

## **Telemedicine: The Effect on Patient-Physician Communication**

### **Abstract**

Many hospitals and clinics have been forced to convert to telemedicine, the use of electronic communications to provide healthcare across distances, in order to continue treating patients during the COVID-19 pandemic while also maintaining social distancing. This has had a huge impact on the future of telemedicine due to its increased acceptance and implementation, leading to many questions about the efficacy of telemedicine. Because communication between the patient and doctor is a fundamental aspect of treatment in medicine, this research article will examine the impact telemedicine has on communication with and treatment of patients. This will be achieved by analyzing three different studies that examine the opinion of nurses, the opinion of patients, and observe telemedicine consultations from an unbiased view to find the advantages and disadvantages of telemedicine on patient-physician interaction and communication. The opinion of a medical student who uses telemedicine to treat patients at her clinic will also be analyzed. All these studies and the interview with the medical student reveal that although telemedicine was beneficial for its accessibility, physicians had concerns with the lack of nonverbal cues. Furthermore, patients found it harder to speak up, had to ask the physicians to repeat more often, and found that consultations were dominated by physicians. However, more studies need to be conducted to see if these issues with communication impact patient treatment outcomes.

### **Introduction**

Since the COVID-19 pandemic, hospitals have been faced with the dilemma of providing healthcare to those affected by COVID-19, trauma patients, and those suffering from acute and chronic diseases while also keeping healthcare providers safe (Bashshur et al., 2020). For this

reason, health systems around the world have resorted to telemedicine to provide care for patients while abiding social distancing to reduce the spread of the virus. According to a report by the Assistant Secretary for Planning and Evaluation (2020), in February 2020, before the public health emergency, 0.1% of Medicare primary care visits were provided through telemedicine while in April 2020, it jumped to 43.5% (ASPE, 2020). Furthermore, in a survey conducted during April 2020 involving 300 practitioners, practitioners mentioned that only 9% of their patient interaction was via telemedicine before the pandemic. During the pandemic, this increased to 51%, and physicians expect it to stay at a high 21% after the pandemic ends (ASPE, 2020).

These reports show that the pandemic has had a significant impact on the future use of telemedicine by accelerating its widespread implementation and acceptance, leading to important discussions about the future of health care and patient-centered care (ASPE, 2020). For this reason, this research article will be addressing if telemedicine is an effective way of communicating with and treating patients in clinics and hospitals. This will be achieved by analyzing an interview with medical student Darshna Anigol and evaluating three different research studies that look into the physician's perspective, an unbiased observation, and the patient's perspective. All these studies and the interview reveal that while telemedicine offers greater accessibility, it also leads to many issues with communication between the patient and physician due to the lack of nonverbal cues, difficulty in the patient understanding the physician, consultations being dominated by physicians, and difficulty for patients to speak up; however, more studies involving a larger participant pool need to be conducted in order to determine if these issues with communication impact treatment outcomes and patient health.

## **What is Telemedicine**

Telemedicine is described as the use of electronic communications to provide healthcare across distances (Committee on Pediatric Workforce, 2015). This was first inspired by the National Aeronautics and Space Administration (NASA) manned space-flight program designed to overcome time and distance barriers through research on telecommunication systems for biomedical uses (Zundel, 1996). This would help to constantly monitor heart rate, blood pressure, respiration, temperature, and for treating medical emergencies during flights. NASA's research on having a physician monitoring, diagnosing, and treating astronauts in space inspired the need of a physician to do the same for a patient in a remote location (Zundel, 1996).

The second major influence for developing telemedicine was through the creation of television. In 1964, the first interactive video link was established between a hospital in Nebraska and another hospital 112 miles away (Zundel, 1996). A few years later, Boston was linked to Massachusetts through the first telemedicine system in which physicians could meet patients or other physicians. All these advances proved that diagnosis, treatment, and transmission of medical records were possible remotely (Zundel, 1996). However, although the discovery and implementation of telemedicine has proven its usefulness due to increased accessibility across distances, its impact on communication between physicians and patients needs to be further analyzed since communication is a fundamental aspect of treatment.

## **Communication in Medicine**

Communication is one of the most important aspects when working with and treating patients in medicine. An effective conversation between the patient and doctor helps the doctor understand what the patient is thinking and feeling, allowing them to build a meaningful and trustworthy relationship with the patient and increase patient satisfaction (Markides, 2011). This

is important because it positively impacts patient's compliance, "psychology, mental health, tolerance power and quality of life" (Ranjan et al., 2015). This kind of proper communication is achieved when both the patient and physician feel comfortable in talking, convey each other's message without misunderstandings, and understand each other's emotions and intentions.

Furthermore, effective communication not only consists of a verbal component that many primarily focus on, but also involves equally important paraverbal and nonverbal components. In fact, the verbal component only constitutes 10% of the message delivered whereas non-verbal and paraverbal components contribute 90%. According to Ranjan et al. (2015), "non-verbal component includes body language like posture, gesture, facial expression and spatial distance. Paraverbal component includes tone, pitch, pacing and volume of the voice." Since telemedicine consultations do not involve normal in-person conversations, some of these crucial aspects of effective communication may be disrupted, leading to issues in treatment or establishing a proper physician-patient relationship.

### **Communication Through Telemedicine**

In a study conducted by Barbosa and Silva (2017), nurses' perception on interpersonal communication with patients during telehealth appointments were evaluated and showed that nurses felt communication with patients is hindered due to lack of nonverbal cues. Qualitative research was conducted through seven nurses using telemedicine in Brazil that filled out an open question survey at the end of a consultation. Through the analysis of these responses, Barbosa and Silva (2017) conclude that nurses believe that communication is a crucial aspect of treatment in medicine; however, this may be negatively impacted when using telemedicine. While nurses believed that telemedicine helped with their professional practice, many complained that it was

much more difficult to communicate with patients because there was difficulty in perceiving nonverbal cues.

The study by Barbosa and Silva (2017) reveals a significant problem hindering communication in telemedicine consultations: the lack of nonverbal communication. Without nonverbal communication, some of the most fundamental aspects of proper communication such as visual and tactile cues are disrupted. This makes it very difficult for the provider to read the patient's emotions, gestures, facial expressions, and other body language, which all very important for providing effective healthcare. This kind of improper communication between the provider and patient could negatively impact the physician-patient relationship and hinder treatment.

Moreover, the nurse's sentiment during the study were matched by medical student Darshna Anigol, a UCDSOM medical student who is a co-director at Shifa Clinic. At Shifa Clinic, Anigol treats patients who come in with various problems through physical exams, prescribing medication, assessing complaints, counseling, and conducting tests. Since the COVID-19 pandemic, Anigol has had to treat patients through Zoom, a web-based video conferencing tool, or phone consultations. Anigol expressed how these telemedicine consultations have caused several communication issues with her patients. For example, communication can be hindered by bad Wi-Fi, miscommunication with the translator since she can't see the translator and read her expressions and the translator can't see the patient, and personal questions feeling impersonal since patients cannot read her expression. Furthermore, the biggest issue Anigol brought up was being unable to read non-verbal communication cues, such as wincing in pain, emotions, or gestures. While paraverbal and verbal communication is oftentimes uninterrupted during telemedicine consultations, she relies heavily on nonverbal cues

to understand when a patient feels uncomfortable with a topic, to read emotion, to direct the conversation, and to treat the patient. Due to these reasons, Anigol feels that communication and treatment through telemedicine are more difficult compared to in person appointments.

In a similar study, Agha et al. (2009) documents the effect of telemedicine on physician-patient communication and reveals that communication may be impeded due to the patient's passive role and increased patient confusion. In the study, 19 patients requiring pulmonary consultations were used. Of this group, 11 patients received telemedicine consultations while 8 control patients received in person consultations. Video recordings were taken of both consultations and were coded by an analysis system for verbal and non-verbal communication patterns. The study showed that there was physician verbal dominance, there were more requests for repetition, and physicians used less orientation statements, telling the patient what is going to happen, during the telemedicine consultations. Through the study, Agha et al. (2009) concluded that telemedicine consultations were more physician centered since physicians tended to control the dialogue while patients were passive, leading to a difference in physician-patient communication.

The study by Agha et al. (2009) emphasizes the idea that telemedicine consultations oftentimes negatively impact physician-patient communication due to patient confusion and physician dominance. Patient's increased requests for repetition reveal that there is increased difficulty in hearing or understanding what the physicians are saying. Furthermore, orientation statements help physicians tell patients what will happen during the consultation. The decrease in orientation statements during telemedicine appointments could lead to further patient confusion. Also, physician dominance shows that patients feel less comfortable speaking up and participating during the consultation, making consultations more physician centered. All of these

results further emphasize how telemedicine consultations impede open communication between physicians and patients. However, more research would need to be conducted in order to determine if these differences are significant and affect patient health outcomes and patient satisfaction with care as the following study aims to achieve.

In this study, Gordon et al. (2020) explores patient's perspective on the patient-provider interaction during telemedicine visits and shows that most patients felt uncomfortable and unable to speak up. 27 patients who received care for type 2 diabetes mellitus through telemedicine consultations were interviewed for their perspective on barriers and facilitators to communication with physicians. Results showed that patients generally expressed satisfaction with the telemedicine appointments due to better access, shorter travel, and less waiting. However, some expressed concern because they felt like the physician was paying less attention to them, felt uncomfortable in speaking up to ask questions, and felt unable to establish a provider-patient relationship. Furthermore, patients felt less involved during the visit, could not find opportunities to talk, and felt rushed. Through these results, Gordon et al. (2020) concluded that patients believe telemedicine appointments can improve access to care but may negatively impact accuracy of care and communication with their provider.

This study by Gordon et al. (2020) investigates the patient's perspective and reveals that patients feel communication is hindered during a telemedicine appointment. This is shown by how patients feel that they cannot speak up due to feeling rushed or uncomfortable. Because of this, patients become less involved during the appointments and conversations become driven by the doctor. This once again emphasizes how effective communication is greatly hindered between the patient and doctor during telemedicine appointments and could negatively affect the

patient-physician relationship. Further research would need to be conducted to study how this changed relationship would impact patients' treatment outcome in the long run.

## **Conclusion**

All three studies and the interview with Darshna Anigol show through different perspectives that telemedicine leads to many unresolved issues with physician-patient communication due to the lack of nonverbal cues, increased patient confusion, physician-dominated consultations, and increased patient discomfort in speaking up. Despite this, in a time where social distancing may prevail for many more months to come and many underserved communities do not have equal access to healthcare, telemedicine will continue to grow and play a crucial role in treatment due to its accessibility. Due to the impact of communication issues on patient care, they should be further looked into and studied during telemedicine consultations in order to determine if they impact treatment outcomes and make changes accordingly. By addressing these issues related to communication, telemedicine has the possibility of improving health equity and treatment within the healthcare system.



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