

Techniques of establishing efficient doctor-patient interaction at telemedicine consultations

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Abstract. This article covers a comprehensive study into preparations for and the conduct of telemedicine consultations that would provide for arranging and conducting high-quality remote sessions between a doctor and a patient. The purpose of our study is to detect the factors that have a positive impact on the healthcare services provision level, and to establish a procedure of conducting telemedicine consultations that would allow a clinic to provide medical health quickly, safely and with proper quality and to improve its customer focus. The work is novel in that such studies aimed at defining a telemedicine consultation algorithm have not been carried out in Russia before, therefore, the Department of Medical Informatics and Telemedicine of the Institute of Medicine at the RUDN University decided that it was necessary to hammer out a methodology of medical services provision. As part of the study, we viewed and analyzed pre-recorded telemedicine consultations and put together an expert team consisting of experts in various areas of medicine, as well as of patients. As a result of that work, this article lists and defines common mistakes that lead to conflicts and erode patients' trust in a clinic, catalogues stages of preparation for a telemedicine consultation making it possible to reduce the number of errors in remote consulting and devises obligatory techniques of remote medical aid.

Keywords: Remote learning; Telemedicine; Telemedicine Consultations; Customer focus of a clinic; Remote medical aid.

1. Introduction

The use of innovative digital technologies is gaining momentum in healthcare. They are applied widely in developing new medical equipment, in inventing new medicines, and in testing scientific studies. The latest developments worldwide, namely, the COVID-19 pandemic, have given an impetus to introduction of digital technologies and made it necessary to use telemedicine.

Telemedicine consultations, which essentially means remote interaction between a doctor and a patient, enabled clinics to provide medical aid quickly and on a high-quality level. Online consulting helps prepare a patient for a physical appointment with a doctor, collect their medical history, appoint treatment, and monitor a patient throughout the period of medical services provision.

Telemedicine consultations often get challenged, as online interaction is a totally unfamiliar format of doctor-patient communication. Nevertheless, as part of an experimental legal framework on digital

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technologies introduced in Russia in 2021, doctors are allowed to provide full-scale remote medical services, including diagnosing, without having a physical appointment, to all patients aged 18 to 65.

The Department of Medical Informatics and Telemedicine of the Institute of Medicine at the RUDN University studies interactions between a doctor and a patient and elaborates new professional communication standards. Among other things, we put together new telemedicine application rules. A new regulation is needed to arrange safe and high-quality remote contacts between a doctor and a patient.

2. Methods

The purpose of the study is to work out a regulation that will help a health worker get prepared for a telemedicine consultation and provide aid to a patient. Our study started with looking for answers to the following questions: does remote provision of medical aid have proper quality? How efficient is doctor-patient interaction? Does the patient get all the required aid? The conclusions that would be made from the study were supposed to lay the foundation for the regulation that we would like to propose to clinics in the future.

We decided to have 50 pre-recorded telemedicine consultations as the subject of the study. Our choice in favor of existing recordings was driven by the fact that we were planning to go through the recorded material an indefinite number of times. It also must be noted that we selected the consultations done by specialists of various areas of medicine so that the scope and results of the study would be as broad as possible.

To carry out an in-depth data analysis, we put together an expert team consisting of doctors and psychologists. We chose this approach because we wanted the doctors to get an outside perspective on the work of their peers and make an unbiased assessment of what their colleagues had done, and the psychologists were expected to analyze the reactions of both parties and define key points of interaction.

All the specialists had physical team meetings to watch the pre-recorded material. Having polled them, we were able to expose the most common errors in running telemedicine consultations and to team up with them to elaborate the rules that would improve communication quality and ensure patient's unconditional trust in doctors.

3. Results

Based on the viewed recordings and many hours of discussion with specialists, we exposed a similar tendency in all doctors: they tend to keep their distance from the problems that their patients have; they tend to be cold and do not show empathy towards their patients; as a result, provision of aid looks like a formality. Moreover, the equipment used in carrying out telemedicine consultations fails to meet minimal quality standards: it is often difficult to see and/or hear the doctor, and internet connection is poor. Having received such aid, a patient typically refuses to get another appointment.

Eighty percent of communication among people is non-verbal. This is what defines the atmosphere of the communication, helps figure out emotions of the other party, and enriches the meaning of the words pronounced.

The non-verbal message conveyed by the doctor can be improved in terms of quality if we investigate the visual aspect of a telemedicine consultation and the appearance of the health worker.

3.1. Background and outfit

A patient starts developing his/her opinion of the doctor and the clinic from the first second of the online consultation. An improper appearance and inability to establish a dialogue on the side of the doctor may cause a conflict and increase the risk of getting a poor medical outcome. Attention should also be paid to the location the specialist uses for the telemedicine consultation and the outfit he/she has on. The patient should get an impression that he/she is connecting to a clinic, not to a home. A no-frills scenery typical of a clinic will convince the patient that the specialist is at his/her workplace and ready to listen.

As a necessary and minimal condition, this requires having a neutral background that is darker than

the classic white coat of a health worker. If a white wall is chosen as the background, the outline of the doctor will be blurred, as the image will fade, and the non-verbal message communicated to the patient will become weaker.

If a health worker is wearing dark clothes, the background may be bright to make the image sharper.

Examples of right and wrong backgrounds are available on Fig.1.

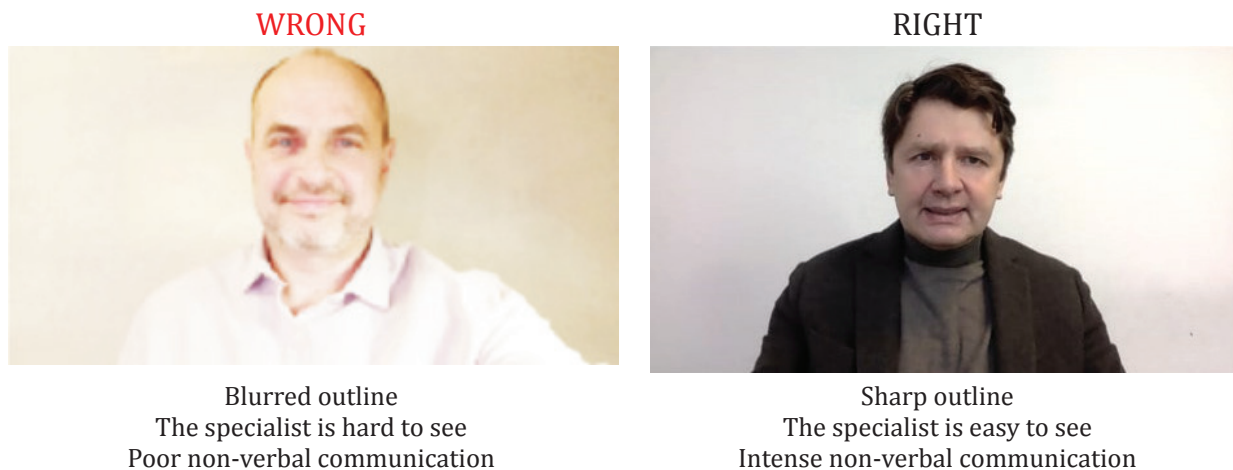


Fig.1 Choosing the Background for Telemedicine Consultation

3.2. Eye contact with the patient and the doctor’s position in the frame

The position of a doctor in the frame was another error encountered frequently in the viewed telemedicine consultations. The patient mostly sees a “talking head,” or sometimes even a part of the head, shoulder, or body (see Fig. 3.). This communication format ruins the connection, as the patient cannot trust a person whom he/she cannot see.

Because of this problem, there is no eye contact, which is the most important aspect of any communication. For the patient to have trust in a specialist, the doctor must look the patient in the eye. This can only be achieved by looking right in the camera on the computer screen. Do not get distracted by your own image on the monitor, as the patient will see that your attention veers away from what he/she says, and the newly established contact may fall apart.

Having gone through all the recordings, the expert team noticed the same tendency in all doctors: they are asking questions mechanically, always looking at the computer screen. This is perceived by the patient as lack of empathy towards himself/herself and their problem. When a poll was organized among patients of the team, most of them said they had felt no interest and engagement on the side of doctors. The polled patients said they were not willing to go for another remote consultation (except for those who live far away from any clinics and have no other opportunity to see specialists, i.e., extreme cases).

Let us elaborate on the recommended position in the frame (see Fig. 2). The doctor should be positioned in the frame so that his/her face and shoulders could be easily seen. This position helps the patient feel a stronger presence and engagement of the doctor.



Fig. 2 Doctor’s Position in the Frame and Eye Contact with the Patient

3.3. Illumination

Another problem is insufficient lighting, which also ruins the communicative and emotional contact during a telemedicine consultation. A specialist should be illuminated in a proper way, but one must be careful to avoid overbrightness. This is easy to achieve if a doctor assigns a proper telemedicine area in his/her office. They are advised to sit next to a window so that the light would fall on their face, and turn on the electric light, if natural light from the window is not enough. If the doctor sits with his/her back to the window, this position is not right, because his/her face will not be seen because of overbrightness (See Fig. 3).

If the light from the window and overhead electric light are not sufficient, it is recommended to buy circular lamps for internet livestreams with controlled brightness and light temperature. They will help avoid overbrightness or distorted coloration.



Fig.3 Face illumination example

3.4. Internet connection

Prior sections covered in detail the way that the patient sees the doctor. However, the devices used for telecommunication and the ways to establish proper internet connection are no less important. An unconfigured PC, background noises, and poor internet connection have also been the reasons why communication fails and the patient refuses to obtain more services from a clinic.

Contact must be perfect when human health is at stake, even though the two persons are divided by the monitor screen. To minimize risks of connection failure, a desktop PC with a web camera or a laptop with an inbuilt camera must be used. A smartphone or tablet are not fit for professional contacts with patients, as these devices may lose internet connection; moreover, they imply informal contacts, not professional medical consulting. Using an internet cable is also advised to ensure uninterrupted connection via a Wi-Fi router.

4. Discussion

A small number of patients in the study team maintained that it did not matter whether a doctor was easy to see in the frame and how he/she conducted himself/herself. Their matters of concern were whether the doctor was qualified enough, whether he/she collected enough medical history and appointed treatment in a proper way. This opinion was offered in situations when a patient had an acute pain and needed emergency aid. However, all experts in the team agreed that when the doctor was tasked to study a chronic or current condition, he/she needed to have a higher-quality contact and collect reliable and unbiased data on the health status, symptoms, habits and lifestyle of a patient. This is only possible when there is an established doctor-patient communication.

At the same time, getting the light and visual aspects of a telemedicine consultation right is only the first step in developing high-quality communication.

Together with the expert team, we exposed the following areas that also need study and regulation to improve the quality of medical aid.

The next step is to elaborate a proper structure of a dialogue so that its positive atmosphere would build unconditional trust in the doctor. For example, the doctor is advised to greet the patient by his/her name and engage briefly in a small talk (a short conversation made up of a set of questions about the patient that is aimed at warming up the atmosphere at the very beginning of the meeting) before starting to collect medical history, appoint treatment or refer the patient for further examination.

Having studied nuances of doctor-patient communication, our department has worked out an eight-step pattern that allows the doctor to communicate properly with a patient, build trust and get reliable information at the medical history collection stage. These techniques will prepare clinic personnel for doing high-quality telemedicine consultations on a regular basis. This method helps fine-tune provision of telemedicine services and improve the customer focus of a clinic. In addition, we will touch upon selecting online platforms and setting up the workstation and other technical devices that will ensure uninterrupted provision of telemedicine consultations and make it possible to industrialize it.

5. Conclusion

Our study proves that errors in arranging doctor-patient communication may result in conflicts and ensuing loss of trust in the doctor and clinic. It is important to think about the visual aspect of the telemedicine session because it may define the success of communication. Lack of eye contact, a dark room, poor internet connection are the factors that affect the quality of medical services. Such mistakes can be avoided by following a regulation on telemedicine consultations, especially given that they are becoming an integral component of medical aid.

When an efficient contact between a doctor and a patient is in place, it helps:

1. Establish trusted and high-quality communication at the first meeting;
2. Collect accurate medical history, appoint treatment and/or refer the patient for further examination;

3. Convince the patient that he/she is dealing with a highly professional doctor, clinic and medical technologies;
4. Promote the clinic as an organization that takes good care of its patients;
5. Take doctor-patient interaction to a new quality level;
6. Teach doctors to arrange efficient and high-quality remote contacts with patients and, consequently, boost patient loyalty.

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