

ASSESSMENT OF ATTITUDE AND KNOWLEDGE OF TELEMEDICINE IN IPD CANCER PATIENTS

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By

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Under the Supervision and Guidance of

Dr Sandesh Kumar Sharma

2024

CERTIFICATE



This is to certify that DR. SNEHA BASNET in partial fulfilment of the requirements for the award of the degree of MBA Hospital and Health Management from the IIHMR University, Jaipur has successfully completed her internship at Rajiv Gandhi Cancer Institute and Research Centre, Rohini, Delhi during March 18th - June 17th, 2024.

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DECLARATION BY STUDENT

I hereby declare that this dissertation titled **ASSESSMENT OF ATTITUDE AND KNOWLEDGE OF TELEMEDICINE IN IPD CANCER PATIENT** is the bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.



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Date: 02/07/2024

CERTIFICATE

This is to certify that dissertation titled “ASSESSMENT OF ATTITUDE AND KNOWLEDGE OF TELEMEDICINE IN IPD CANCER PATIENTS” is a record of the research work undertaken by **DR. SNEHA BASNET** in partial fulfilment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur under my guidance and supervision and her approach to the research study has been sincere, scientific, and analytical.

A handwritten signature in black ink, appearing to be 'S. Sharma'.

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LIST OF ABBREVIATIONS

IBEF: International Bureau Economic Federation

CAGR: Compound Annual Growth Rate

FY': Financial year

IPD: In-patient Department

IMARC: International Mining and Resources Conference

ABSTRACT

Background and Aims

Amid the COVID- 19 pandemic, telemedicine has seen surge in popularity due to the need for remote patient care caused by quarantine measures. Telemedicine has been extensively used for tele-radiology, tele-pathology and tele-psychiatry throughout the pandemic. Telemedicine's future extends beyond general consultations to include specialist fields like tele-oncology, tele-surgery, and tele-ophthalmology. However, the knowledge, and attitude towards the use of telemedicine are still limited. Hence, this study is conducted to assess the Attitude and Knowledge of Telemedicine use in Inpatient Department Cancer patients regarding the use of telemedicine in their cancer care.

Materials and Methodology:

A Descriptive Cross-sectional survey with self-administered questionnaire and interview survey was conducted to 50 IPD cancer patients in Rajiv Gandhi Cancer Institute and Research Center, Rohini, Delhi. The survey consisted of 15 questions that included Demographic Information, Knowledge of Telemedicine, Comfortability using technology, Accessibility of internet, Attitude towards telemedicine, and plan of future participation.

Conclusion

The effectiveness of telemedicine in cancer care is a topic of significant interest and debate. Telemedicine has the potential to improve cancer care by increasing access and reducing costs. While there are concerns about privacy and security, patients generally feel comfortable discussing their care through telemedicine video calls and appreciate the time and travel convenience it offers. The gender distribution in the surveyed population is perfectly balanced, and the age distribution shows that the majority of people are in the age group of 56-75. The nationality distribution is predominantly Indian, and the knowledge distribution is equally balanced. The comfort level of technology is high, but better applications are needed. The accessibility of the internet is wide spread, but better reach is required for rural and urban areas. The analysis of future telemedicine utilization reveals a strong positive outlook, with 78% of patients expressing interest in participating in future telemedicine opportunities. Overall, Telemedicine has the potential to improve cancer care, but it is essential to address the remaining concerns and limitations to ensure its optimal use.

INTRODUCTION

This report presents a study that assessed the attitude and knowledge of inpatient cancer patient towards the use of telemedicine. The study provides an introduction to the organization and the concept of telemedicine, as well as the aim and objectives of the research. The report outlines the study design and the data sources of the research methodology used, finally, the report concludes with the key findings and recommendations to enhance the attitude and knowledge of patients towards the use of telemedicine.

Telemedicine

Telemedicine is the use of telecommunication and information technology to provide healthcare services remotely. It helps overcome geographical barriers and improves access to medical care that may not be readily available in remote underserved areas. Telemedicine is also employed to save lives in critical care and emergency situations by enabling remote diagnosis and treatment.

While telemedicine has historical roots, it is a product of 20th century telecommunications and information technology advancements. These innovations enable convenient and reliable communication between patients and healthcare providers, as well as the seamless transmission of medical, imaging. And health informatics data between different locations, expanding the reach and capabilities of telemedicine services.

Telemedicine has evolved from early phone and radio-based methods to include video-telephony, advanced diagnostic techniques supported by distributed client-server applications, and tele-medical devices that enable remote in-home care. These advancements have expanded the capabilities and reach of telemedicine service.

WHO defines Telemedicine as “the delivery of health care services using information and communication technologies for the exchange of valid information for diagnosis, treatment, and prevention of disease and injuries, research and evaluation and for the continuing education of healthcare providers, where distance is a critical factor”.

Healthcare experiences a new dimension as telemedicine has experienced significant growth after COVID-19 pandemic which thus offers increased access to care, increasing patient satisfaction with low costs, but concerns with confidentiality, reimbursement, credentialing, need for better infrastructure and standards still exists.

Even though telemedicine is gaining popularity in India, many healthcare professionals are still unclear about the medico-legal implications of its use.

Types of telemedicine:

Telemedicine is classified into 5 different types:

On the basis of timing of the information transmitted:

(i) Real time or synchronous telemedicine: Telemedicine involves real-time, synchronous communication where the healthcare provider and patient are online simultaneously, enabling the live transfer of information.

(ii) Store-and-forward or asynchronous telemedicine: Telemedicine also includes asynchronous communication, where the provider stores information in databases and sends it to the patient for review at their convenience.

(iii) Remote Monitoring Telemedicine: aka self-testing or self-monitoring, which includes remote monitoring where technological devices are used to track a patient's health and clinical indicators from a distance.

On the basis of interaction between the individuals involved:

(iv) Health professional to health professional: Telemedicine provides easier access to specialty care, referral and consultation services by enabling remote delivery of these healthcare services.

(v) Health professional to patient: Telemedicine provides healthcare to underserved population by directly connecting them with medical professionals, overcoming geographical barriers to access.

Indian Market in Telemedicine

- Indian telemedicine market size might reach \$10.7 billion (about \$33 per person in the US) by 2028.
- As per IBEF, The Indian healthcare sector has become the second-largest industry in terms of revenue and employment. This growth is driven by the rising demand for quality healthcare, advancements in medical technology, and government initiatives to improve healthcare accessibility. The emergence of telemedicine has revolutionized healthcare delivery by enabling remote consultations, monitoring, and diagnosis. Telemedicine has eased the burden on over-crowded hospitals and clinics while enhancing access to healthcare for rural populations.
- Acc. to IMARC, the use of telemedicine technology in healthcare has significantly increased since the COVID-19 pandemic. In 2022, the size of the Indian telemedicine market was \$1.9 billion (around \$5.8 per person in the US), and it is projected to grow to \$10.7 billion (nearly \$33 per person in the US) by 2028 at a CAGR of 27.93%. The physical visit to healthcare facilities by patients for medical consultations and treatments is eliminated by telemedicine, thereby revolutionizing the delivery of health care services. The rapid expansion of the telemedicine market in India is a result of the growing use of remote healthcare solutions, which is propelled by the convenience and accessibility they offer to patients, particularly in underserved areas.
- According to a recent LinkedIn report, the global market is anticipated to experience significant growth in the next five years. With an estimated CAGR of 10.85%, the market which was valued at \$34799.9 million in 2022, is projected to reach \$63852.92 million by 2028. The telemedicine industry is expected to expand due to increasing incidence of chronic diseases, growing demand for remote patient care and advancements in telecommunications.
- The period between 2023 and 2031 is expected to see significant growth observed in 2022 and increasing adoption of strategic initiatives by major industry players, the market projected to exceed expectations in 2022. The telemedicine market is anticipated to expand during the forecast period due to stable growth trajectory and the effective tactics implemented by leading companies.

The Future of Healthcare: Telemedicine

The use of telemedicine has increased rapidly due to COVID-19 pandemic, changing the way healthcare is provided. Moving forward, telemedicine trends and advancements will significantly shape the future of healthcare, enhancing the efficiency and effectiveness of care. These developments will provide greater access to high-quality care for individuals in remote areas or with limited mobility, bridging the gap between patients and medical resources. The increased utilization of telemedicine has the power to improve patient outcomes, reduce the burden on healthcare systems, and ensure quality care reaches underserved communities. As the industry evolves, the integration of telemedicine will be crucial in shaping the future of healthcare delivery, ultimately improving the well-being of individuals and communities.

Need for telemedicine

Poor rural infrastructure, poverty and a low doctor to patient ratio are some of the issues facing India's health care system. Telemedicine on the other hand, has the power to guarantee fair access and transform healthcare delivery. Initiatives in telemedicine have the potential to bridge the gap between urban and rural areas and support the objectives of the National Health Policy by improving access to specialty care, cutting costs and alleviating physician shortages.

Newest trends of telemedicine in India

Telemedicine revolutionizes healthcare by enabling remote consultations, fostering patient-provider connections. Its history is a story of innovation pursuing universal access. Emerging trends drive rapid growth, with technologies transforming care delivery and empowering providers to offer effective, accessible, patient-centered services. Integrating telemedicine will shape the future of care, improving outcomes and expanding access.

1. THE HYBRID MODEL

Hybrid care models combining telemedicine and in-person visits signify a major shift in healthcare delivery. Patients can choose the best option, optimizing resources and reducing travel and wait times. Telemedicine trends enable virtual routine care, freeing in-person appointments for serious conditions. Technological advancements expedite telemedicine integration into hybrid model creating effective patient focused systems.

2. AI INTEGRATION

By minimizing travel and waiting times, facilitating seamless hybrid care, and encouraging effective, patient-focused delivery, telemedicine improves healthcare. Medical services can be transformed by integrating AI and data analytics into telemedicine to provide individualized care and expedited diagnosis. Telemedicine is essential to the future of healthcare delivery because it enhances outcomes, accessibility and infrastructure.

3. WEARABLE TECHNOLOGY AND REMOTE MONITORING

Personalized healthcare is being revolutionized by wearable technologies and remote monitoring. Efficient postoperative care, improved chronic condition management, and early detection are made possible by the continuous tracking of critical indicators. By promoting proactive health management, early intervention and individualized therapy, this patient-centric strategy enhances results and patient experiences.

4. EXPENDED SPECIALIZED SERVICES

Most telemedicine trends have a significant effect on different medical specialties.

- **Tele-surgery:** Technological developments in robots and high-speed internet have made it possible for surgeons to do surgeries remotely. This gets beyond geographical limitations and

increases patients access to specialized medical care in rural locations. It has the potential to transform healthcare delivery and enhance patient's outcome.

- **Tele-ophthalmology:** Through digital imaging and video conferencing, telemedicine facilitates remote ophthalmic consultations, enabling patients to receive specialist care without having to travel. This method redefines the potential of remote medical care across multiple domains by enabling precise evaluations, early disease identification and enabling patient access and results.
- **Tele-psychiatry:** The delivery of mental health has been revolutionized by tele-psychiatry which has made private and easily available treatments like online counselling and virtual therapy possible. By removing obstacles based on geography, lowering stigma and enabling more people to get the care they require, this, method redefines how people get critical psychological support.

5. MENTAL HEALTH SERVICES

Advancements in mental healthcare have made it possible for telemedicine to provide a range of remote mental health services to patients.

- **Online Counseling:** Online mental health platforms and apps have revolutionized the availability of counselling, self-help materials and assistance. These advances in technology have broadened access to mental health services, reducing the stigma associated with seeking help and allowing more individuals to prioritize their mental well-being by overcoming geographic limitations and providing confidential, convenient care.
- **Reducing Stigma:** The utilization of telemedicine is poised to play a crucial role in delivering mental health services. Virtual appointments provide convenience and confidentiality, allowing people to seek psychological help discreetly and reducing the associated stigma. This method promotes a more inclusive atmosphere for mental health care, as individuals can access personalized treatment discreetly and at their own convenience

- **Virtual therapy sessions:** Revolutionizing mental healthcare, tele-psychiatry platforms enable virtual consultations with specialists, removing geographical and logistic barriers. This approach prioritizes mental well-being by offering accessible and effective solutions. By providing seamless access to expert guidance, tele-psychiatry has immense potential for improving mental health outcomes and over-all quality of health.

The increased use of telemedicine for mental healthcare enhances accessibility and adds to the ongoing discussion about the importance of mental health. This discussion highlights the need to include mental healthcare delivery to ensure individuals receive holistic and integrated support for their overall well-being.

6. POLICY EVOLUTION

The rapid expansion of telemedicine has prompted government and healthcare regulators to adjust, placing emphasis on delivering excellent care and patient-centered services. Important regulators include equitable reimbursement models, enabling practitioners to practice across borders and implementing standardized protocols to uphold quality and safety. These changing regulations are vital for promoting the sustainable advancements of telemedicine as they enhance accessibility, enhance patient outcomes and fortify the resilience of the healthcare system. By proactively tackling regulatory obstacles and establishing a supportive environment, policymakers are laying the groundwork for telemedicine to become an essential and efficient element of contemporary healthcare delivery, transforming mental healthcare services.

7. GLOBALIZATION

Globalization enables cross-border consultations, collaborations, and mental health support, fostering a more interconnected and accessible healthcare ecosystem. This global integration empowers individuals to seek specialized care and support from providers worldwide, breaking down geographical barriers and expanding the reach of mental health services.

Recent Innovations

- **Tele-oncology:** The expected shortage of oncologists and increasing aging population make tele-oncology essential, prompting a demand for creative solutions. Tele-oncology can efficiently distribute oncology resources to address the rising need and offer remote accessibility, thereby enhancing patient convenience, outcomes and quality of life through decreased travel requirements and more regular check-ins.
- **Tele-genetics for cancer care:** The tele-oncology program now offers tele-genetic consults for rural and urban populations, building on the success of tele-genetics in pediatric care. Studies have demonstrated that this approach is successful in identifying genetic carriers and results in high patient satisfaction. By providing genetic services through telemedicine, the program has increased the availability of crucial information regardless of location underscoring telemedicine's ability to enhance the delivery of comprehensive cancer care.
- **Tele-oncology for chemotherapy delivery:** Exploration of tele-oncology services includes remote monitoring of chemotherapy administration, however, there are constraints in conducting physical examinations, especially in terms of palpation. It is essential to receive training in virtual examinations for the program to be successful. Working with referring clinicians can help address the challenge of being unable to palpate and some services exclusively rely on local examinations. The use of portable, home-based, and mobile technologies may facilitate follow-up care for wound management, symptom control and palliative care in a home health setting.

Applications

1. EDUCATIONAL

- **Tele-education:** An adaptable distance learning program that evolves to simplify training and stays up to date with the latest advancements, facilitating accurate and effective treatment methods by staying current with the latest developments in the field.
- **Tele-Conferencing:** Physicians engaging in discussions and collaborations within a simulated virtual environment during workshops, conferences, seminars, or continuing medical education events. Medical professionals can engage in interactive learning and share knowledge conveniently in a technology- enabled environment.
- **Tele-Proctoring:** Utilizing advanced video conferencing tools for remote monitoring and assessment of surgical trainees enables experienced surgeons to provide guidance and evaluate trainees during procedures, regardless of their location. This facilitates the enhancement of surgical skills and decision making through real time feedback and collaboration.

2. HEALTHCARE DELIVERY

- **School-Based Health Centers:** Remote access to specialized care is made possible by telemedicine, aiding in the management of chronic illnesses like obesity, diabetes, and asthma. Virtual consultations with medical specialists enable school nurses to offer better specialized assistance for their student health needs.
- **Correctional Facilities:** Removing the risks and costs linked to transporting prisoners and requiring specialized doctors to visit correctional facilities, telemedicine provides healthcare solutions for inmates.
- **Mobile Health Clinics:** Telemedicine allows patients to receive immediate care and guidance from healthcare professionals regardless of

their physical location, facilitating communication with doctors and specialists located far away.

- **Shipping and Transportation:** Assists in avoiding unexpected diversions and evacuations in the event of medical emergencies.
- **Industrial Health:** The company provides medical management and triage assistance directly at the site.

3. COUNSELLING

- Provide tailored guidance to patients and study participants, outlining preventive measures, hearing aid usage, dietary restrictions, and other relevant instructions. Recommend any necessary new tests or examinations to be conducted before the next virtual consultation, ensuring comprehensive care and monitoring.

4. HEALTHCARE MANAGEMENT

- **Tele-health care:** Using ICTs to improve preventive and promotive healthcare, such as consultations and tele-follow up, in order to enhance patient care and monitoring.
- **Tele-home health care:** Remote monitoring of patient's vital sign is facilitated by a Computer Telephone Integrated (CTI) system, allowing continuous surveillance from a central station for a timely intervention and optimal patient care.
- **Specialties:** Tele-ophthalmology, Tele-psychiatry, Tele-cardiology, and Tele-surgery.
- **Diagnostic services:** Tele-radiology and Tele-endoscopy.

5. SCREENING OF DISEASES

Eg:

- **Diabetic screening**
- **Ophthalmology screening**

6. DISASTER MANAGEMENT

- In areas affected by disasters where traditional communications method is unavailable, a telemedicine system using mobile satellites and specialized software is perfect for delivering healthcare.
- Eg: NASA telemedicine services during earthquakes and Amrita Hospital's telemedicine support during the 2004 tsunami.
- With India's recent telemedicine guidelines, such portable, satellite-enabled system can be a valuable tool for delivering care in disaster-affected areas when traditional infrastructure is unavailable.

Advantages and Drawback

Patients and healthcare providers can benefit from telemedicine in several ways, including:

Advantages:

1. **Cost Savings:** The use of telemedicine can result in cost savings by removing the need for travel and lowering administrative costs in contrast to face-to-face appointment
2. **Convenience:** Patient can receive remote care through telemedicine, which eliminates the necessity of travelling to healthcare facilities.
3. **Increased Access to Healthcare:** Access to healthcare services for patients regardless of location or mobility is facilitated by telemedicine, with particular benefits for those in remote areas.
4. **Time Savings:** Patient can save time with telemedicine since it removes the need for travel and wait associated with in-person healthcare appointments.
5. **Improved Patient Engagement:** Patients are able to take more control of their healthcare through telemedicine, which offers flexibility in scheduling and improved communication with providers.

6. **Better Work-Life Balance for Healthcare Providers:** Providers can achieve a better work-life balance with telemedicine since it reduces the requirement to travel to various locations.

7. **Improved Quality of Care:** The improvement of access to care and increase in patients involvement in their healthcare by telemedicine lead to better patient outcomes.

Drawbacks:

Although telemedicine has numerous advantages, it also has several potential drawbacks. here are some:

1. **Technology Limitations:** The use of technology in telemedicine can result in technical problems such as poor connectivity or device malfunctions for both patients and providers.

2. **Limited Physical Examination:** Some conditions may not suit for telemedicine because it limits physical examinations, which could lead to misdiagnosis or missed diagnosis in certain situations.

3. **Privacy Concerns:** The use of telemedicine to transmit electronic data has sparked worries about safeguarding sensitive medical information.

4. **Licensing and Reimbursement Issues:** The inconsistencies in state licensing and insurance reimbursement policies for telemedicine pose difficulties for providers in the provision of these services.

5. **Lack of Personal Connection:** In-person visits are favored by certain patients who value the personal connection, which may not be as present in telemedicine interactions which can feel impersonal

Challenges and Responses of telehealth services

There are different types of challenges which is faced by Telemedicine services. Thus, to counteract this challenges certain responses are used which are as follows:

Challenges:

1. Data privacy and security
2. Data Accuracy
3. Patient privacy and confidentiality
4. Data storage/ achieved mechanism
5. Medical liability
6. Enabling policy and regulatory framework
7. Health Professionals reluctance
8. Computer literacy
9. Non-technical challenges

Responses:

1. National Digital Health Mission (NDHM)
2. National Digital Health Blueprint (NDHB)
3. Data Empowerment and Protection Architecture (DEPA)
4. Account Aggregator (AA)
5. Telemedicine Guidelines
6. Improve cultural responsiveness
7. Educate the public about multiple healthcare sites
8. Online and offline courses
9. Incentives to healthcare professionals

LEGALITY OF TELEMEDICINE IN INDIA

India lacked specific telemedicine laws, causing uncertainty about its legality, despite the Information Technology Act of 2000 not addressing healthcare issues. However, telemedicine was not prohibited. In March 2020, amid the COVID-19 pandemic, the government released Telemedicine Practice Guidelines for Registered Medical Practitioners incorporated into the INDIAN Medical Council's Professional Conduct Regulations.

The eligibility, modes and types of teleconsultations, doctor-patient relationships, consents, management protocols and data security are clarified by these guidelines. Despite this, there are limitations, including a restricted scope, a lack of training materials, the absence of a dedicated governance structure and unclear state medical council jurisdiction. Further revisions are necessary to tackle these issues and regulate telemedicine in India more comprehensively.

The guidelines outline a structure for conducting telemedicine. The following are some key points of the guidelines.

- **Who are eligible to practice Telemedicine?** Any physician who is registered in the State or in the Indian Medical Register is allowed to offer telemedicine services without needing any extra certifications. Nevertheless, the government intends to require RMPs to complete an online course in order to practice telemedicine in the future, thus guaranteeing their capabilities in providing remote healthcare.
- **Identification of RMP and patient:** During consultations, RMPs must provide their identification and qualifications upfront. They are also required to confirm the patients name, age, and identity- anonymous consultations are not allowed. These measures ensure transparency and accountability in remote healthcare delivery.
- **Mode of telemedicine to be used:** RMPs has discretion to choose between teleconsultation or in-person visit based on factors like patient's complaints, need for physical complaints, their condition, and available resources. If an in-person consultation is deemed essential, RMPs can recommend it and proceed only after the patient is physically examined.
- **Consent:** Patient consent is assumed when they initiate a teleconsultation. However, the RMP initiates the remote consultations,

they must obtain explicit consent from the patient, which can be provided through mail, text or verbal communication over phone video.

- **Prescribing medicines:** Telemedicine consultation hold RMPs to the same professional standards as in-person visits. Prescribing without proper diagnosis may be considered misconduct. RMPs can prescribe certain medications, including OTC drugs and low risk drugs for initial prescriptions and refills (List A and B), but are prohibited from prescribing Schedule X drugs or narcotics. The prescriptions need to meet regulations, contain the RMPs registration number and should be given to patients as a signed copy or e-prescription. It is crucial to strictly follow these guidelines for ethical telemedicine practice.
- **Ethics and confidentiality:** Registered Medical Practitioners in India are required by the Indian Medical Council Act to uphold patient privacy and confidentiality, even when using technological services. It is important for RMPs to be vigilant in order to prevent any violations, as non-compliance can lead to consequences under the IMC Act.
- **Misconduct:** Participating in telemedicine without a patient's consent, mishandling patient information or promoting telemedicine in an inappropriate way would be considered professional misconduct. Any consequences for such infractions will align with the IMC Act, ethical standards and relevant laws, similar to any other form of misconduct. Health care professionals must prioritize patients' preferences and maintain the highest levels of data protection and ethical promotions.
- **Documentation:** Comprehensive records of teleconsultations, patient data and prescriptions must be maintained by RMPs, just like they would for in-person visits. This is important for ensuring continuity of care and adhering to documentation requirements for all types of medical practice.
- **Fees:** RMPs can ask for a fair fee for telemedicine services and are required to give the patient a receipt or invoice that outlines the charges, guaranteeing transparency in the financial aspects of the consultations
- **Emergencies:** In instances of medical emergencies, it is important for RMPs to recommend that patients seek in-person consultations with a health care provider as soon as possible. In the meantime, RMPs should offer advice on first-aid, provide counselling and assist with appropriate referrals to guarantee the patients gets timely and thorough care. The foremost priority in such cases is ensuring the safety of the patient.

INDIAN GOVERNMENT INITIATIVES

In recent years, India has witnessed the launch of various innovative telemedicine services both by public and private organizations. For instance, eSanjeevani, Swasth App, SeHAT OPD were launched in 2020. Tele-mental health initiatives such as ABHA, the Pan-African e-network, and SAARC telemedicine initiative have also been launched. Through the use of digital technologies, these seek to increase access to healthcare, particularly in underprivileged areas.

- **Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PMJAY):** India's national public health insurance program, Ayushman Bharat (PMJAY) offers qualified residents free comprehensive health care coverage. Beneficiaries can manage their Ayushman cards on digital platform, increasing access and improving the effectiveness of healthcare benefit, particularly for the impoverished
- **Aarogya Setu App:** The Aarogya Setu app has been included by the Ayushman Bharat Digital Mission (ABDM) into a comprehensive National Health App. In order to access medical records, schedule appointments and communicate with doctors remotely, users can now construct a digital Health ID. This improves continuity, accessibility, and convenience of healthcare throughout India.
- **Services e-Health Assistance and Teleconsultation (SeHAT):** In 2021, Ministry of Defence introduced the SeHAT consultation to military members and their family remote healthcare. In keeping with Digital India, SeHATs "Stay Home OPD" allows for virtual doctor consultations over chat, voice and video making high-quality healthcare accessible and affordable. Through the use of technology, SeHAT hopes to provide the military community with easily accessible healthcare, advancing the governments' commitment to e-governance and digital transformation in the health sector.
- **Online Registration System (ORS):** Patients can access hospital services online using the ORS, a Digital India Initiative which is integrated with the Ayushman Bharat Health Account. In order to assist

the government's objective of utilizing technology to improve healthcare efficacy, ORS connects digitalized hospitals across the country to expedite scheduling, enable online appointments, increase healthcare access through ABHA.

- **e-RaktKosh:** e-Raktkosh was introduced by the Indian Government in 2016 to expedite blood bank operations across the country. A web-based application with Aadhaar integration is part of centralized IT infrastructure, which also automates inventory, donor management and rare blood group registries to guarantee safe blood products are collected, stored and distributed in an effective and uniform manner.
- **COVID-19 Vaccine Intelligence Network(CoWIN):** India's COVID-19 immunization campaign has benefitted greatly from the CoWIN digital platform, which has made efficient national deployment possible. By November 2023, over 220 crore vaccines had been given and 110 crore registrations had been made via the CoWIN system, which is flexible and enables vaccination registration from any location at any time.

AIMS

- Assessment of Attitude and Knowledge of Telemedicine Use in Inpatient Cancer Patients.

OBJECTIVES

- To evaluate the IPD patients' attitude and knowledge of telemedicine services offered within the hospital.
- To explore the key barriers and facilitators to telemedicine adoption in inpatients.
- To identify areas for improvement and enhance service quality.
- To identify factors influencing patient comfort and willingness to utilize telemedicine services.

LITERATURE REVIEW

Literature review was done using keywords like Telemedicine, e-Health, Telehealth, Tele-oncology, Attitude and knowledge of telemedicine on various search engines such as Medline, PubMed, Research, Google Scholar, Research Gate and Web of science to find relevant literature on Telemedicine in Health. The purpose was to identify examples of use of telemedicine in the practice of public health, tele medicine and healthcare and analyze their added value. I also searched websites for publications, including grey literature on telemedicine in healthcare.

S. No.	Author	Date	Purpose/Rationale	Methodology	Sample	Major findings
1.	Alomari & Jenkins et al.	2021	To examine the attitude of patients towards telehealth-Sea	Qualitative method	N = 17	Technical issues, misdiagnosis concerns Essential pandemic patient care Impersonal client-nurse relation risk
2.	Alfaleh et al.,	2021	Telemedicine reduces unnecessary ER visit	(Quantitative) cross-sectional study	N = 319	Use of telemedicine reduced visits to the ED
3.	Alshammari	2019	It aims to assess service user perception and preferences about telemedicine	(Mixed method) cross-sectional study	N = 781	70% acknowledge the benefits of telehealth 52% have never used telemedicine such as Sea 29% exhibited a lack of trust toward telemedicine/telehealth

4.	S. Joseph Sirintrapun, MD, FASCP, FCAP, and Ana Maria Lopez, MD, MPH, FACP	2018	Telemedicine in cancer care: Benefits, approaches, challenges & future directions.	Review article	N= Not disclosed	Improve access to care and decrease healthcare costs Real-time video or data sharing is used Mobile apps support home care Challenges include cost, billing & training
5.	Aaron J. Katz, Kevin Haynes Corresponding Author : Ronald Chen	2021	Aims to assess telemedicine use in newly diagnosed cancer patients and by socioeconomic status.	Retrospective Cohort Study	N= 16006	Disparities in cancer care and outcomes Telemedicine gap: Choice, access, and tech skills Telemedicine alone won't fix cancer care gaps New care methods need equity to close cancer gaps
6.	Nisith Desai associates	2017	Telemedicine in India and the future of medical practice.	Document		Intermediary Classification for e-Health Services Liability Protection under IT Act Conditions for Liability Protection Scope of Due Diligence

7.	Ken Research	2015	To provide a comprehensive analysis of the e-health services market in India	Observational Study		Thriving Telemedicine market Increased demand of telemedicine services Focuses on on-call home healthcare, telemedicine, m-health and healthcare IT segment
8.	Kartik Deshpande, Bob Frantz, Laura Lukehart, and Becky Trevino	2012	Analyze India's e-health market (telemed, home care, mhealth, IT) to guide future strategies.	cross-sectional study		Rural health facilities use satellite and telemedicine to increase access to medical care Telemedicine bridges rural-urban healthcare gap. Bridging e-health gap in remote India remains tough.
9.	Debjit Bhowmik, S. Duraivel, Rajnish Kumar Singh, and K.P. Sampath Kumar	2013	Aimed to investigate heterogeneity in telemedicine adoption attitudes.			District and tertiary hospitals across the country are linked through telemedicine. M-health accelerates data transmission and sharing. Citizen Health Information System expands public health services and information access.

10.	Thakar S, Rajagopal N, Mani S, Shyam M, Aryan S, Rao AS, Srinivasa R, Mohan D, and Hegde AS	2018	To evaluate the cost-effectiveness of telemedicine consultations for follow-up care	Decision-Analytical Model	<i>N= 1200</i>	Cost-effective and efficient healthcare options are provided by telemedicine. Telemedicine is cost-effective despite failure rates. Telemedicine wins with high volume, usefulness, success rates, and less travel for patients

Table 3: Literature Review

RESEARCH QUESTIONS

1. To what extent, the IPD patients are aware of telemedicine?
2. What are the attitudes of IPD cancer patients towards using telemedicine for consultations with their health care providers?

RESEARCH METHODOLOGY

Study Design: The data from inpatients diagnosed with cancer is collected using a cross-sectional survey design, using a self-administered questionnaire or a researcher administered interview format. The questionnaire encompasses:

- Demographics
- Current knowledge of telemedicine
- Attitudes towards using telemedicine for various aspects of cancer care
- Factors influencing willingness to use telemedicine (e.g., technical skills, privacy concerns)

Setting: Rajiv Gandhi Cancer Institute and Research Centre, Rohini, Delhi

Study Population:

a. Inclusion Criteria:

- **Diagnosed with cancer**
- **Admission status:** IPD cancer patients
- **Age:** 18 years or older
- **Cognitive ability:** Patients with potential cognitive ability
- **Consent:** Informed written consent

b. Exclusion Criteria

- **Terminal illness:** Patients in advanced cancer stages may not see improvement from telemedicine interventions that target upcoming appointments or medication oversight
- **Acute medical condition:** Patients with critical or unstable medical conditions requiring constant in-person monitoring is excluded.

- **Language barriers:** Multiple languages tools are used to collect data.
- **Prior negative experience with telemedicine:** This might introduce bias towards negative attitudes.

Duration of the study: March 18,2024 –June 17,2024

Sample size: 50 IPD cancer patients

Sampling Technique: Convenience Sampling

DATA SOURCE

Data was collected by means of participant-inpatient cancer patients using a questionnaire and interview.

METHOD FOR DATA ANALYSIS

Descriptive statistics is used to summarize patient demographics, knowledge levels, and attitudes. Correlational analysis will explore relationships between knowledge, attitudes, and influencing factors.

RESULTS:

1. Based on Gender:

Gender	No.	Percent
Male	25	50
Female	25	50
Total	50	100

Table 1: Patient distribution based on Gender

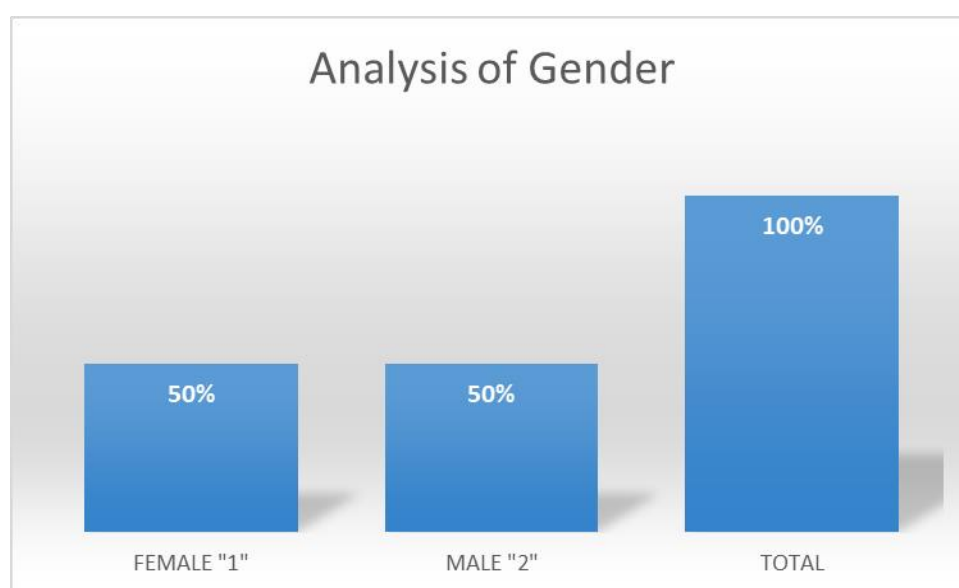


Fig:1. Bar graph of Analysis on Gender

The analysis is based on the gender distribution of a sample size of 50 individuals.

The table shows that the sample consists of an equal number of males and females, each constituting 50% of the total sample.

The bar graph titled "Analysis of Gender" visually represents the gender distribution. The graph has three bars:

- The first bar represents females, showing 50%.
- The second bar represents males, also showing 50%.
- The third bar represents the total, showing 100%.

This indicates a perfectly balanced gender distribution in the population.

Conclusion:

The gender distribution in the sample is perfectly balanced. This balance is visually confirmed by the bar graph, which shows that each gender constitutes

50% of the total sample. This equal representation is essential for unbiased analysis and reliable conclusion.

2. Based on Age

Age	No.	Percent
<18	0	0
18-35	6	12
36-55	20	40
56-75	24	48
>75	0	0
Total	50	100

Table 2: Patient distribution based on Age

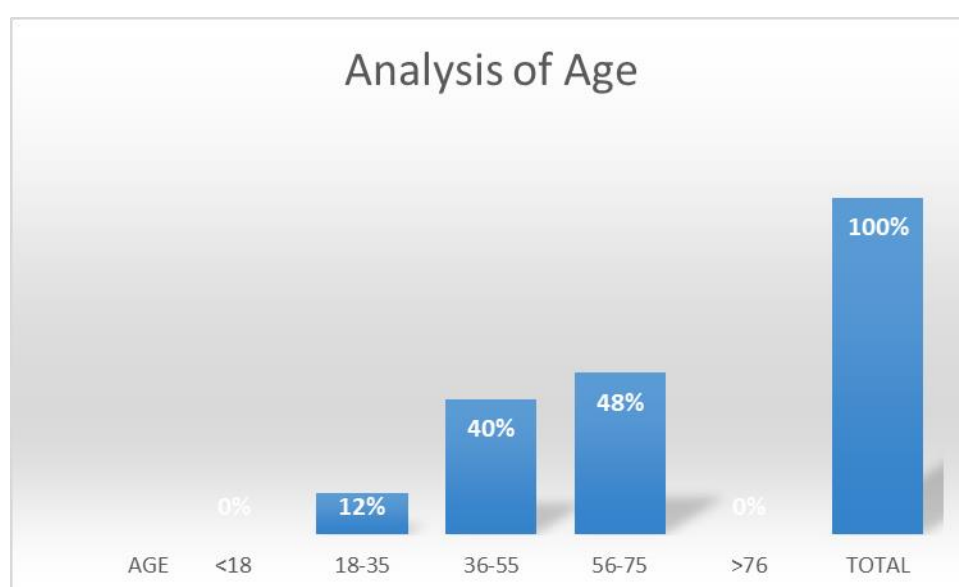


Fig 2: Bar graph of Analysis on Age

The analysis is based on the age distribution of a sample size of 50 individuals.

The table shows the distribution of patients across different age groups. Most of the patients fall within the 56-75 age group, constituting 48% of the total sample. The 36-55 age group follows, making up 40% of the sample. The 18-35 age group represents 12% of the sample, while there are no patients in the <18 and >75 age groups.

The bar graph titled "Analysis of Age" visually represents the age distribution. The graph has six bars:

- The first bar represents the <18 age group, showing 0%.
- The second bar represents the 18-35 age group, showing 12%.
- The third bar represents the 36-55 age group, showing 40%.
- The fourth bar represents the 56-75 age group, showing 48%.
- The fifth bar represents the >75 age group, showing 0%.
- The sixth bar represents the total, showing 100%.

The bar graph effectively illustrates the sample's age distribution, highlighting that most patients are in the 56-75 and 36-55 age groups.

Conclusion:

Most of the patients in the surveyed population are aged 56-75(48%), with the next largest group being 36-55(40%). There is a small representation of the 18-35 age group (12%) and there are no patients under 18 or over 75.

3. Based on Nationality:

Nationality	No.	Percent
Indian	38	76
Nepali	12	24
Total	50	100

Table 3: Patient distribution based on Nationality

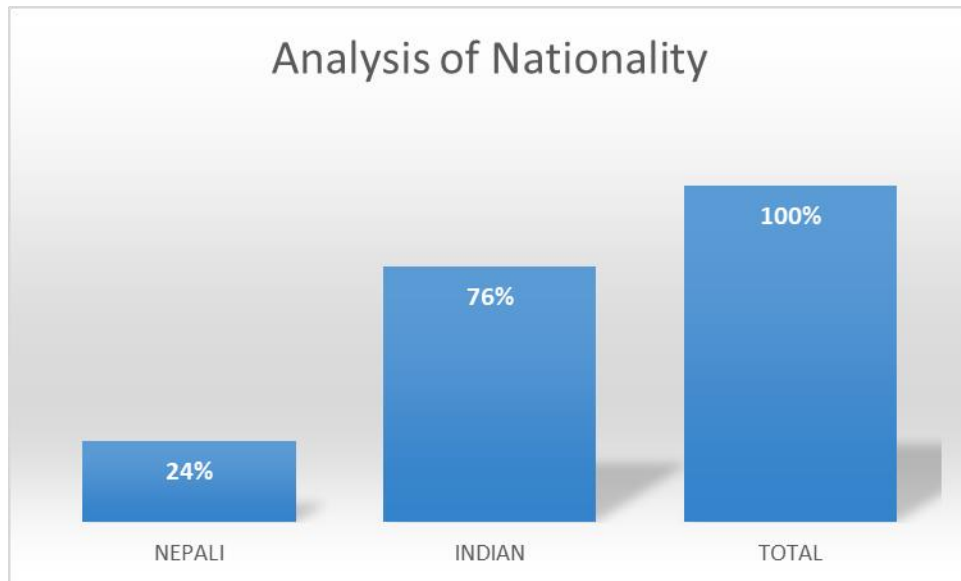


Fig 3: Bar graph of Analysis on Nationality

The analysis is based on the nationality distribution of a sample size of 50 individuals.

The table shows the distribution of patients based on their nationality. The majority of the patients are Indian, constituting 76% of the total sample. The remaining 24% of the sample are Nepali.

The bar graph titled "Analysis of Nationality" visually represents the nationality distribution. The graph has three bars:

- The first bar represents Nepali, showing 24%.
- The second bar represents Indian, showing 76%.
- The third bar represents the total, showing 100%.

The bar graph effectively illustrates the nationality distribution in the sample, highlighting that the majority of the patients are Indian.

Conclusion:

The majority of the surveyed population comprises Indian patients (76%) with Nepali patients being 24%. This distribution is effectively illustrated in the bar graph that accompanies the information.

4. Based on Knowledge of Telemedicine:

a. Awareness of telemedicine:

Awareness	No.	Percent
Yes	25	50
No	25	50
Total	50	100

Table 4(a): Patient distribution based on Awareness of telemedicine

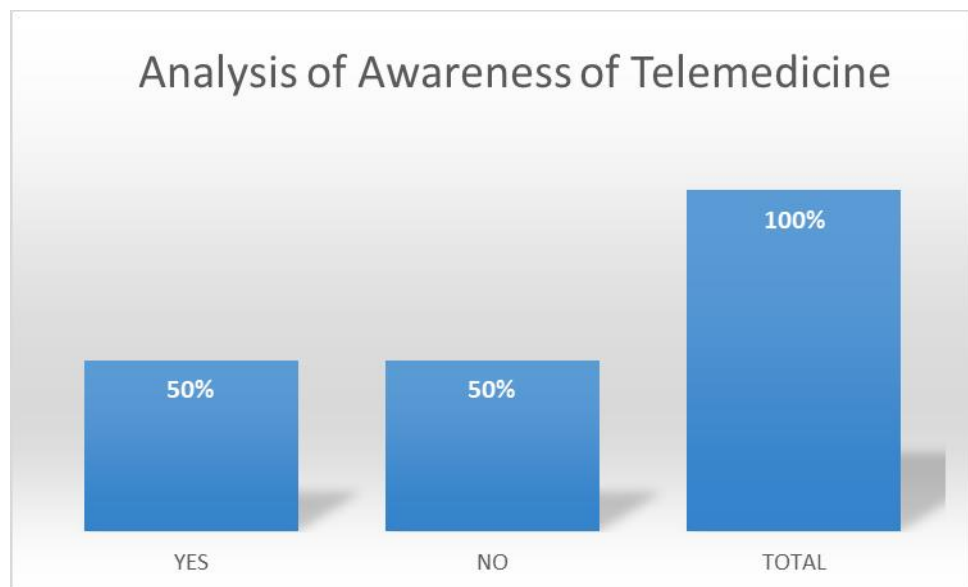


Fig 4: Bar graph of Analysis of Awareness on Telemedicine

The analysis is based on the awareness of telemedicine in a sample size of 50 individuals.

The table shows the distribution of patients based on awareness of telemedicine, where the surveyed population consists of an equal number of respondents, each constituting 50% of the total sample.

The bar graph indicates that there is an equal division in awareness of telemedicine, with 50% of the surveyed population being aware and 50% being unaware. The graph has three bars:

- The first bar represents Yes, showing 50%.
- The second bar represents No, also showing 50%.
- The third bar represents the total, showing 100%.

This indicates a perfectly balanced general knowledge distribution in the patients.

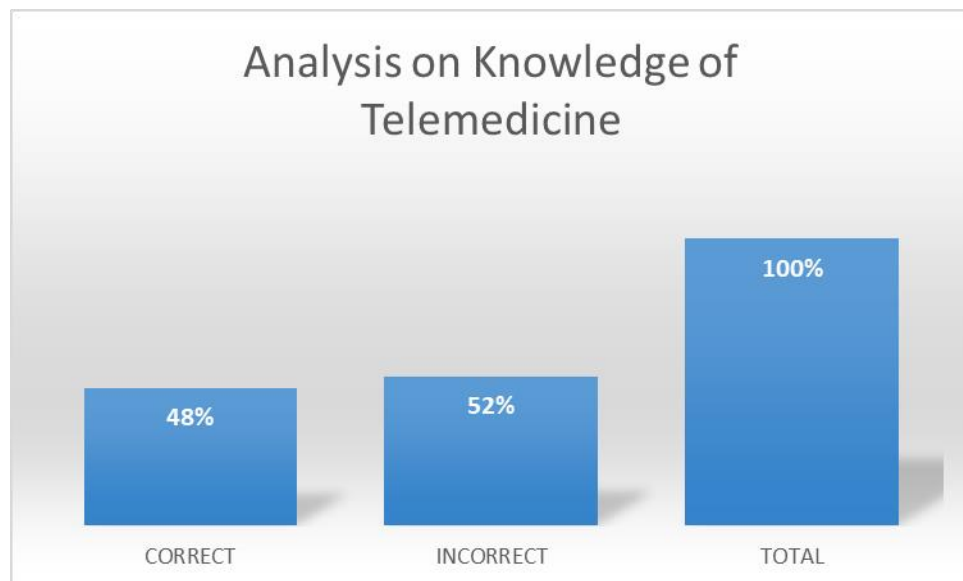
Conclusion:

The awareness distribution in the patients is perfectly balanced, with an equal number aware and unaware of telemedicine. This balance is visually confirmed by the bar graph, which shows that each constitutes 50% of the total patients.

b. Based on Knowledge of telemedicine:

Response	No.	Percent
Correct	24	48
Incorrect	26	52
Total	50	100

Table 4(b): Patient distribution based on knowledge of telemedicine



Fig(b): Bar graph based on Knowledge of Telemedicine

The analysis is based on the knowledge of telemedicine in a sample size of 50 patients.

The table shows the distribution of patients based on knowledge of telemedicine.

The table shows that about half i.e 24 (out of 50) responded with the correct answer and 26 (out of 50) responded with the incorrect answers on knowledge of telemedicine.

The bar graph shows that knowledge of telemedicine is

- The first bar represents the correct response, showing 48%.
- The second bar represents an incorrect answer, showing 52%.
- The third bar represents the total showing 100%.

Conclusion:

The findings suggest that there is a lack of awareness about telemedicine among the patients surveyed. This could be due to several reason, such as lack of exposure to telemedicine services or lack of understanding of what telemedicine is.

5. Based on Comfortability Using Technology:

Comfortability	No.	Percent
Yes	50	100
No	0	0
Total	50	100

Table 5: Patient distribution based on Comfortability Using Technology

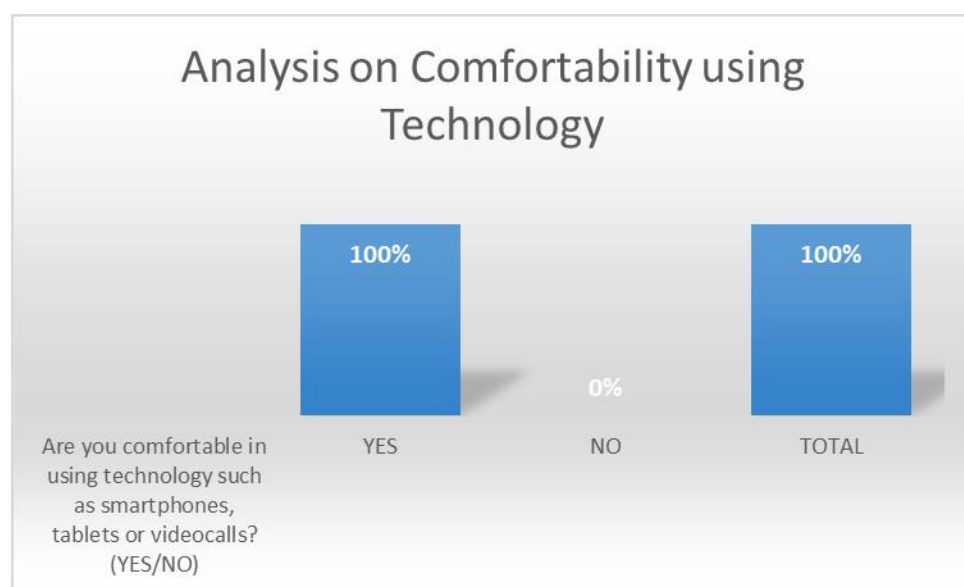


Fig 5: Bar graph of Analysis on Comfortability

The analysis is based on the Comfortability using technology in a sample size of 50 individuals.

The table shows the distribution of patients based on Comfortability using technology.

The table shows the results of a survey on comfortability using technology. All 50 respondents (100%) said they were comfortable using technology such as smartphones, tablets or video-calls.

The bar graph shows that all 50 respondents (100%) are comfortable using technology such as smartphones, tablets or video-calls. The graph has three bars:

- The first bar represents Yes, showing 100%.
- The second bar represents No, also showing 0%.
- The third bar represents the total, showing 100%.

The data suggests a high comfort level with technology like smartphones and tablets among the people surveyed.

Conclusion:

Improvising user-friendly applications is necessary to enhance comfort across all age groups, as depicted in the bar graph, despite the tech-savviness of most patients.

6. Based on Accessibility:

Accessibility	No.	Percent
Yes	50	100
No	0	0
Total	50	100

Table 6: Patient distribution based on Accessibility of internet

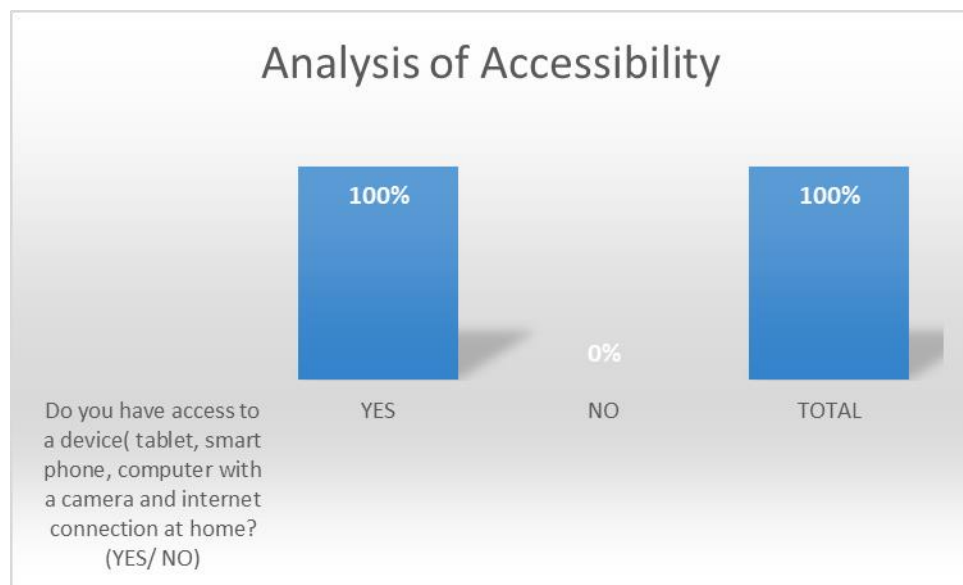


Fig 6: Bar graph of Analysis on Accessibility

The analysis is based on the Accessibility of Internet in a sample size of 50 individuals.

The table shows the distribution of patients based on accessibility of internet.

The table and graph illustrates that 100% of the 50 respondents have internet access via smartphones, tablets, video calls according to the survey results. The graph has three bars:

- The first bar represents Yes, showing 100%.
- The second bar represents No, also showing 0%.
- The third bar represents the total, showing 100%.
- Conclusion:

The accessibility of internet in the patients has majority, but still providing better reach is required to rural and urban areas. This majority is visually confirmed by the bar graph, which shows that having access to the internet, smartphones, tablets, etc. constitutes 100% of the total patients.

7. Based on Future Participation

Future Participation	No.	Percent
Yes	39	78
No	0	0
May Be	11	22
Total	50	100

Table 7: Based on Future Participation

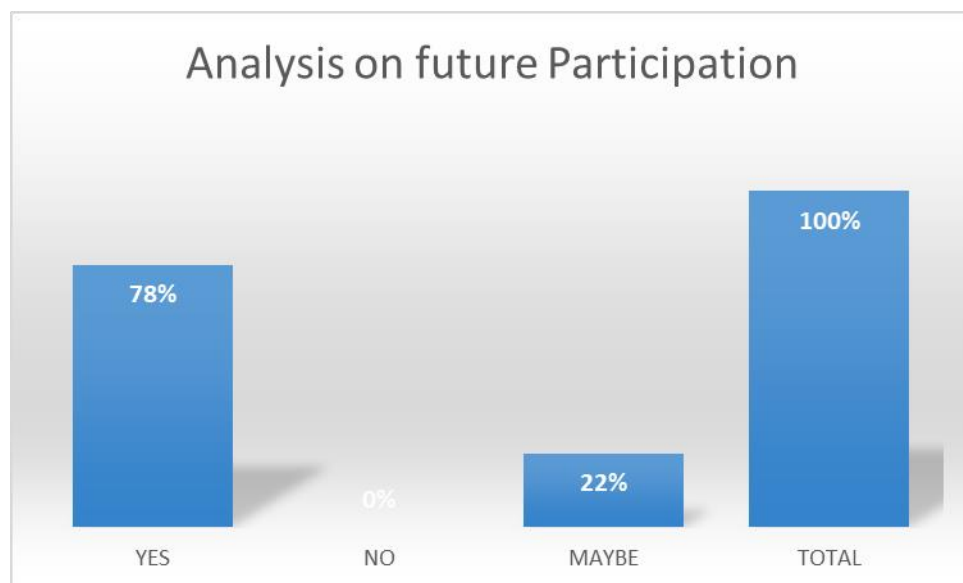


Fig 7: Bar graph based on future Participation

The analysis is based on future participation of a sample size of 50 individuals.

The table shows the distribution of patients based on the future participation. The majority of the patients are looking forward to future participation, constituting 78% of the total sample. The remaining 22% of the patients are in a dilemma.

The bar graph titled "Analysis of Future Participation" visually represents Future utilization of telemedicine. The graph has three bars:

- The first bar represents positive towards future participation, showing 78%.
- The second bar represents negative, also showing 0%.
- The third bar represents both (maybe) showing 22%.
- The fourth bar represents the total patient, showing 100%.

Conclusion:

The analysis of future telemedicine utilization reveals a strong positive outlook. Based on a sample of 50 patients, a significant majority (78%) expressed interest in participating in future telemedicine opportunities. The remaining 22% were unsure (maybe), indicating no negative responses. This suggests a receptive patient population with high potential for continued telemedicine adoption.

Overall Conclusion:

The surveyed population has an even distribution of genders, as confirmed by the bar graph showing that each gender comprises 50% of the total sample. This equitable representation is crucial for impartial analysis and dependable conclusions. The age breakdown indicates that the largest portion of patient falls within the 56-75 age group (48%), followed by the 36-55 age group (40%). The majority of patients are of Indian nationality (76%), with Nepali being the next most prevalent (24%). The distribution of knowledge has 48% of patients being knowledgeable about telemedicine and 52% not. While comfort level with technology I high, there is still a need for improved applications. The internet is widely available, but improved access is needed for both rural and urban areas. An examination of potential future use of telemedicine shows a highly optimistic forecast, as 78% of patients are keen to take part in upcoming telemedicine services.

Analysis on Attitude of Telemedicine of Inpatient Cancer Patients

Please note: SD= Strongly Disagree (1), D=Disagree (2), N=Neutral (3), A=Agree (4), SA=Strongly Agree (5), M= Mean, ST DEV=Standard Deviation

Responses on Attitude towards telemedicine use:

S. no.	Statements	SD	D	N	A	SA	M	ST DEV
1.	Telemedicine consultations can be as effective as in-person visits with a doctor for some aspects of cancer care	1	4	9	21	15	3.9	3.50
2.	I would feel comfortable discussing my cancer care with a doctor through telemedicine video call	0	1	6	16	27	4.38	3.92
3.	Telemedicine consultations would save your time and travel inconvenience	0	0	2	10	38	4.72	4.22
4.	I am concerned about the privacy and security of my medical information during telemedicine consultations	9	9	5	10	17	3.34	3.19
5.	I worry that a doctor might miss an important details about my condition during a telemedicine consultation	8	16	9	13	4	2.78	2.54
6.	Telemedicine consultations would allow me to have a frequent contact with my doctor	0	1	2	15	32	4.56	4.08
7.	I would feel less connected to my doctor during a telemedicine consultation compared to an in-person visit	3	11	9	14	13	3.46	3.17
8.	I would be more likely to participate in follow-up appointments if they were offered through telemedicine	0	0	6	15	29	4.46	3.99
9.	Overall, I believe telemedicine has the potential to improve cancer care for inpatients	1	0	7	20	22	4.24	3.8

Table 8: Responses on Attitude towards Telemedicine

The above table displays the feedback regarding the attitude of participants towards the use of telemedicine. Respondents were required to indicate their level of agreement with each statement using a 5-point Likert scale, with options ranging from 1(strongly Disagree) to 5(Strongly Agree).

- Statement 1: Telemedicine Consultations can be as effective as in-person visits with a doctor for some aspects of cancer care.
The average rating for this remark is 3.90 and it had a standard deviation of 3.50. This indicates that patient have a somewhat neutral stance on the efficacy of telemedicine appointments in comparison to in-person visits.
- Statement 2: I would feel comfortable discussing my cancer care with a doctor through telemedicine video call.
The average rating for this statement is 4.38, indicating a standard deviation of 3.92. This indicates that patients generally agree with feeling at ease discussing their care through telemedicine.
- Statement 3: Telemedicine consultations would save you time and travel inconvenience.
The statement received the highest mean score of **4.72** with a standard deviation of **4.22** indicating that patients generally that telemedicine consultations would save time and reduce travel inconvenience.
- Statement 4: I am concerned about the privacy and security of my medical information during telemedicine consultations.
The average score for this statement is 3.34 and it had a standard deviation of 3.19, indicating that the patients have somewhat neutral stance regarding the privacy and security of their medical information during telemedicine consultations.
- Statement 5: I worry that a doctor might miss an important detail about my condition during a telemedicine consultation.
The average score for this statement was 2.78 which is the lowest and it had a standard deviation of 2.54. This indicates that patients are inclined to disagree with the concern that a doctor could overlook an important detail during a telemedicine consultation.

- Statement 6: Telemedicine consultations would allow me to have more frequent contact with my doctor.
The average rating for this statement is 4.56 and it has a standard deviation of 4.08. These findings indicate that telemedicine appointments would enable them to have more regular communication with their doctor.
- Statement 7: I would feel less connected to my doctor during a telemedicine consultation compared to an in-person visit.
The average rating for this statement is 3.46 with a standard deviation of 3.17. This indicates that patients are relatively neutral about feeling less connected to their doctor during a telemedicine consultation.
- Statement 8: I would be more likely to participate in follow-up appointments if they were offered through telemedicine.
The average rating for this statement is 4.46 with a standard deviation of 3.99. This indicates that patient generally agree that they are inclined to engage in follow-up appointments if they were offered through telemedicine.
- Statement 9: Overall I believe telemedicine has the potential to improve cancer care for participants.
The average rating for this statement is 4.24 with a standard deviation of 3.80. This indicates that patient generally agree that telemedicine could enhance their cancer care.

Conclusion:

In general, patient undergoing inpatient treatment for cancer care had a most favorable view of telemedicine. Although they were somewhat neutral about telemedicine's effectiveness compared to in-person visits and had some worries about privacy and potentially missing important information, they strongly agreed that telemedicine provides time and cost savings and the possibility of increased doctor interaction. They also indicated a higher chance of participating in follow-up appointments if offered through telemedicine and an overall belief that telemedicine could enhance their cancer care while hospitalized.

Percentage and interpretation of Attitude toward telemedicine use in IPD cancer patients:

S. no.	Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	Interpretation
1.	Telemedicine consultations can be as effective as in-person visits with a doctor for some aspects of cancer care	2	8	18	42	30	Neutral
2.	I would feel comfortable discussing my cancer care with a doctor through telemedicine video call	0	2	12	32	54	Somewhat
3.	Telemedicine consultations would save your time and travel inconvenience	0	0	4	20	76	Agree
4.	I am concerned about the privacy and security of my medical information during telemedicine consultations	18	18	10	20	34	Neutral
5.	I worry that a doctor might miss an important details about my condition during a telemedicine consultation	16	32	18	26	8	Disagree
6.	Telemedicine consultations would allow me to have a frequent contact with my doctor	0	2	4	30	64	Agree
7.	I would feel less connected to my doctor during a telemedicine consultation compared to an in-person visit	6	22	18	38	26	Neutral
8.	I would be more likely to participate in follow-up appointments if they were offered through telemedicine	0	0	12	30	58	Agree
9.	Overall, I believe telemedicine has the potential to improve cancer care for inpatients	2	0	14	40	44	Agree

Table 9: Percentage of Attitude toward telemedicine use in IPD cancer patients

The above table shows the percentages of attitude towards telemedicine use in cancer patients and the interpretation is related to the responses of respondents. Below are the interpretations made on percentage of responses of respondents toward telemedicine use.

Findings:

General Attitudes:

- There is a neutral sentiment towards the effectiveness of telemedicine compared to in-person visits (42% agree, 30% somewhat agree, 8% disagree).
- Patients are somewhat comfortable discussing their care via telemedicine (54% somewhat agree, 12% agree, 2% disagree.)
- There is agreement that telemedicine can save time and travel inconvenience (76% agree, 20% somewhat agree, 0% disagree.)

Concerns and Benefits:

- There is a neutral response regarding privacy and security of medical information during telemedicine consultation (34% disagree, 20% somewhat disagree, 20% neutral, 18% somewhat disagree, 8% agree).
- Patient disagree with the worry that a doctor might miss important details during a telemedicine consultation (8% disagree, 26% somewhat disagree, 18% neutral, 32% somewhat agree, 16% agree).
- There is agreement that telemedicine consultations would allow for more frequent contact with doctors (64% agree, 30% somewhat agree, 4% neutral, 2% disagree).
- Patients have a neutral feeling about being less connected to their doctor during a telemedicine consultation (26% disagree, 38% somewhat disagree, 18% neutral, 22% somewhat agree, 6% agree).
- There is agreement that patients would be more likely to participate in follow-up appointments if offered through telemedicine (58% agree, 30% somewhat agree, 12% neutral, 0% disagree).

Overall, the results of this survey suggests that cancer patients are generally receptive to the use of telemedicine. However, there are some concerns that need to be addressed. More research is needed to determine the effectiveness of telemedicine for cancer care and develop strategies to mitigate any potential risks.

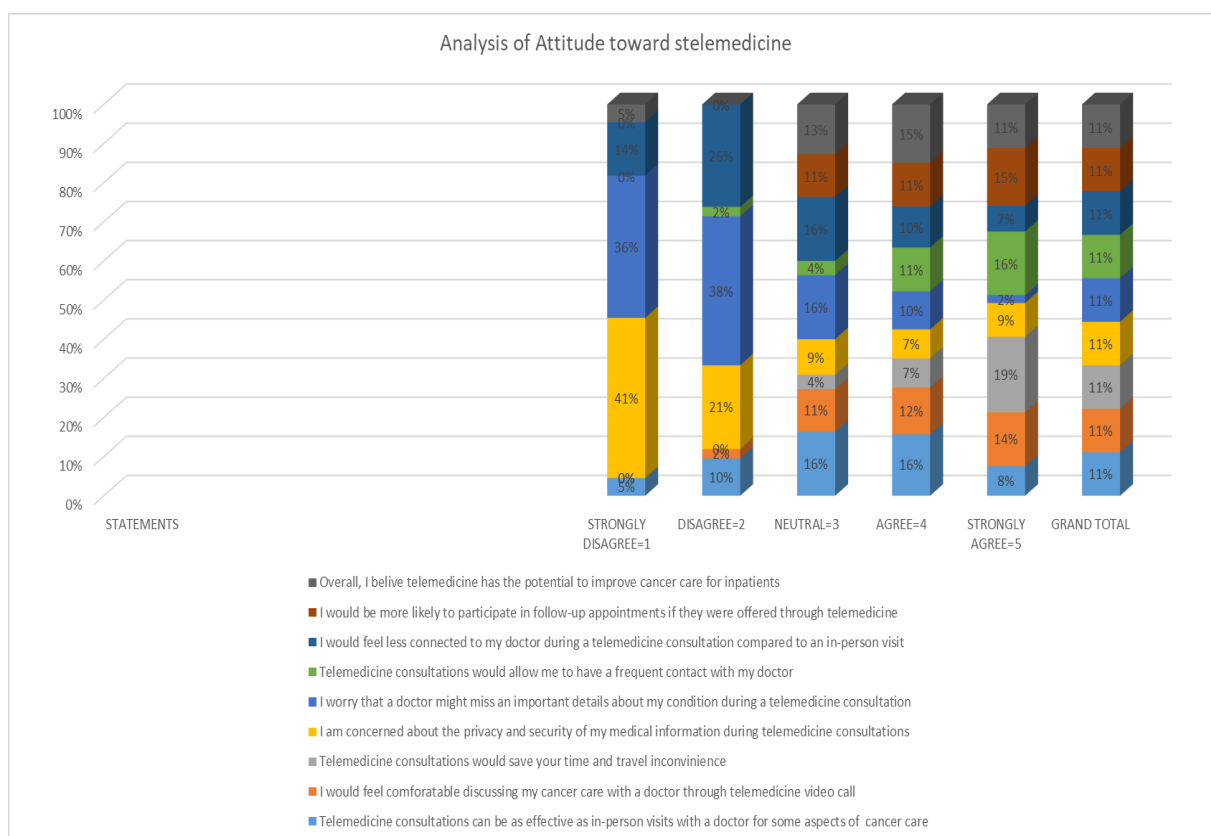


Fig 8: Bar graph showing percentage on Attitude towards telemedicine in IPD Cancer patients

SWOT ANALYSIS OF TELEMEDICINE

Strength	Weakness
1. Accessibility 2. Convenience 3. Cost effective 4. Enhanced communication 5. Continuity of care	1. Limited physical examination 2. Technological barriers 3. Connectivity issues 4. Privacy and security concerns 5. Regulatory and reimbursement challenges
Opportunities	Threat
1. Expansion of healthcare access 2. Remote monitoring and surveillance 3. Patient education and empowerment 4. Integration with traditional methods 5. Research and innovation	1. Resistance to change 2. Legal and regulatory risks 3. Quality of care concerns 4. Digital divide 5. Market saturation and competition

Table 10: SWOT Analysis of Telemedicine

Conclusion:

Telemedicine's strengths include improved accessibility, enhanced convenience, and cost-effectiveness. However, limitations in physical examinations and technological barriers pose challenges. Opportunities lie in expanding healthcare access and remote monitoring, while threats include resistance to change and regulatory risks. Effective implementation requires addressing these issues to fully leverage telemedicine's benefits and ensure its seamless integration into the healthcare system.

DISCUSSION

- The study article centers on evaluating the tele-medicine related attitudes and knowledge of IPD cancer patients.
- Telemedicine is a method to deliver medical care over the internet or by phone utilizing tools like video-chats, zoom meetings, telemedicine apps, etc.
- The attitude and understanding of inpatient cancer patients regarding telemedicine are critical to its effective adoption.
- Healthcare professionals can more effectively customize telemedicine services to fit patient's need by having a better understanding of their perspectives.
- The study emphasizes how crucial it is to take patients' opinions and expertise into account when using telemedicine into cancer treatment.
- Enhancing patient education and knowledge regarding telemedicine has the potential to increase its uptake.
- In summary, the study highlights the need of patient-centered treatment for IPD cancer patients in the setting of telemedicine.

SUGGESTION

- Improve the functionality and usability of telemedicine applications.
- Pre-payment system through smart card options to accommodate diverse patients' preferences and accessibility.
- Expand internet accessibility to enhance the reach of patients in both rural and urban areas.
- Focus on patients' education to increase awareness and understanding of telemedicine benefits.
- Address the privacy and security concerns to ensure patients confidentiality and trust.
- To safeguard patient's financial information during transactions, implement simple and secure payment channels.
- Implementation of insurance coverage policy can improve the accessibility of telemedicine services by the patient.
- On-the-job and off-the- job trainings should be provided to healthcare providers regarding telemedicine applications.
- Ensure that fees charged are reasonable and within the healthcare industry standards.
- To ensure transparency, healthcare providers offering telemedicine services out to set up explicit pricing schemes.

CONCLUSION

The effectiveness of telemedicine in cancer care is a topic of significant interest and debate. Telemedicine has the potential to improve cancer care by increasing access and reducing costs. While there are concerns about privacy and security, patients generally feel comfortable discussing their care through telemedicine video calls and appreciate the time and travel convenience it offers. The gender distribution in the surveyed population is perfectly balanced, and the age distribution shows that majority of people are in the age group of 56-75. The nationality distribution is predominantly Indian, and the knowledge distribution is equally balanced. The comfort level of technology is high, but better applications are needed. The accessibility of the internet is wide spread, but better reach is required for rural and urban areas. The analysis of future telemedicine utilization reveals a strong positive outlook, with 78% of patients expressing interest in participating in future telemedicine opportunities. Overall, Telemedicine has the potential to improve cancer care, but it is essential to address the remaining concerns and limitations to ensure its optimal use.

LIMITATION

- Telemedicine services may experience reliability issues due to technological limitations like inadequate internet connections hardware malfunctions, and software glitches.
- Patient in remote areas with inadequate internet access might face challenges in participating in telemedicine consultations, leading to potential accessibility issues.
- Patient access to this convenient healthcare options may be limited by the restricted insurance coverage for telemedicine services.
- Healthcare providers might not use telemedicine optimally and effectively due to inadequate training.
- The ability of a healthcare provider to perform a comprehensive physical examination may be restricted by a limited physical examination, which could potentially result misdiagnosis and inadequate treatment.
- Older patients may feel uneasy about sharing their medical history virtually due to concerns about patient comfort and digital literacy.
- The scope of care provided by telemedicine may be limited due to the inability to access all diagnostic tests and tools.

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