Survey Paper on Telemedicine

Abhishek Kumar Rai[1], Anshul Misra[2], Dr. Ashish Baiswar[3]

[1]UG student of Department of Information Technology, Shri Ramswaroop Memorial College of Engineering and Management Lucknow, Uttar Pradesh, India
[2]UG student of Department of Information Technology, Shri Ramswaroop Memorial College of Engineering and Management Lucknow, Uttar Pradesh, India
[3]Associate Professor, Department of Information Technology, Shri Ramswaroop Memorial College of Engineering and Management Lucknow, Uttar Pradesh, India

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Abstract - *Telemedicine is an essential element in contemporary healthcare seen most prominently during the COVID-19 outbreak. The purpose of this survey paper is to offer a holistic review of the present telemedicine environment by integrating different sources of research. The paper is within the perimeter of effectiveness, economic implications, doctoral views, and patient experiences.*

1. INTRODUCTION

The landscape of the healthcare delivery service has been altering on widescale baseline; the telemedicine is among the significant achievement, propelled by the pandemic COVID-19 posed the challenges. Emerging as an invaluable instrument, telemedicine, or healthcare provision at distance through digital communication technologies, was able to keep healthcare delivered during the height of pandemic and increased access to medical services for the patients without the need to go the hospitals thus providing healthcare services efficiently. One of the most outstanding transformations in healthcare delivery due to this paradigm shift is the uniqueness in the patient-provider interactions, which are now possible as well as the emerging approaches to healthcare management and provision of services.

Telemedicine is gaining traction as an alternative that enables people to effectively access healthcare services in various locations, and at the same time, mediate the healthcare system for the disadvantaged. Telepopulation technologies have not only smoothed the importance of distance and facilitated remote consultations, monitoring also allowed many people who live in remote and rural areas to access special care that is usually provided in bigger centres or hospitals. Additionally, telemedicine serves as a great tool for the cost-effectiveness and convenience that comes with remote monitoring, and that it works to address such problems as long wait times, transportation barriers, and disparity in access to healthcare institutions.

The emergence of telemedicine as a viable tool for remote diagnosis and consultation has brought about a number of advantages but there are also challenges associated with it namely, data security, regulatory compliance and limitations of the technological infrastructure. These problems must be addressed in order to ensure that it is correctly and ethically applied in the practice. Formation of standardized policies and principles is crucial for protection of privacy of our patients, data integrity maintenance, and continuance of services that provide telemedicine platform access.

This survey paper is designed to give a complete account of the aspects telemedicine and its applications in the health system encompassing the modality, specialties and implications for the health care delivery. We aim to carry out an exhaustive literature review that is to give a detailed picture of the relevant role played telemedicine in the healthcare setting.

2. LITERATURE SURVEY

Online healthcare services, telemedicine, have now become a very important component in present-day healthcare, indeed especially due to the problems demonstrated by the world-wide pandemic. Telemedicine is very effective at telemedicine is very effective in the provision of healthcare services, it has significantly facilitated an easy access of medical care by the patient. healthcare delivery, provided innovative solutions and woken up the involved parties. The scope of this all-embracing literature review includes major studies and conclusive works that highlight aspects of telemedicine. These areas range from a variety of related research fields that culminate to an in-depth investigation and understanding of telemedicine services.

[[1]] Telemedicine has the potential to improve access to specialty care, especially in underserved, rural areas. Parity laws have been passed in 32 US states, but little is known about telemedicine adoption nationally among commercially insured patients. A study examined trends in telemedicine use and its association with regional factors within a large commercial health plan from 2005-2017. From 2005-2017, 383,565 telemedicine visits were made by 217,851 patients, with the mean age of users being 38.3 years, 63.0% female, and 83.3% residing in urban areas. Most telemedicine visits were either

telemental health (53%) or primary care (39%). The study found that physician supply is influential for telemental health but not for primary care telemedicine, suggesting that local coverage and reimbursement regulations may have influenced the growth of telemental care but not primary care telemedicine.

[2] Telemedicine is a flourishing field which communicates through the communication systems in diagnosis and care of diseases and poorly health. While massive growth in telecommunications infrastructure is bringing about new telehealth technologies, which are more effective with the spread of high-speed internet worldwide. With this exponential tech boom come concepts of patient centricity as well as ones relying on networks of caregivers as two of the new healthcare trends. The latest study reveals how telehealth is expected to be deployed in twice volumes by 2018 as compared to 2012, evidently pointing to the devices for remote communication and patient monitoring that are now widespread as the major drivers. Therefore synchronous telemedicine developed itself separately, as it was based on synchronous activity, while the telemedicine on diagnostics with patient data. The field of emergency medical treatment has been on a growth trend when it comes to telemedecine. It has been implemented especially in emergency departments, where consultations are required with staff who are stressed and cannot leave their post. Technology in mental health is not a new topic, endlessly discussed under the umbrella of telepsychiatry or telemental health, as it supports mental health services delivery to various patients.

[3] The aim of the research was first to find out if there is any such work to assess the impact of eHealth on healthcare. Twelve types of Health Technology Assessment (HTA) frameworks in literature were identified, including sixteen HTAs classified under technical performance, functions, cost, clinical outcomes, organization and system levels respectively. A majority of models have two categories: The models are divided into two categories: dimensional, staged, and hybrid. The assessments focused six frameworks of which had an outcome, and a respective method. eHealth is a collective concept for the organization, delivery, and innovation of e-services and information in the sphere of health, health care and health systems, using the Internet and related digital technologies. Hospitality services will be emulated by bridging the gap between the patients and physicians hence making it more accessible, affordable, and better health care as a whole. Nevertheless, eHealth remains controversial as computerization might bring about the conceptual change of healthcare itself due to the essence of technology, fast development pace, and difficulty in implementation. According to the findings, the Rapid Relative Effectiveness Assessments (REAs) are designed to solve the above concerns and they mainly focus on the effectiveness and safety, but not on the actual implementation process to the real world. A diverse approach, which combines different perspectives and methods, is potraying the final influence of eHealth services on specific outcomes.

[4] An anti-COVID group investigation studying the prevailing local trend of outpatient telemedicine before the pandemic has revealed disparities in telemedicine utilization were more pronounced in advance. The analysis employed claims data from the Truven MarketScan, the database of a commercial cartel of 846,461,609 hospital visits. The statistics demonstrates a declining use among patients aged 65 and older, patients with comorbidities, those living in rural areas, and those with a baseline income of up to a maximum of $50,000. The findings are of great importance in surveillance of the digital problems that may face those who have gained marvellous access to telemedicine and to monitor the changes in outcomes of its use after pandemics rapid growth in its popularity. The results of this paper demonstrate the importance of further research on telemedicine utilization and the different groups of people that are participating in it.

[5] This Article will focus about the newest development of the 'Healing at a Distance' delivered through telemedicine during the time of the COVID-19 pandemic. Telehealth has been shown to be very useful in medicine, and thus lowers social isolation and enable a remote specialist to accurately diagnose and suggest treatment. Even though there is no existence of regulations in many countries there are also serious difficulties. Governments should foster better e-healthcare adoption besides inclusiveness, privacy and protection of data stored. Those administrations like Australia, the USA, and the UK that are funding telemedicine, which involves electronic consultations, in order to handle COVID-19's spread, minimize incoming patients, and prevent the disease from spreading. Online medical consultations are made possible by broadband connection but in rural areas, persons without internet and those in large families the access becomes problematic. Privacy and protection of data are digitally-based technologies of telemedicine and e-healthcare. Advances in digital technologies such as wearables, artificial intelligence and enable a smooth transition to telemedicine or ehealth into a normal way of life.

[6] With the move from desktop to wi-fi and to wireless and mobile telemedicine, there are a lot of changes expected to come to healthcare. High-speed digital communication technologies allow data accuracy, reduce errors, and spare patient care resulting in a decrement in incidents. In healthcare, the number of wireless devices is expected to treble by 2005, leaving even more such devices in doctors' handheld by next year. Wireless communication technique the use of which

can come in handy in getting patient information, medical results and other medical resources. The area of mobile telemedicine is one of those that are rapidly evolving and uses the modern achievements in mobile broadband networks. The challenges involve a joint admission, speed care in emergencies along with micro functional modules, modularity, a wireless network platforms, local intelligence, as well as global networks.

[7] Study evaluates (electronic healthcare intervention) cutoff in telemedicine and (only write current trends, not show them) conclusion in the adoption of its metric. It was revealed that the accuracy of diagnostics was more often involved in real-time consultations (RTC) pilots, while cost measures were more often reported in TC disclosed on routine usage. The hospital use, the clinical efficiency and the tele-medicine-assisted care (SAF) were revealed in literature. Knowledge of current trends in metric reporting reduces probability of slack in future telemedicine assessment. Since there is no unified way of assessment in telemedicine, the measures of success are often based on treatment of separate aspects of healthcare rather than evaluation of holistic picture. Evaluating subjective parameters including the reporting in the literature about the standard metric criteria and getting a grasp on common preferences of the application areas in metric use is, undoubtedly, a way for researchers to mark the success and efficiency of new telemedicine applications, especially when it goes for decision - makers.

[8] This reviewer's article focused on the development of telemedicine and e-dermatology and described the past in which these types of teleconsultation and tele-dermatology were already hereTelemedicine as the field which is emerging in medicine may change the status of healthcare delivery forever by using information technologies to send medical data. Telepathology in general, and also teledermatology in particular, may be of benefit to several areas such as the general practitioner, the specialist, hospitals, research institutions and underserved areas. Telemedicine is an infrastructural improvement addressing the geographical access issues, thus, in the heart of the conflict zones, on ships, and on aircrafts, patients can be cared for and treated by medical facilities located miles away. Home care, too, can take advantage of telemedicine as thus diagnoses can be made easily and change of treatment course becomes faster with the use integrated communication units that contribute to sending telemetric data directly to treating physicians. Nevertheless, on the one hand, teledermatology benefits from saving the patients trips to the doctor and saving some time while on the other hand it may bring about the issue of assuming reliable diagnosis and seeing only the selected part of the skin. Opening dialogues that are frank and honest as well as evaluative of telemedicine methods are fundamentals for the success of this process.

[9] The study comprised of means using a critical systematic review of the evolution of the attended teledermatology evaluation research over time and the kinds of outcomes measures evaluated. The teleFigure of the utilizing the imaging and telecommunication technologies to provide services by a dermatologist is teledermatology. With this said, the mentioned can be deliver skin services by a dermatologist either to as health professional or a patient. There are two types: direct (DX) and electrocardiogram (ECG) teledermatology. The review indicates that the response time, believed to be one of the factors in conveying a diagnosis, might be influenced by circumstances such as (i) the golden hour and (ii) the prevention of unnecessary referrals. The vast majority of the published research in teledermatology has been over the past few decades, with the focus mainly concentrated on the SAF model Diagnostic validity is the most used measure in such trials. The eight conducted evaluative researching after teledermatology application were the main subject themes of patients' and doctors' contentment with the teledermatology system. Beforehand studies expressed that telemedicine dermatology was more pragmatic compared to the SAF systems; nevertheless, the economical comparison was not made. The paper stresses on the need for more level III and IV studies which would lend support to the teledermatology program in terms of the positive results and cost-effectiveness to justify its wide-scale implementation in practice.

[10] In the wake of the COVID-19 pandemic, telemedicine has become increasingly widespread, making up an unprecedented fraction of total health care encounters around the world, yet nothing can be said about quantitative trends globally and regionally as no such studies exist yet. Our study is about how telemedicine adoption had changed amid the pandemic and for that we used data from doxy.me and NIH Clinical Center. The number of national telemedicine use peaked on April, 2020 at 291 million minutes and remained stable from May to November, 2020, keeping the amount of minutes between 200 million and 220 million every month. In the Northeast and in New England in particular they were the strongest and least strong in the South and on the Atlantic side of the continent. Nations with more telemedicine expansion have experienced less cases per capita of COVID-19 infection. The visit characteristics of telemedicine were also changed in the process, which reflects on the average volume of the monthly visits per provider reaching twice as much and the average length of a visit being 60% less. Pandemic outcomes were presented, showing that the technology in one instance, irrespective of the length of time it took, telemedicine utilization had a sharp increase which necessitated

further research to guide decision making and ensure sustainability of telemedicine in clinical practice.

[11] Telemedicine has been promoted as an approach that affords facility to move forward the scope and lack of obstetric facility and to improve the pregnancy outcomes and reduce healthcare costs at the same time. Also, midwives have working with baby monitors and ultrasounds, interpreting nonstress tests, counseling patients, managing diabetes, supporting parents, and children in postnatal periods from remote sites. Telemedicine has been of huge help among employees to have less sick leaves, fewer transport costs, better service efficiency and most importantly medical costs reduction, than which face to face consultation (being expensive, time wasting and cumbersome to poor patients). The University of Arkansas for Medical Sciences (UAMS) ANGELS program serves as the specific telemedicine example of creating a statewide system that establishes a connection for care between all the different healthcare centers. Clinical telemedicine consultations happen when patients get access to ANGELS physicians, physicians or any primary care worker in their community get access to these physicians, and then all of them see each other. The use of telemedicine for more comprehensive patient counseling obstetric and the extension of subspecialty services is another important application of this tool in medicine. A pilot study already revealed that nobody minds where the counseling is provided. Following up the research, the future of obstetrics too, will be worked out with time.

[12] Theseems that construction 'telemedicine' were the most common term and Scopus database with 8028 documents referring to itself. After COAUT, telemedicine appeared with 2573 documents and 1679 telemedicine documents. The study revealed that adoption was documented in 126 countries while usage was found in 55 and 99 documents respectively for telemedicine and telehealth/e-health. 'Telemedicine' as a term has emerged in 1972 and it proved to be right for technology growth ever since in 1994. However the increase in telehealth development took five years more. This research picked out that e-health articles came out delated in comparison to the three terms while their increase rate was higher. The study compared the adoption rates of telemedicine, telehealth, and e-health with two other relatively new fields: MIS--minimaly invasive surgery--and HAART--highly active antiretroviral therapy. Indeed, theconclusion stated that the term for these identities was rather ambiguous and the ideas they implied had not been well understood.

[13] Telemedicine research has seen a significant increase in recent years due to advancements in information technology. This study examines collaborative research networks, dominant research themes, and seminal studies contributing most to the field. Results show a shift from radiology to telestroke, teledermatology, telepsychiatry, and primary care, with the most significant innovations in public environmental and occupational health, psychiatry, pediatrics, health policy and services, nursing, rehabilitation, radiology, pharmacology, surgery, respiratory medicine, neurosciences, obstetrics, and geriatrics. However, gaps in the literature exist, such as the fact that all primary and secondary research is conducted in high-income countries.

[14] A study in the US pediatric rheumatology workforce found that 72% prefer in-person visits over telemedicine, regardless of travel inconvenience. The highest barrier was the child missing school, with a median score of 2.50. The majority of respondents (95%, 144/152) reported a preference for in-person visits. Costs, driving in metropolitan areas, parent missing work, and child missing school were also significant barriers. Health care access is a complex issue affecting referral decisions, and solutions like piloting telemedicine networks and enhancing rheumatology training are recommended. Further research is needed to better quantify trade-offs and understand alternative care models.

[15] The study aimed to establish a database of existing approaches in the field of telemedicine, which has seen a significant increase in recent years. The data was retrieved from the Thomson Reuters database Web of Science and used density-equalizing algorithms. Between 1900 and 2006, 3290 filed items were connected to telemedicine, with the first being published in 1964. The most productive suppliers were the USA, Great Britain, and Canada, with Ireland, New Zealand, and Finland ranking first. The citation rate was used as an indicator for research quality. The NewQIS project (New Quality and Quantity Indices in Science) elected telemedicine as a primary research focus and established an in-depth scientometric study. The study revealed that research groups from the US maintain a leadership position in research productivity concerning telemedicine, along with Great Britain and Canada, with over 56% of all publications originating from these three countries. The USA has a significantly lower output than the UK, with a publication ratio of approximately 4.3 publication/1 m residents. Australia, Norway, and Finland have comparatively high publications ratios, possibly due to territorial states with higher population density. The study provides a first precise international bibliometric evaluation of telemedicine-related research, highlighting the importance of telemedicine in countries with limited health systems or occupational offshore settings.

[16] Telemedicine has become a popular method for providing primary care during healthcare disruptions and has accelerated during the Covid-19 outbreak. A

review of 36 studies analyzing telemedicine use from December 2019 to December 2020 found that 31% of studies reported high patient satisfaction scores. Eight studies reported satisfaction from both providers and patients without a uniformly accepted assessment instrument. Most studies were conducted in the USA, followed by Europe. Less than one-third of studies were controlled before/after studies. The study concluded that satisfaction rates are high, consistent with previous research, and utilization rates increased significantly compared to the pre-pandemic period. Future work should focus on developing standardized uniform assessment instruments embedded with each telemedicine system to increase versatility, agility, and statistical power in the assessment process.

[17] The study explores the factors influencing individual behavior towards telemedicine adoption during the COVID-19 pandemic. It uses the extended unified theory of acceptance and use of technology (UTAUT2) and DeLone and McLean information success model. A quantitative research design was used, with 350 valid responses from Pakistani citizens. Results showed that performance expectancy, social influence, effort expectancy, facilitating condition, habit, hedonic motivation, price values, information quality, system quality, and service quality explained 77.9% of variance in user behavior towards telemedicine adoption. The study contributes to e-health literature by suggesting that improving user performance expectancy and effort expectancy can boost user confidence towards telemedicine adoption.

[18] Telemedicine has become a popular medical model due to the development of the Internet and information technology. A scientific metrological analysis was conducted to identify hot spots and frontiers in telemedicine, focusing on its application, system, and services. The study retrieved 19,171 articles related to telemedicine published from 1971 to 2022 from the Web of Science database. The number of publications has been increasing since 1993, with the COVID-19 pandemic causing a double-digit increase in 2020. The United States produced the most articles (43.4%), while Greece demonstrates significant development potential. The main research topics identified include the application, system, and services of telemedicine, the application of telemedicine in providing medical services to rural and remote areas, the quality control of medical images in telemedicine, the application of telemedicine in chronic disease care, and the comparison of in-person medical care and telemedicine. Emerging topics include the application and impact of telemedicine during the COVID-19 pandemic.

[19] Telemedicine, which is delivering of medical care no matter the physical distance, has been a huge obstacle to overcome this century facing health disparities. Telemedicine has got high prevalence in the consumer psyche due to the COVID-19 pandemic and now it enables treatment of patients at their homes beyond imagination. But increasing the scope of telemedicine use happened to be connected with the new problems, some of which escalated the gap in general. Telehealth covers all health services which are delivered through telecommunication technologies and present different users such as browsing websites which are informative and audio-video visits between a physician and a patient. Telemedicine's success is dependent on its sustainability, including reliable technologies, broadband access and sufficient specialized knowledge. Dubious health care personals must be trained in telehealth efficiently and at a faster speed to guarantee successful and quality care delivery. The black and latinx persons are also less likely to have guaranteed access to the telemedicine services but also they more likely to get COVID-19 infections. Next step will be closing the digital gap, pointing out the chances for equity across the community, and assesing the other remote categories of rendering healthcare services. Successful tele-care in cancer patients can be reached by a careful diagnosis of need and resources for the implementation of the decisions that the telemedicine implementation requires.

Table-1: Factors That Influence Telemedicine Adoption

Patient Demographic Factors	Technological Factors	Patient and Clinician Factors	Health System Factors
Race, Ethnicity, Age, Sex, Education	Stable broadband access	Digital literacy	Seamless in-person to telemedicine workflows
Geography: rural, frontier, dense urban	Smartphone or digital device access	Appropriate digital access training	Ongoing and appropriate data collection for continuous quality improvement
Literacy/digital literacy	User-friendliness: consideration of human factors	Trust in electronic communication and care	
Sequestered: facilities including incarcerated people		Health insurance coverage	
Culture		Ease of use	

[20] The pandemic of COVID-19 can be attributed indirectly towards the rise of telemedicine as a channel of communication between patients and healthcare

providers. Yet telemedicine has many significant challenges to overcome such as the technical issues, personal of these and the data confidentiality, the insurance reimbursement, the physical examinations, the populations with special needs, the training, the doctor-patient relationships, and the general acceptance. A thorough systematic review of 1194 papers found 27 studies, where 12 technical issues, privacy, data confidentiality, cost-effectiveness and reimbursement, physical examinations, special populations, training, clinical relationships, and acceptability were itemized as main barriers. Low internet connection, no policy for universal access to technology, patient privacy and reimbursement issues, in addition to training for healthcare providers and patients is another limitation that prevented telemedicine from gaining wider-spread use. The study asserts a collaborative effort between health care providers and stakeholders to grasp the telemedicine use reality and research & policy recommendations to optimize telemedicine utilization.

[21] A study conducted in a single, urban, tertiary, academic medical center and located in New York City found an 87 percent increase in video visit utilization during a period of COVID-19 compared to the similar time last year. When patients rated their video visit experience through a systematic Press Ganey survey, they rated it as better than they had rated an in-person visit (94.9% compared to 92.5%; P<.001). Age under youth, female gender, and new client visit were revealed to be the factors that negatively affected patient satisfaction levels. The research looked into patient attitude towards video visits by way of Press Ganey patient satisfaction ratings for in-person vs through video frames at a tertiary, urban, quaternary consideration, academic medical center. The output of the mentioned consideration does not even compare to the redundancy of telemedicine visits when both are equally accessible, by the disadvantages which are discussed below. The study has shown that patients are satisfied with remote visits at the same level or even higher than personal visits for last year and for the pandemic period as well. The New York City experience might does not only give the consideration of terms for the use of video visits as the latest model or the new paradigm of health care systems globally.

[22] The Indian peninsula, spanning 3 million square kilometers and with a population of over 1 billion across 29 states and six union territories, has a diverse landscape. Government-supported healthcare delivery follows a three-tier system, with no national health insurance policy. Telemedicine technology has the potential to provide healthcare access to rural populations and farflung areas, and many technical ministries of the Government of India have been experimenting with telemedicine pilot projects since early 2000. The Ministry of Health and Family Welfare has adopted telemedicine into the National Rural Health Mission, an initiative focused on improving the rural healthcare delivery system. The Department of Information Technology (DIT), Ministry of Communications and Information Technology, and the Indian Space Research Organization (ISRO) are steered in establishing several telemedicine nodes all over the country. Successful telemedicine pilot projects implemented by DIT include the telemedicine network in West Bengal for diagnosis and monitoring of tropical diseases, the Oncology Network in Kerala and Tamil Nadu, the network for specialty healthcare access in rural areas in Punjab, Maharashtra, the hilly state of Himachal Pradesh, and the North-Eastern region. ISRO's satellite-based Telemedicine network through Indian Satellite System (INSAT) now includes 315 hospitals, 271 remote/rural district hospitals/health centers connected to 44 superspecialty hospitals in major cities, and ten mobile tele-ophthalmology units.The Government of India is planning and implementing various national level telemedicine projects and deploying mobile and fixed telecenters within the country to provide healthcare facilities to the remotest and poorly accessible areas of the country.

3. Conclusion

Telemedicine now is crucial part of modern medicine, and the pandemic has in fact brought that experience to the planet as the best thing that can ever happen. This work should be considered as a well-rounded review of the current telemedicine ecosystem that touch upon efficacy, cost-effectiveness, healthcare professional views and the patients' point of view. A research analysis of different sources reveals the fact that via telemedicine a person can have access to distant healthcare services, it tackles health inequities, and is a cheaper option at the same time.

Investigations of Barnett et al., Wilson & Maeder, and Vis et al. has provided insights into the trends and innovations of telemedicine. Results of health technology assessment indicates that telemedicine can be a possible solution for the primary health care issue and also the quality of services. Poeran et al., Leite et al. and Tachakra et al. [4,5,6] all did studies on the topic of inequities in healthcare, the expansion of telemedicine, and the evolution of mobile E-health into the healthcare programs. Moreover, other studies by Wurm and colleagues, Eminovic and colleagues, and Vogt et al[9,10]. have evaluated telemedicine consults in specific subspecialties such as telelownology, genomic counseling, and the effect of COVID-19 on telemedicine utilization, which brings to light their role in enhancing and efficacy of care for patients.

Additionally, articles by Magann et al, Fatehi & Wootton, and Agbali et al[11,12,16]. which assisted

obstetrics, bibliometric analysis, and satisfaction assessment have underlined the role of telemedicine. The studies serve the purpose of studying the reason behind telemedicine usage in health care and biomedical operations, barring research interests and user satisfaction among the healthcare professionals.

This article looks at telemedicine through the radical lens and talks about the advantages it brings to the medical delivery today. The paper enriches the discussion on telemedicine and its outcomes by referencing numerous researches, exploring different aspects of telemedicine, and includes health care provider (doctors) perspective and patient views. Besides, further research and policy consideration should be the matters that are necessary to make sure that telemedicine is fully exploited reaching its potential and becoming part of the health systems in the world.

Furthermore, analyses by Lopez et. al and Ftouni et. Al [21] revealed bottlenecks and facilitators, stressing that access to internet and mobile devices is crucial, a secure connection is mandatory and a rapid train of healthcare professionals is needed. Making correct distribution of access and a right manner of care provision are among the most important things in telemedicine success stories. Radhakrishnan and his colleagues found that video visits during pandemic COVID-19 were highly satisfactory to patients which could turn them into a valuable tool in healthcare delivery[22]. Interdepartmental cooperation among the healthcare providers, community stakeholders, and respective authorities should address the problems regarding the implementation and optimization of telemedicine implementation.

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