International Research Journal of MMC (IRJMMC)

Vol- 5, No. 5, December 2024 ISSN 2717-4999 (Online) 2717-4980 (Print)

Telemedicine: A Growing Need during the COVID-19 Pandemic

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KEYWORDS

COVID-19

Health service

Telehealth

Telemedicine

ABSTRACT

The world has been facing an enormous challenge to cope with containing the coronavirus disease-2019 (COVID-19), be it alone with vaccinations or innovative ways to help people get treated. Telemedicine is one such boon for people to get some help during COVID-19. The purpose of this study was to identify the growing demand for telemedicine, investigate its use in various nations, and assess its strengths, difficulties, and prospects in the Nepalese context. This paper took a narrative descriptive technique, using Google, Google Scholar, and Pubmed as key search engines from January to February 2024, to investigate the growing need for telemedicine in emergencies, its worldwide use, and its application in Nepal. It searches for related material using keywords such as "telemedicine", "telehealth", "COVID-19", and "Nepal". The COVID-19 pandemic has accelerated the development of telemedicine, with patients and healthcare professionals expressing satisfaction with visits. The pandemic has prompted increased use of telemedicine, telepharmacy, teledermoscopy, artificial intelligence, and robotic machines, requiring collaboration between national and individual groups. Telemedicine's economic sustainability is threatened by increased private practitioners, potential fees, low adoption rates, lack of legal frameworks, and inadequate health facilities in developing countries, necessitating further research on visit-related factors and patient-provider connections.

1. INTRODUCTION

Coronavirus disease-2019 (COVID-19) is defined as an illness caused by a novel coronavirus called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; formerly called 2019-nCoV), which was first identified amid an outbreak of respiratory illness cases in Wuhan City, Hubei Province, China which was initially reported to the World Health Organization (WHO) on December 31, 2019 while being declared as a global outbreak on January 30, 2020 after the H1N1 influenza a pandemic in 2009 (Cennimo, 2024). The author further elaborates on the illness caused by SARS-CoV-2 to be termed COVID-19 to avoid stigmatizing any country, population, geography, or animal association regarding the origin of the virus.

The world has taken huge steps to contain this virus since the start, from travel bans to and fro from countries worst affected, to complete global shutdowns, to lockdowns, to phased openings, bringing a hard time for the general population. The measures (Cirrincione et al., 2020) to be taken are as follows: a). By blocking all trips to and from all areas defined as "red", in which cases of COVID-19 infections have already been ascertained; b). Enabling a possible 14-day home quarantine for those who live, work, or return from these areas; c). Ensuring selective control and measurement of body temperature of all suppliers and external collaborators; d). Reassuring reduction of the number of operators within each confined environment; e). Smart working was prioritized, and where possible, work from home; f). Composing, if possible, two or more closed and independent working groups, to be alternated every 14 days to work in the company or smart working; and g). Predisposition and maximum adherence to PPE dressing and undressing protocols.

Since then the world has been facing this dreadful time, where lives have been lost, many disabilities caused, people have lost jobs and many have to live indoors. The fear of even catching up with the virus had been so intriguing that people want to stay home and get everything possibly from groceries to everything through online measures. Even though people's health was taken into consideration, they were unable to get their regular appointments for general health checkups or for COVID-19 itself, there had been an urgent need for assistance through an alternative method and one such was Telemedicine. This field had been under shadows but now the growing requirement of people to get some assistance through telemedicine has sparked a kindle.

Telemedicine is the use of electronic information and telecommunication technology to get the health care one needs while practicing social distancing, a phone or a device with the internet to avail the required medical care whilst protecting oneself and one's healthcare provider from COVID-19, furthermore it enables to decrease one's contact with healthcare facilities, other patients, and healthcare staff to reduce the risk of COVID-19 and keeps one and one's family healthy (National Center for Immunization and Respiratory Diseases (U.S.), Division of Viral Diseases, 2020).

Craig and Patterson (2005) explain telemedicine as the delivery of health care and exchange of healthcare information across distances, but not distancing it from being a separate or a new branch of medicine. The authors classify telemedicine episodes based on: a). the interaction between the client and the expert (i.e. real-time or prerecorded), and b). The type of information being transmitted (e.g. text, audio, video). Much of the telemedicine that is now practiced is performed in industrialized countries, such as the USA, but there is increasing interest in the use of telemedicine in developing countries. Therefore, this study aimed to identify the increasing demand for Telemedicine, explore its usage in various countries, and evaluate its strengths, challenges, and opportunities in the Nepalese context.

2. METHODS AND MATERIALS

The information and data obtained from the review of various conceptual and research literature were presented using the narrative descriptive approach in this article. This article was structured to introduce telemedicine, its rising demand in the emergency, its rising use in the world, and its use in the Nepalese context. The literature was searched using keywords like "telemedicine", "telehealth", "COVID-19", "usage of telemedicine", and "Nepal" in isolation and mixed as needed through Google, Google Scholar, and Pubmed as its major search engines during the year 2024 from January to February. Google was utilized the most because it is the most widely used search engine by research scholars for their research work (Sudhier & Anitha, 2014). Based on the author's self-evaluation, the reference to Nepal was pointed out by selecting and reviewing previous research articles. The articles that

came across through the search were vigorously read and appropriate findings aligning to the set objectives were cited in this paper. With the advent of the internet and during the restrictions of COVID-19, this paper fully indulged in gathering information related to the use of Telemedicine.

2.1 DEVELOPMENT OF TELEMEDICINE

The history of Telemedicine dates back to ancient Greece as a comprehensive one into an evolving telemedicine to the present time thereby placing the development of this field in the context of the never-ending quest for providing equitable access to health care and re-casting the medical care landscape while trying to assure quality and contain cost (Ryu, 2010). The author further coalesces the historical events into telling the origin of modern telemedicine in experiments such as those by Willem Einthoven in 1905 long-distance transfer of electrocardiograms through the pioneering era of teleradiology and telepsychiatry of the 1950s, its coming-of-age in the 1970s, its maturation in the 1990s, and finally the recent transformation and adoption by the mainstream.

Tracing back to the 1920s, the sick ship crew members were advised by the Norwegian doctors via radio, in 1967, Bird and colleagues established an audiovisual microwave circuit between the Massachusetts General Hospital in Boston, USA, and the nearby Logan Airport and they conducted and evaluated >1000 medical consultations for airport employees and travelers who were ill (Strehle & Shabde, 2006).

Historically health care in the home-based setting has been there, for example, in 1925, a cover of Science and Invention magazine showed a doctor diagnosing a patient by the radio, and envisioned a device that would allow for the video examination of a patient over distance, home monitoring developed more fully in the Mercury space program when the National Aeronautics and Space Administration (NASA) began performing physiologic monitoring over a distance and NASA further developed this technology with a pilot with the Papago Indians, the Space Technology Applied to Rural Papago Advanced Health Care (STARPAHC) project (Nesbitt, 2012).

Telehealth technology in the 21st century is centered on patient-centered care and protects patients, physicians, and others. Health professionals use information and communication technologies (ICT) to exchange valid information and provide telehealth services in real-time or store-and-forward techniques. Portable electronics like smartphones and webcams facilitate communication between patients and healthcare providers, while video conferencing and television systems provide healthcare programs for hospitalized or quarantine patients, reducing exposure risks (Monaghesh & Hajizadeh, 2020).

Telemedicine is the practice of medicine using technology to deliver care at a distance. A physician in one location uses a telecommunications infrastructure to deliver care to a patient at a distant site. Telehealth refers broadly to electronic and telecommunications technologies and services used to provide care and services at a distance. Telehealth is different from telemedicine in that it refers to a broader scope of remote healthcare services than telemedicine. Telemedicine refers specifically to remote clinical services, while telehealth can refer to remote non-clinical services (American Academy of Family Physicians, 2018).

2.2 THE GROWING NEED FOR TELEMEDICINE DURING COVID-19

The fact that the virus isn't visible, doesn't know borders can't be stopped by immigration, it has not only halted normal day-to-day life but has also created an aura of panic and anxiety about getting any sort of medical assistance in person. This has stimulated a growing need for telemedicine not only for COVID-19 but otherwise. The outbreak of COVID-19 is a public health emergency of international concern. Telehealth is an effective option to fight the outbreak of COVID-19.

Currently, for healthcare providers and patients who are self-isolating, telehealth is certainly appropriate in minimizing the risk of COVID-19 transmission. This solution has the potential to prevent any sort of direct physical contact, provide continuous care to the community, and finally reduce morbidity and mortality in the COVID-19 outbreak (Monaghesh & Hajizadeh, 2020).

Centre for Health Policy and Services Foundation (2022) mentions that The WHO proposes telemedicine to be defined as: a. Teleconsultation: consultation offered to the remote patient by the healthcare provider; b. Telemonitoring: remote monitoring of the patient's health status and/or medical data by the healthcare provider; c. Teleexpertise: the remote exchange of medical opinions between two or more physicians to confirm a diagnosis and/or establish therapeutic management; and d. Teleassistance: the provision of opinions or data in real-time by a doctor to a remote practitioner performing a medical act. Centre for Health Policy and Services Foundation (2022) further categorizes the methods used for teleconsultations/telemonitoring at the family doctor's office as Synchronous type where real-time audio-video communication with interactive videoconferencing and telecommunication is used and the second one being asynchronous type where triage form in the form of the online questionnaire is presented and scheduling an in-office consultation, these questionnaires are made confidential.

Telemedicine has been available for all types of consultation during the COVID-19 times. In the study of Ward et al. (2022), a systematic review where the studies obtained from four databases (Ovid [MEDLINE], CINAHL Complete, PDQ-Evidence, and ProQuest) and gray literature (NSW Health, Royal Australian College of General Practitioners guidelines, and World Health Organization guidelines) and in total, three independent reviewers screened studies featured telehealth use during the COVID-19 pandemic in primary care and the result were as the Telephone communication (17/19, 89%) was the most frequent telehealth intervention in our included studies, followed by video communication (15/19, 79%), SMS text messaging (6/19, 32%), and email messaging (6/19, 32%).

An increasing number of medical establishments adopted the practice of telemedicine in India amid the sense of urgency created by the COVID-19 pandemic, says a new report (The Indian Express, 2020). Titled Rise of Telemedicine – 2020, a collaboration of the Telemedicine Society of India and Practo was recently launched at Telemedicon 2020. According to the report, while physical appointments went down by 32 percent, a three-times increase was seen in the number of people using online consultations, including 26 percent with general practitioners, 20 percent in dermatology, 16 percent in gynecology and seven percent with others like gastroenterology, ENT, and pediatrics (The Indian Express, 2020).

In Nepal too, the Nepal Medical Council has set guidelines for telemedicine so that it is helpful during the COVID-19 pandemic (Nepal Medical Council, 2020). According to it, this can be made affordable, and accessible and ensure equity in all parts of Nepal. Furthermore, it may be the only practical means of reaching out to difficult places for emergency care. Nepal Medical Council (2020), in its guidelines, states that telemedicine service must be provided as part of a structured and well-organized system and the overall standard of care delivered by the system must not be any less compared to conventional in-person service and this service is encouraged where a face-to-face consult is not reasonably practical, for example in remote areas, care of a highly infectious patient to lessen the physical visits to the room or to allow for remote monitoring of a patient in addition to the in-person monitoring by a competent health care worker. However, these guidelines lacked details and were weak compared to the guidelines of other

Southeast Asian countries such as India and Bangladesh (Sharma et al., 2023).

The Telemedicine Guidelines Healthcare for Registered Doctors by Nepal Medical Council (2020) makes a clear demarcation to inform that telemedicine should not be practiced as a substitute for conventional in-person care but should be practiced as a complementary service where traditional in-person care is not feasible, is not accessible, is not affordable and it involves numerous options for referral and coordinated care.

The Ministry of Health Singapore (2015) in its National Telemedicine Guidelines, reiterates that proactive consideration must be given to integrating telemedicine services into existing healthcare services as well as existing administrative policies, guidelines, and procedures, management of the equipment and physical space must be assured for healthcare organizations offering multiple Telemedicine services, an agreement between the healthcare organizations should be established that addresses detailed protocols for data preparation, transmission, receipt, mutual responsibilities when two healthcare institutions are involved and the identification/management of liabilities.

2.3 TELEMEDICINE USAGE IN THE WORLD

The application of telehealth services in diagnosing and treating various medical complaints related to ophthalmology, neurology, dermatology, non-communicable diseases, hematological illness, orthopedic problems, respiratory illness, and substance use disorders is highlighted by the findings of a systematic review article containing 19 articles which met the eligibility criteria out of 1143 articles (Rajkumar et al., 2023). Teleophthalmology was utilized to diagnose and treat conditions involving the eyes, with a particular focus on injuries to the cornea and conjunctiva (Agrawal & Agarwal, 2020). Telehealth delivery using mobile phones is effective for epilepsy follow-up patients (Nair et al., 2021). Also, teleneuro-rehabilitation is a viable choice for Parkinson's disease patients during the pandemic due to its safety and no serious consequences (Garg et al., 2021).

The use of telehealth in dermatology was more feasible and easier to accept because the majority of diseases in this field are visual and may be identified with a quick examination and a few probing inquiries (Bhargava & Sarkar, 2020). During the COVID-19 epidemic, patients with non-communicable diseases responded better to teleconsultations due to the shorter consultation times, the difficulty in arranging in-person appointments, and the decreased physical examination during consultations. A study found that telehealth services are utilized by three-fourths of patients with hematological diseases for regular follow-up advice, including those with chronic myeloid leukemia, inherited marrow failures, myeloma, lymphoma, and anemia.

A study revealed that telecall-based consultations in orthopedics can maintain follow-up care, especially for back pain and cervical complaints (Kumar et al., 2020). Sandhu et al. (2021) found telemedicine feasible for managing rheumatic diseases. A study found that teleconsultation effectively manages most children with respiratory issues, with 80% of caretakers reporting high satisfaction with the service (Kumari et al., 2021). A study on asynchronous e-consult-based teleconsultation for substance use disorders found easy access, increased clinical care, and high clinician satisfaction without real-time meeting requirements (Sahu et al., 2020).

Start-ups in India are crucial for telemedicine, addressing COVID-19 challenges and facilitating healthcare access, thereby paving the way for a new era in the Indian healthcare system and also influencing other developing countries to adopt telehealth technologies more widely (Chakraborty et al., 2021). The use of telemedicine services boomed during the COVID-19 pandemic and patients searched for alternatives to physically visiting a clinic but the ability for clinicians to consult remotely is also important to provide

healthcare in remote places in Asia, therefore telemedicine is a viable way to deliver care to remote and rural areas and is a cost-effective way for countries like Indonesia and Vietnam, to progress towards the United Nation's Sustainable Development Goals SDG-3 on health and wellbeing (World Economic Forum, 2023). A review article containing a total of 56 articles related to telemedicine solutions and applications, has demonstrated the widespread use of telemedicine, particularly during the COVID-19 pandemic, as well as its applications in virtual visits, teleconsulting, telefollow-up, and telemonitoring (Mehraeen et al., 2023). The four primary telemedicine technologies which are discussed in the articles are the phone, video conferencing, mobile health, and virtual reality.

Before the COVID-19 outbreak, Asia-Pacific governments were uncertain about the relative costs and benefits of supporting telemedicine on a broad scale (Kapur & Boulton, 2020), it was when the pandemic struck, that the benefits of digital health platforms became overwhelmingly clear to the governments quickly making digital health platforms available to the general public as a tool to contain the spread of the virus. Kapur and Boulton (2020), informed about Australia's extended Medicare coverage for telemedicine, South Korea eased restrictions on telemedicine to treat COVID-19 patients remotely, and Japan launched a free government-backed remote health service using digital health tools, and Indonesia's Ministry of Health partnered with ride-hailing giant Gojek and telemedicine provider Halodoc for quick COVID-19 diagnostics in remote areas.

2.4 TELEMEDICINE IN NEPAL

In context to Nepal, telemedicine too has its place, it isn't alien to people either. Nepal Research and Education Network (NREN) is providing telemedicine services to the rural areas of Nepal. Kathmandu Model Hospital is the medical partner of NREN. NREN and Nepal Wireless started this project in 2006. NREN currently has the following medical organizations connected to telemedicine services (Nepal Research and Education Network, 2017): a. Model Hospital, Bagbazar (Medical Partner of NREN); b. Institute of Medicine, Teaching Hospital, Kathmandu; c. Nepal Medical College and Teaching Hospital, Kathmandu; d. Communication Health Education Services by Telehealth (CHEST), Maharajgunj, Kathmandu; e. Gauri Shankar General Hospital, Dolakha; and f. Manmohan Memorial Community Hospital, Pharping.

Pradhan (2009) mentions that the government of Nepal (GoN), the Ministry of Health (MoH), and the Department of Health Services are also providing telemedicine services. Currently, the telemedicine center is located in Patan Hospital and is providing services to 25 districts and planning to add 5 more districts. The telemedicine services of GoN include (Mero Eye, 2024): a). Live Video Conferencing: 25 districts have a set of video conferencing tools, to connect to telemedicine centers and use services; b). Store and forward mechanism: MoH provides an online portal with details of the patients who need help from the consultants; and c). Hello Swasthya: they provide a toll-free number "1115" from NTC and NCELL. The public can also use this service to find solutions to health-related problems Telemedicine Guidelines (2020) addresses that medical practitioners may use any telemedicine tool suitable for carrying out technology-based patient consultation.

Telemedicine tools can be in any of the following, but not limited to forms:

a. Text: Short Message Service, Fax, chat in platforms like Facebook Messenger, Viber, WhatsApp, etc.
b. Text with other documents, data, or image transmission: Chat platforms, email, or other internet-based digital systems.
c. Audio only: landline telephone, mobile, or cell phone.
d. Video recordings and transmission: stored and forwarded audiovisuals, real-time audio-visual (Skype, Viber, zoom, through other devices

connected over LAN, WAN, Internet, mobile or chat platforms, etc.).

e. Data transferred through imaging or diagnostic devices should be integrated with the existing routine care processes

To enhance the reach of quality health services across the country, the Ministry of Health and Population (MoHP) and WHO launched the first teleconsultation center at a key hospital in the capital which was established at Bir Hospital with funds from EU Humanitarian Aid (EHCO), the center will help enhance the capacity at the COVID-19 Unified Central Hospital where people can call the 24x7 toll-free number and receive medical advice from licensed doctors and nurses for COVID-19 related queries and seek assistance on other ailments (World Health Organization, 2021).

2.4.1 STRENGTHS

Nepal has adopted strict guidelines for telemedicine. The patient's name, age, gender, address, and phone number must all be verified by the Registered Medical Practitioners (RMPs) and they also must maintain confidentiality and data safety in Nepal during teleconsultation processes. If the identity and link of the minor with the patient are established, then teleconsultation for minors can be conducted in the country (Sharma et al., 2023). Similarly, the practice of cross-border teleconsultation is restricted to the presence of a local RMP, and the practitioner in Nepal bears all ethical and legal responsibilities. Additionally, in Nepal, there are strict regulations for prescribing medications via teleconsultation, and charging fees for teleservices should not be more than conventional in-person care.

During the COVID-19 pandemic, telemedicine brought a feeling of safety, security, and well-being and facilitated access to care (Bouabida et al., 2022). It helped well to reduce the patient's contact with healthcare facilities, other patients, and healthcare staff to reduce the risk of COVID-19 and keep them and their families healthy (Monaghesh & Hajizadeh, 2020). Authors claim that it enabled patients to communicate with doctors live over the phone or video chat, send and receive messages via chat or email, monitor their health remotely, save on travel and transportation costs, reduce waiting time for service, and decrease clinic visits.

Various fields if not all could use telemedicine during COVID-19 times, like dermatology, psychiatry, general health checkups, pediatrics, and a few more. Teledermatology (TD) has its advantages and limitations. It has been found that TD has the potential to diagnose suspicious skin lesions faster, limit the number of direct consultations, triage patients directly for surgical procedures, and be helpful in infectious disease pandemics. However, it has some limitations due to poor image quality, thus missing malignant skin conditions. Its procedure has difficulties in medico-legal issues, consent, identity protection, human rights, professional ethics, etc. Moreover, TD cannot be very helpful in the aesthetic aspects of dermatology, or dermatosurgery. Amidst the COVID-19 pandemic, the use of commercially available social media platforms and teleconsultation portals like Facebook Messenger, WhatsApp, Viber, Skype, Hamro-doctor, etc. have dramatically increased, but the major issue that needs to be focused on is patient privacy, their clinical images, their safety and privacy of the patient data (Paudel, 2020).

2.4.2 WEAKNESSES AND CHALLENGES

TD has limitations due to poor image quality, thus missing malignant skin conditions. Its procedure has difficulties in medico-legal issues, consent, identity protection, human rights, professional ethics, etc. It cannot be beneficial in aesthetic aspects of dermatology and dermatosurgery (Nepal Research and Education Network, 2017). Thus, it is recommended that other countries help to eliminate or reduce financial burdens regarding the use of telemedicine for treatment during health crises, particularly for low-income earners. Therefore, the

current obsolete reimbursement and payment structure is an issue (Jnr, 2020).

The challenges faced by telemedicine had to be studied, in the context of developing countries, where there was a lack of basic amenities, telemedicine was a bit out of context, except for that area where the government has placed a startup. Most people prefer to visit their physician in person. However, amid the pandemic, virtual visits on telemedicine platforms have become the safe and convenient solution for a face-to-face medical consultation. Individuals worried about the risk of contracting COVID-19 at medical clinics, or confined to their homes, were able to gain access to medical advice and treatment without any risk of contracting the virus. Understanding the shifting market need, telemedicine providers offered free trials and partnered with other tech platforms to reach a wide base of the population (Paudel, 2020).

The advanced telecommunication and information technologies have a role to play in transforming the healthcare system. Evidence-based models facilitated by these technologies can improve access to and quality of health care across the geographic and economic spectrum. To date, we have been attempting to layer these technologies onto a healthcare system that does not have the necessary incentives. However, the passage of ACA and other policy changes can help facilitate this transformation (Nesbitt, 2012).

Paudel (2020), highlights the lack of technical knowledge among the patients, among healthcare workers lack of proper skills & training and under-equipped facility centers in Nepal have been the cornerstone for Telemedicine to flourish despite the telecommunication sector being able to provide high-speed internet connections.

The economics of Telemedicine was limited to free services in the past, especially in government-dedicated hospitals, but with the rise of its regular use by private practitioners, teleconsultation is also expected with professional fees and it is a matter of discussion thereby the lack of economic sustainability is another drawback of the services (Paudel, 2020). Thus, attending physicians should make sure to check their country's legislation regarding patients' consent, confidentiality, and privacy agreements. The physician must notify patients if any third-party application is being used during virtual consultation and their potential to introduce privacy or cyber security risks (Jnr, 2020).

Most developing countries may not be able to fully adopt telemedical specifically in remote and rural areas due to low penetration of smart devices use and low expansion of 3G/4G internet networks. Moreover, there is a lack of a fully designed legal framework to regulate the use of innovative IT solutions such as telemedicine in healthcare. Also, in many developing countries there is a lack of legislation that supports telemedicine. In developing countries, the availability of adequate health facilities is an issue. Thus, governments should support and fund the healthcare systems in establishing telemedicine, laws, and regulations needed (Jnr, 2020).

The technology and ideas of telemedicine need to be thoroughly understood by the practitioners in Nepal. The RMPs in Nepal should make sure that there is a way for the patient to confirm the legitimacy and contact information of the RMP. However, the verification process has not been specified in the guidelines (Sharma et al., 2023).

The cost-effectiveness of telemedicine is not to be left aloof. The telemedicine practice in general did not carry much expense as it used less infrastructure and health modalities. Although in some papers the costs of a specific system were discussed, there were no studies in the medical literature that addressed the issue of cost-effectiveness. Demonstration of the cost-effectiveness (or lack thereof) of telemedicine thus remains several years in the future. In the meantime, certain variables contributing to costs and revenues (e.g., line charges, equipment costs, possible reimbursement, and low patient volumes) can be expected

to be volatile and unpredictable. One should also keep in mind that telemedicine is not a monolithic entity, but consists of a spectrum of technologies and applications. Specific telemedicine applications may or may not be found to be cost-effective. Studies of telemedicine en bloc are unlikely to shed light on the issue. At this time, statements about the cost-effectiveness of telemedicine should probably be regarded as largely conjecture (Grigsby et al., 1995).

2.4.3 OPPORTUNITIES

The COVID-19 times are an opportunity for telemedicine to flourish as has been the online learning in recent times. In a retrospective observational study conducted in the single-institution, urban, academic medical center in Los Angeles, internal medicine patients aged ⩾18 years who completed a telemedicine visit between March 10th and April 17th, 2020, were invited for a survey (1624). Measures included patient demographics, degree of interpersonal trust in patient-physician relationships) and visit-related concerns. The patients who participated in the survey were very satisfied (47.4%) or satisfied (35.3%) with their telemedicine visits (Orrange et al., 2021).

In a descriptive cross-sectional study done in Nepal from October 2020 to March 2021, a web-based survey was addressed to healthcare professionals (HCPs) who provide obstetrics and gynecology services in teaching hospitals. A total of 210 HCPs were sent questionnaires via email among which 148 (70.47%) responses were received. It was found that most HCPs (88 HCPs, i.e. 59.5%) had a positive attitude towards telemedicine. This can be seen as an opportunity to open new horizons and acceptance to the future use of telemedicine in obstetrics and gynecology.

These times are to brighten the importance of telemedicine and TD in Nepal for future perspectives. The COVID-19 pandemic has changed our lifestyle and it might end up changing our way of life significantly. This might also lead to some unexpected positive offshoots in medicine, like the increased use of telemedicine, telepharmacy, teledermoscopy, artificial intelligence, and robotics. Traditionally, TD which was focused on rural health care is going to be the basic requirement of all the patients and healthcare workers. Thus, we should use the opportunity to adopt the practice of telemedicine and TD and harness its advantages. National professional societies like the Nepal Medical Council, and Nepal Medical Association, or individual societies like SODVELON could work together to design and implement a telemedicine and TD practice platform, integrating electronic records and payment gateways (Paudel, 2020).

3. CONCLUSION

The growing need for telemedicine is a pressing issue in the upcoming days, as countries must evolve it to provide necessary help to people in need, regardless of their health status. The COVID-19 pandemic has increased the need for telemedicine, with Nepal establishing a 24x7 toll-free consultation center at Bir Hospital. Nepal's telemedicine guidelines, requiring confidentiality and patient verification, have improved access to care during the COVID-19 pandemic, but challenges include image quality, consent, and ethical concerns. Policy changes like the Affordable Care Act could facilitate this transformation. Telehealth is a crucial tool for maintaining patient and health provider safety during the COVID-19 outbreak. It improves health service provision and can be widely adopted in primary care. Telemedicine supports a safe, staged recovery, improving care quality, reducing costs, and satisfying patient expectations. It has been highlighted as a solution to limited traditional healthcare consultation and access during the pandemic, reducing the risk of SARS-COV-2 exposure. Patients' satisfaction with telemedicine is high, influenced by trust in physicians and visit-related factors. Further research is needed to understand visit-related characteristics and patient-provider relationships in telemedicine, which can aid in recovery, enhance care quality, reduce costs, and meet patient expectations.

4. DECLARATION

Conflicts of Interest

None.

Funding

None.

Authors' Contributions

SB conceptualized the issue and prepared the paper together with BA, who also corresponded with the publication procedures. SM and BJ assisted with the literature review and analysis. All authors provided final approval of the version to be published.

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TO CITE THIS ARTICLE
Banu, S., Aryal, B., Mathema, S., & Joshi, B. (2024). Telemedicine: A growing need during the COVID-19 pandemic. *International Research Journal of MMC, 5*(5), 145–156.
https://doi.org/10.3126/irjmmc.v5i5.73704

Submitted: 8 September 2024 **Accepted:** 20 October 2024 **Published:** 31 December 2024

International Research Journal of MMC (IRJMMC) is a peer-reviewed open access journal published by Research Management Cell, Makawanpur Multiple Campus, Hetauda