As technology advances, responsible implementation of AI will be key to maximizing its benefits while maintaining the highest standards of patient safety and ethical practice.

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"स्वास्थ्य का आधार – स्वच्छ पर्यावरण और नर्सों की भूमिका"

Mr. Vikash Sharma, Chirayu College of Nursing, Bhopal

परिचय: पर्यावरण, जीवन का आधार है। वायु, जल, मिट्टी, प्रकाश और वनस्पति जैसे प्राकृतिक संसाधन हो जीवन की निरंतरता को संभव बनाते हैं। जब ये तत्व संतुलित रहते हैं, तो मानव स्वास्थ्य पर सकारात्मक प्रभाव पड़ता है। परंतु जब पर्यावरण प्रदूषित होता है, तो यह अनेक बीमारियों का कारण बनता है। आज के समय में, जब वैश्विक तापमान बढ़ रहा है, प्रदूषण चरम पर है और प्राकृतिक आपदाएं बार-बार हो रही हैं, तब पर्यावरण की सुरक्षा अत्यंत आवश्यक हो गई है।

नर्सिंग का कार्य केवल रोगियों की देखभाल तक सीमित नहीं है, बल्कि यह समाज में स्वास्थ्य के व्यापक दृष्टिकोण को बढ़ावा देने का माध्यम भी है। एक नर्स न केवल व्यक्तिगत स्वास्थ्य देखभाल देती है, बल्कि वह सामुदायिक जागरूकता और पर्यावरणीय सुधार की दिशा में भी प्रेरणास्त्रोत बन सकती है।

पर्यावरणीय संकट और उनका स्वास्थ्य पर प्रभाव:

वायु प्रदूषण: धूल, धुआं, कार्बन मोनोऑक्साइड, सल्फर डाइऑक्साइड जैसे गैसें सांस की बीमारियां, एलर्जी, अस्थमा, ब्रोंकाइटिस और कैंसर तक का कारण बनती हैं।

जल प्रदूषण: उद्योगों और घरों से निकलने वाला अपशिष्ट जल में मिलकर उसे विषैला बनाता है। इसके कारण जलजनित रोग जैसे हैजा, डायरिया, पीलिया, टायफाइड तेजी से फैलते हैं।

भूमि प्रदूषण: प्लास्टिक, रासायनिक उर्वरक और औद्योगिक कचरे से भूमि की उर्वरता घटती है, जिससे भोजन की गुणवत्ता प्रभावित होती है और अप्रत्यक्ष रूप से मानव शरीर में हानिकारक रसायन पहुंचते हैं।

ध्वनि प्रदूषण: अनावश्यक शोर मानसिक तनाव, नींद की कमी, उच्च रक्तचाप और हृदय रोगों को जन्म देता है।

जलवायु परिवर्तन: असमय बारिश, अत्यधिक गर्मी या ठंड जैसी स्थितियां नई बीमारियों को जन्म दे रही हैं। मलेरिया, डेंगू और अन्य वेक्टर जनित रोग तेजी से बढ़ रहे हैं।

नर्सों की भूमिका: नर्सें स्वास्थ्य सेवा प्रणाली की रीढ़ होती हैं। वे रोगियों के सबसे करीब होती हैं और उनकी दिनचर्या में गहरी भागीदारी रखती हैं। उनकी भूमिका पर्यावरण संरक्षण में अत्यंत प्रभावशाली हो सकती है:

बायोमेडिकल वेस्ट का सही प्रबंधन: नर्सें सुनिश्चित कर सकती हैं कि अस्पताल में जैविक और अजैविक कचरे को अलग-अलग रखा जाए और उचित तरीके से निपटाया जाए।

ग्रीन नर्सिंग का अभ्यास: कम पानी की खपत, ऊर्जा की बचत, कागज की बचत और हरित सामग्री के प्रयोग को बढ़ावा देना नर्सिंग की आधुनिक जिम्मेदारी बनती जा रही है।

शिक्षा और जागरूकता: रोगियों, उनके परिजनों और सामुदायिक स्तर पर लोगों को स्वच्छता, स्वच्छ पेयजल, पौष्टिक आहार और पर्यावरणीय सतर्कता के बारे में शिक्षित करना।

स्वयं आदर्श बनना: नर्सें जब स्वयं प्लास्टिक का कम उपयोग करती हैं, साइकिल चलाती हैं या पौधारोपण करती हैं, तो वे समाज में एक प्रेरणा स्रोत बनती हैं।

आपदाओं में भूमिका: बाढ़, भूकंप या महामारी जैसे समय में नर्सें न केवल चिकित्सा सेवाएं देती हैं, बल्कि पुनर्वास और मानसिक स्वास्थ्य समर्थन में भी योगदान देती हैं।

निष्कर्ष:"स्वास्थ्य केवल रोगमुक्ति नहीं, सम्पूर्ण शारीरिक, मानसिक और सामाजिक कल्याण है" — और यह तभी संभव है जब हमारा पर्यावरण स्वस्थ हो। नर्सें इस दिशा में अग्रणी भूमिका निभा सकती हैं। हमें चाहिए कि हम अपने छोटे-छोटे प्रयासों द्वारा पर्यावरण की रक्षा करें — जैसे पानी की बचत, बिजली का विवेकपूर्ण उपयोग, वृक्षारोपण, कचरे का सही निपटान और हरित जीवनशैली को अपनाना।इस प्रकार हम न केवल अपने वर्तमान को बेहतर बना सकते हैं, बल्कि आने वाली पीढ़ियों को भी एक स्वस्थ और सुरक्षित भविष्य दे सकते हैं।

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The Deepfake Problem in 2025: A Growing Threat to Reality

Mr. Javed Ali, Chirayu College of Nursing, Bhopal

In 2025, deepfakes—hyper-realistic synthetic media created using artificial intelligence (AI)—have evolved from a niche technological curiosity into a pervasive societal challenge. What began as a tool for entertainment and creative expression has morphed into a double-edged sword, capable of deceiving millions and undermining trust in everything from personal interactions to democratic institutions. As of April 08, 2025, the proliferation of deepfake technology is raising urgent questions about privacy, security, and the very nature of truth in the digital age.

The Scale of the Problem:

Deepfakes are no longer the domain of tech-savvy hobbyists. Advances in AI, particularly in generative adversarial networks (GANs), have democratized their creation. Today, anyone with a smartphone and access to free apps can generate convincing fake videos or audio with minimal effort. A 2024 report by cybersecurity firm McAfee revealed that over 75% of surveyed Indians online had encountered deepfake content, with 38% facing scams tied to this technology. Globally, the Better Business Bureau estimates that deepfake-related fraud caused $12 billion in losses by 2024, with projections soaring to $40 billion by 2027 if unchecked.

The problem isn't just financial. Deepfakes are increasingly weaponized for misinformation, political manipulation, and personal harm. In early 2025, posts on X highlighted a scam featuring a deepfake Elon Musk promising a $20 million cryptocurrency giveaway, tricking users into sending money to fraudsters. Such incidents illustrate how deepfakes exploit trust in familiar faces and voices, amplifying their impact in an era where social media drives information consumption.

Why Deepfakes Are Thriving in 2025:

Several factors fuel the deepfake surge. First, the technology has become startlingly sophisticated. With as little as 15 minutes of audio or a few seconds of video, AI can replicate a person's voice and likeness with eerie precision. A 2023 study from the University of Southern California predicted that by mid-2025, genuine videos and deepfakes would be nearly indistinguishable, a forecast that appears to be coming true.

Second, the accessibility of deepfake tools has skyrocketed. Apps like DeepFaceLab and others, often paired with cloud computing platforms, allow non-experts to create high-quality fakes. This ease of use has led to a flood of content—some benign, like satirical videos, but much of it malicious, including revenge porn, fake news, and financial scams.

Finally, the rapid spread of deepfakes on social media platforms exacerbates the issue. Algorithms prioritize sensational content, and deepfakes—whether depicting a politician in a scandal or a celebrity endorsing a scam—fit the bill perfectly. A 2024 article in The New York Times noted that AI-generated personas were detected in state-aligned disinformation campaigns, marking a new frontier in online manipulation.

The Consequences:

The implications of deepfakes in 2025 are profound. On a personal level, individuals face unprecedented threats to their privacy and reputation. Non-consensual deepfake pornography, which accounted for 96% of deepfake videos online as of 2019 according to Deep trace, remains a persistent issue, now joined by scams impersonating loved ones to extort money.

Politically, deepfakes pose a risk to democracy. The 2024 U.S. presidential election saw minimal deepfake interference, but experts warn that 2025's global elections—spanning India, the UK, and beyond—could be prime targets. A 2020 study in Social Media + Society found that while deepfakes didn't always deceive viewers outright, they sowed enough uncertainty to erode trust in news, a trend that's intensified with improved realism.

Businesses aren't immune either. In 2024, a Hong Kong firm lost $25 million after an employee was duped by a deepfake video call impersonating the company's CFO. Such incidents highlight how deepfakes exploit trust in corporate settings, with Deloitte predicting a sharp rise in such attacks through 2025.

Education and media literacy are also critical. A 2024 Nature study emphasized that public awareness of deepfake risks is growing, yet many still struggle to identify fakes, especially when they align with pre-existing biases.

The Road Ahead:

As of April 08, 2025, the deepfake problem shows no signs of abating. While technology offers solutions—such as blockchain-based authenticity standards like C2PA—these rely on fragile trust chains easily undermined by fake metadata, as noted in recent X posts. The window to act is narrowing, with experts like Hany Farid of UC Berkeley warning that we're only seeing "the tip of the iceberg."

Ultimately, the battle against deepfakes isn't just technological—it's societal. Restoring trust in what we see and hear will require a blend of innovation, policy, and vigilance. Without it, 2025 risks becoming the year reality itself becomes optional.

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Nursing: A Unique Saga of Service and Progress

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Introduction:

Nursing is a vital pillar of the medical world that provides patients not just treatment, but also hope and compassion. It is a profession where technical expertise blends beautifully with human empathy. Today, nurses form the backbone of healthcare systems, making hospitals unimaginable without them.

1. The Historical Journey of Nursing:

Nursing dates back to the dawn of human civilization. In ancient times, when formal medical systems didn't exist, elders and experienced members of society cared for the sick. The 19th century saw Florence Nightingale transform this service into an organized profession. In India, nursing began during the British era in missionary hospitals, where it gradually evolved into a formal training discipline.

2. Educational Revolution:

Nursing education has achieved unprecedented progress today. What was once limited to basic training now offers options ranging from B.Sc and M.Sc to even Ph.D. programs. Modern nursing colleges boast high-tech labs, simulation centers, and excellent clinical training facilities. Specializations like oncology, cardiac, and pediatric nursing have emerged as new frontiers.

3. Technological Integration:

The nursing profession has achieved remarkable synergy with technology in the modern era:

• **Digital Health Records (EHR/EMR):**
  - Electronic records have replaced paper files.
  - Nurses can access complete patient histories on tablets/computers.
  - This system reduces medical errors by up to 60%.

• **Tele-Nursing and Remote Monitoring:**
  - Video consultations for patient advice.
  - Wearable devices for real-time monitoring of chronic patients.

• **Smart Medical Devices:**

- Automated blood pressure monitors, smart IV pumps
- Medication-dispensing robots that deliver precise dosages

• **Artificial Intelligence:**
- AI systems that predict patient risks.
- Emergency alert systems that warn of vital sign abnormalities.

• **Key Benefits**
- 30-40% reduction in nurses' workload.
- More accurate patient treatment.
- Quality healthcare services even in rural areas.

4. Innovations in Patient Care:

Modern nursing emphasizes patient-centered care. Personalized treatment plans, home care services, and patient education programs have transformed healthcare delivery. Nurses are no longer confined to hospitals but actively participate in community health programs, awareness campaigns, and disease prevention initiatives. Their contributions to palliative care and mental health are particularly noteworthy.

5. Global Recognition and Opportunities:

Indian nurses are now making their mark not just domestically but internationally. There's huge demand for them in the USA, UK, Canada, and Middle Eastern countries. Recognition from international nursing councils and bilateral agreements have given this profession global stature. Indian nurses have proven their capabilities in global health initiatives and pandemic management.

Conclusion:

The nursing profession has overcome numerous challenges to achieve remarkable progress. Today it stands not just as a respected career but as an important medium of social service. While technology will continue to advance, the human touch in nursing will remain irreplaceable. As medical science progresses, nursing will keep scaling new heights, but its core principle - 'Service and Dedication' - will remain eternal.

"A nurse's compassion matters more than technical skill, for they heal not just the body but also the soul."

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COLLEGE REPORT

Chirayu College of Nursing, located in Bhopal, Madhya Pradesh, is a prominent institution dedicated to nursing education. Established in 2012 under the aegis of the Chirayu Charitable Foundation, the college has been instrumental in producing skilled nursing professionals. A Journey of 13 Years of Excellence, We have successfully completed a long journey of victory spanning 13 years. Over the years, our institution has evolved into a full-fledged deemed university, currently encompassing four constituent colleges: The Medical College, Paramedical College, Nursing College, and Management School. With a steadfast commitment to academic excellence and holistic education, the university envisions further expansion by introducing many more colleges in the future.

Chirayu University Bhopal was established by the Chirayu Charitable Foundation through an act of the Government of Madhya Pradesh, published in the State Gazette on July 20, 2023. The university has been approved by the UGC under Section 2(F) of the 1956 Act. The vision of Chirayu University is to promulgate scholarly excellence in medical education, practice acquired knowledge virtuously, safely, and with quality; achieve imperative skills obligatory intertwined with compassion, values, and gratitude to the citizens of our country and worldwide.

Enriching Experiences: A Year of Academic and Extracurricular Excellence, the academic year 2024-25 at Chirayu College of Nursing was filled with a dynamic blend of curricular, co-curricular, and extracurricular activities, providing students with holistic learning experiences. These events played a crucial role in boosting students' confidence in nursing, refining their skills, and deepening their understanding of the profession. Throughout the year, various health awareness days were commemorated as part of SNA gatherings, where students actively participated in educational sessions, presentations, and performances to spread awareness about critical health issues. Additionally, students were given valuable opportunities to participate in medical camps across various regions of Madhya Pradesh, contributing to community healthcare services. To encourage healthy competition and talent showcasing, students were also allowed to take part in inter-college competitions, where they demonstrated their intellect, creativity, and professional knowledge. Furthermore, to strengthen their practical skills, students were given ample opportunities for field visits and clinical exposure in both urban and rural healthcare settings within and beyond Bhopal. This enriching academic journey has helped shape well-rounded nursing professionals who are not only academically proficient but also socially responsible and clinically competent.

Annual Day Celebration – A Grand Success, the Annual Day Celebration at our college took place on April 26, 2024, from 11 AM to 1:10 PM. The event commenced with a prayer song, followed by a warm welcome speech to honor the distinguished dignitaries. Our esteemed Principal, Prof. Dr. Pramilaa R, delivered an inspiring address, acknowledging the relentless dedication of both faculty and students. The event concluded with insightful addresses by the Principal, Dean, Vice Chancellor, and Registrar, after which students showcased their talents through cultural performances. The celebration ended on a patriotic note with the National Anthem.

National-Level Conference & E-Souvenir Release the prestigious National-Level Conference was successfully conducted on May 10, 2024, at 9 AM, coinciding with the release of the eighth issue of the e-souvenir. The conference revolved around the theme: "The Idiosyncrasies of Learning, Ethical Standards of Students, and Accomplished Aspects of Teaching Faculty in Nursing" The event commenced with a prayer song and floral welcome, followed by an insightful theme introduction by Prof. Dr. Pramilaa R, Principal, CCON. The conference was formally inaugurated by Dr. Ajay Goenka, President, Chirayu Charitable Foundation, who delivered an inspiring speech, appreciating the efforts of all presenters. The Scientific Sessions featured four thought-provoking discussions: Prof. Dr. Pramilaa, R spoke on Self-Directed Learning Abilities of Teachers, emphasizing the benefits of self-motivation in professional growth. Mrs. Sapna Thakur, Associate Professor, Govt. College of Nursing, addressed the topic Ethical Standards for Nursing Students, shedding light on the importance of a strong code of conduct in nursing education. Dr. Usha Ukandae, Founder & Director, Edu Serum College of Nursing, presented on Professional Aspects of Teacher Preparation, highlighting the importance of professionalism in the nursing field. Dr. I Clement, Principal, Sparsh College of Nursing, Bangalore, discussed Tactics of Clinical Setting, emphasizing legal aspects in patient care to protect both healthcare professionals and patient rights .Subsequently, the valedictory session commenced with a prayer song, followed by the e-souvenir 2024 release. The release was celebrated with firecrackers and a photo session with dignitaries and the editorial committee. The theme of the e-souvenir was "Strength-Based Nursing: A Comprehensive Approach to Nursing Care". Prof. Dr. Pramilaa R shared insights on the journey of creating the e-souvenir. The winners of the reels competition were announced, Ms. Nisha Thomas (B.Sc. Nursing, 2nd Year, Mar Baselios College of Nursing, Bhopal) securing the first place. She was awarded a winner's certificate and a cash prize of ₹5,000 by the dignitaries. The valedictory function concluded with a vote of thanks and the National Anthem. These events not only celebrated achievements but also set a benchmark for future endeavors. We take immense pride in publishing this report in our college souvenir, encapsulating the spirit of learning and excellence that defines our institution.








On July 18, 2024, an SNA gathering was conducted with the aim of enhancing participants' knowledge and encouraging students. The event began with a prayer song and a welcome speech, followed by a debate on population growth presented by B.Sc. Nursing III-year students, who discussed both the merits and demerits of population growth. The same batch then delivered a PowerPoint presentation on Asthma. The gathering also included an awareness session on blood donation by Dr. Ankita Pal, Senior Resident, Department of Pathology, CMCH, Bhopal, where she effectively explained blood donation criteria and blood group compatibility. Additionally, an educational session on Bone Cancer was conducted by Dr. Ashish Kumar Singh, Assistant Professor, Department of Orthopedics, CMCH, Bhopal. The program concluded with a speech by the Principal, a vote of thanks, and the National Anthem.







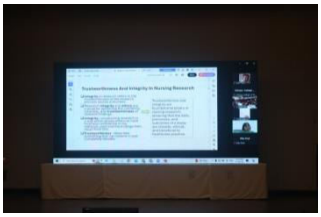
Following this, another SNA gathering was held on August 16, 2024. The event began with a prayer song and a floral welcome speech, followed by a PowerPoint presentation on Human Milk Bank by B.Sc. Nursing II-year students, incorporating mid-lecture quizzing.

Additionally, the students performed a concept dance on Organ Donation. The educational sessions for this gathering were presented by Dr. Mrinal Sinha, Assistant Professor, Department of Pediatrics, CMCH, Bhopal, who spoke on Immunization and its importance, and Dr. Sheema Maqssod, Professor, Department of Respiratory Medicine, CMCH, who gave a detailed explanation on Lung Cancer. The program concluded with dignitaries' speeches, a vote of thanks, and the National Anthem.

We organized an International Research Meet by Hybrid Mode on September 27, 2024. The program began at 9 AM with a welcome dance, symbolizing the importance of the Onam celebration, followed by a welcome speech for the dignitaries. The unfolding of the theme for the International Research Meet 2024 was conducted by Prof. Sherin Annie Varghese, CCON, Chirayu University, who introduced the theme “Building and Sustaining a Culture of Innovation in Nursing Research.” She also highlighted the various competitions, including reels, e-poster, and oral research paper presentations. The scientific sessions commenced with Prof. Dr. Pramilaa R, Principal, CCON, Chirayu University, who presented on Developing a Culture of Innovation in Research, emphasizing that nurses must integrate research culture beyond job descriptions. The second session, on Trustworthiness and Integrity in Nursing Research, was presented by Dr. Chui Ping Lei, Senior Lecturer, Department of Nursing Science, Faculty of Medicine, University of Malaya, Malaysia. She discussed principles, ethical practices, and breaches of research conduct, highlighting COPE (Committee on Publication Ethics), which supports and educates editors, publishers, and universities. The program then proceeded with oral research paper presentations, moderated by Prof. Dr. Thamarai Selvi P, Professor, CCON, Chirayu University. A total of 15 research papers were presented, each allocated 10 minutes for presentation and 2 minutes for jury questions. The valedictory ceremony commenced at 4:15 PM, featuring a welcome speech for dignitaries and participants. The event included a peroration by the Registrar, Chirayu University, and a valedictory address by Dr. Ajay Goenka, CMCH Bhopal. The winners of the e-poster, reels, and paper presentation competitions were announced and awarded ₹5,000 each. The ceremony concluded with the felicitation of dignitaries, a vote of thanks, and the National Anthem.






Farewell Celebration for Outgoing Students On December 17, 2024, Chirayu College of Nursing hosted a memorable farewell celebration for the outgoing students of M.Sc. Nursing, B.Sc. Nursing, and GNM programs. The event aimed to provide a formal opportunity for junior students to bid farewell to their seniors. The celebration commenced at 11 AM with a prayer song and a floral welcome speech, followed by the ceremonial lighting of the lamp conducted by the dignitaries. The event also featured the presentation of mementos to the graduating students, followed by the graduation oath administration. The program continued with experience sharing by final-year class coordinators and graduating students. The coordinators expressed their affection for the students, spoke about the challenges in managing them, and wished them success in their future endeavors. Prof. Dr. Pramilaa R, Principal, CCON, Chirayu University, showered her blessings on the students, assuring them that CCON would always provide support and guidance as they embark on their careers. She reminded them that their dedication would shape the future of healthcare. Dr. Sudesh Kumar Sohani, Vice Chancellor of Chirayu University, addressed the students with heartfelt blessings, emphasizing the importance of lifelong learning and personal growth. Dr. Ajay Goenka, President, Chirayu Charitable Foundation, congratulated the students on their academic achievements, acknowledging their hard work and determination. He expressed pride in their growth and success and emphasized that the foundation would continue to support them, wishing them a future filled with success, fulfillment, and contributions to the healthcare sector. The dignitaries were felicitated in recognition of their gracious presence. As the formal proceedings concluded with a vote of thanks, the event also showcased vibrant cultural performances by the junior students. The celebration concluded with the National Anthem.







SNA Gathering – Knowledge & Encouragement on February 18, 2025, the college organized an SNA Gathering with the motive of enhancing participants' knowledge and encouraging students. The event commenced with a prayer song and a warm welcome address .A GNM third-year student delivered a PowerPoint presentation on cervical cancer, providing detailed insights into the topic. This was followed by a mime show on leprosy, performed by students from the same batch. Dr. Sneha Goenka, Assistant Professor, Department of Obstetrics and Gynecology, CMCH, presented a session on cervical cancer and its prevention. Following this, Dr. Ram Dasari, Senior Resident (MBBS, MD), Department of Medicine, CMCH Bhopal, delivered an educational session on leprosy. Prof. Dr. Pramilaa R, Principal, CCON, Chirayu University, addressed the students, advising them to maintain discipline and punctuality in college. She also gathered feedback from students regarding clinical and classroom teaching. After this, she announced the new office bearers of SNA and honored them with badges. The event continued with an address by the Registrar, followed by the felicitation of guests with mementos. The program concluded with a vote of thanks and the National Anthem.





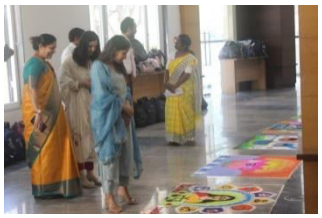



On March 8,2025, Ms. Parwati Namdev presented on the topic" Nurses for gender equality Accelerated Actions' and Won the First Consolation Prize organized By Pragyan College of Nursing, Bhopal, Celebrated International Women's day at Ravindra Bhawan. During the event, Followed by Women's Day Celebration – Empowering Women & Girls On March 10, 2025, our college celebrated Women's Day under the theme "For All Women and Girls: Rights, Equality, and Empowerment".

The event commenced with a prayer song, followed by a welcome speech and the ceremonial lighting of the lamp. The theme was unfolded by Dr. Ulka Shrivastava, Medical Superintendent, CMCH Bhopal, who delivered a speech on gender equality and balancing family and career aspirations. The B.Sc. Nursing students performed "Queens of India", where they each presented a speech about historical queens and their contributions. Prof. Dr. Thamarai Selvi P, Professor, CCON, announced the Empowered Women's Award winners, followed by the certificate distribution for Rangoli and Painting Competitions by the dignitaries. Prof. Dr. Pramilaa R, Principal, CCON, Chirayu University, delivered an inspiring speech, followed by a Chief Patron's address by Dr. Ajay Goenka, President, Chirayu Charitable Foundation. The event concluded with the felicitation of guests, a vote of thanks, and the National Anthem.





National-Level Puppet Show Competition: National-Level Competition on Puppet Show (Video Preparation) was conducted with the theme "Doom Scrolling: Impact on Physical and Mental Health." The announcement of results was made through a Zoom meeting on March 17; 2025.The event began with a floral welcome address, followed by the ceremonial lighting of the lamp. Prof. Dr. Thamarai Selvi, Professor, Chirayu University, provided an overview of the competition, mentioning that 24 teams from nine states and seventeen colleges participated, with a total of 168 students submitting puppet show videos. Prof. Dr. Pramilaa R, Principal, CCON, Chirayu University, delivered the Principal's Address, appreciating the efforts of all participants. The winner of the competition was announced as Guru College of Nursing, Thiruvalla, Kerala, who was awarded a cash prize of ₹5,000.The event, preceded with a Chief Patron's Address by Dr. Ashutosh Mangalgiri, Medical Superintendent, CMCH Bhopal. The program concluded with a vote of thanks and the National Anthem.




The extracurricular events from March 18 to 21, 2025, were a grand celebration of sportsmanship, creativity, and community engagement. the day began at 9:30 AM The events with a floral welcome address, setting a positive and energetic tone for the participants, The inauguration was marked by the lighting of the torch by Dr. Ajay Goenka, followed by its ceremonial passing to Mr. Subham Dangi, SNA Vice President, B.Sc Nursing III Year, With a flag hoisting ceremony, followed by a march-past showcasing discipline and unity among students. Day 1: Cultural and Creative Events (March 18, 2025), Various cultural and creative events were organized, including: Fancy Dress, Solo Song, Solo Dance, Group Selfie, PowerPoint Presentation, Rangoli, Poster Competition, Carrom, Hair Dressing, Scrabble, Chess, Pot Painting, Mehandi, and Word Puzzle. The competitions were evaluated by an esteemed panel of judges: Dr. Rituja, Dr. M.P. Singh, Dr. Mahesh Patil, Dr. Mahesh Kumar, Dr. Neeraj, Dr. Rashmi Jaiswal, Dr. Manal Ali, Dr. Sneha Goenka, Dr. Yuri Kashiv, and Manishi Singh. The winners were finalized on the same day. Day 2: Sports Events (March 20, 2025), The second day was dedicated to various athletic and sports activities, which commenced at 9:00 AM. The events included: Track and field events: 200m Running, Javelin Throw, Discus Throw, Long Jump, Traditional and fun games: Lemon with Spoon Race, Musical Chair, Sack Race, Fast Walking, Team sports: Cricket, Tug of War, Kho-Kho, Badminton, Kabaddi ,While most games were conducted in front of the nursing college, events like Javelin, Discus Throw, Long Jump, and Cricket took place in the medical college ground. Day 3: Grand Finale (March 21, 2025), the final day featured the Cricket Finals, which began at 9:00 AM and concluded at 4:00 PM at the medical college ground. The day was filled with exciting athletic competitions, where students showcased their sportsmanship, teamwork, and competitive spirit. The event successfully promoted physical fitness, camaraderie, and enthusiasm among participants. As the event concluded, students departed with smiles and unforgettable memories. The Principal, Prof. Dr. Pramilaa R, extended her gratitude to all faculty members for their cooperation and support. She encouraged students to uphold their sportsmanship and continue excelling in extracurricular activities. The winners of all events will be formally awarded at the Annual Day Program. The three-day event was a resounding success, fostering creativity, physical fitness, and a sense of unity within the Chirayu College of Nursing community.








The Fresher's Day celebration was held on April 3, 2025, with great enthusiasm and joy. The event commenced with a prayer song, followed by the traditional lighting of the lamp by the dignitaries, symbolizing the dispelling of darkness and the beginning of a bright academic journey. The welcome speech warmly greeted the new students, setting a cordial and encouraging tone for the event. This was followed by the introduction of the fresher's from the GNM, B.Sc., and M.Sc. first-year batches, marking the formal induction of the new students into the institution. The Principal's address was delivered by Prof. Dr. Pramilaa R. Chirayu College of Nursing, who motivated the fresher's with insightful words about their academic and professional journey ahead. A monologue was then presented by Dr. Sudesh Kumar Sohani, Vice Chancellor, Chirayu University, adding an engaging and thought-provoking element to the event. The peroration was given by Dr. Ajay Goenka, President of the Chirayu Charitable Foundation, who emphasized the importance of dedication, perseverance, and ethics in the healthcare profession. The event concluded with a vote of thanks, expressing gratitude to all the dignitaries, faculty members, and students for their participation, followed by the National Anthem, instilling a sense of unity and patriotism among the attendees. The Fresher's Day celebration was a memorable occasion, leaving the new students inspired and excited to embark on their academic journey.








As we conclude this College report, we take pride in our achievements and progress while acknowledging the areas for further improvement. Moving forward, we remain committed to academic excellence, research, and holistic development, ensuring that our institution continues to be a center of knowledge, innovation, and service. We look ahead with optimism and determination, ready to embrace new challenges and opportunities in the coming academic year. As we turn the pages of this souvenir, may it serve as a reminder of our collective efforts, cherished memories, and the legacy of knowledge that defines our institution.

Batches 2025

B.Sc. (N) III Year

GNM III Year

B.Sc. (N) IV Year

2025 New Batch

Various committees are formed annually for better functioning of academic activities of the college. Every committee is given committee in charge and members and each committee meeting is held every month which is chaired by Principal except extra curricular and library committee which meet once in three Months.

CURRICULUM COMMITTEE

HOSTEL & MESS COMMITTEE

HEALTH COMMITTEE

EXTRA CURRICULAR COMMITTEE

EDITORIAL COMMITTEE

ANTI RAGGING COMMITTEE

GUIDANCE & COUNSELLING COMMITTEE

PRINCIPAL WITH NON-TEACHING STAFF

PRINCIPAL WITH TEACHING STAFF

The college ensures the wellbeing of students through class coordinators meeting which is conducted every month chaired by principal

Proper check of each faculty members responsibilities and to appreciate their work faculty meeting is held monthly