

Telemedicine – assesment of society's opinion

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Abstract

During the COVID-19 pandemic, it is necessary to use some safety measures due to decrease spreading of the virus. One of them is introducing teleconsultations as a form of medical consultation. It allows patients to talk with the doctor without visiting the hospital.

The aim of the study is to present the society's opinion on teleconsultations and its most common disadvantages. The method of the study was an online survey, conducted on 68 people, whose answers were statistically analyzed.

During the pandemic, 85% of the respondents took part in the teleconsultation. After that, they rated quality of the teleconsultation form 1 to 5, where 5 was the highest rate. Only 26,8% of them rated their teleconsultation 5, 17,9% - 4, 16,1% - 3, 26,8% - 2 and 12,5% - 1. Most of the respondents decided to take part in the teleconsultation because they needed a prescription (53%).

According to respondents' opinion, the most important advantages of the teleconsultation are: ability to stay home (59,7%), lower risk of infection (35,8%), quick help (22,4%) and ability to have the prescription without going out (73,1%).

The most important disadvantages were: lack of ability of physical examination (91%), problems with communication (40,3%), problems with describing their own symptoms (43,3%), problems with contacting a doctor (58,2%) and higher risk of wrong diagnosis (82,1%).

Teleconsultations provide patients' safety, however, they are associated with danger of the wrong diagnosis. Although, most patients (73%) would like to be able to take part in the teleconsultation after the pandemic. Because of that, it is crucial for modern medicine to improve the quality of teleconsultation and to learn, how to communicate with patients during the remote conversations.

Key words: medicine, teleconsultation, pandemic

1. Introduction

The COVID-19 pandemic undoubtedly became the most important event of the year 2020. During the pandemic, it became necessary to implement technologies letting patients consult with their doctors without face to face contact. Those actions were taken to decrease the

probability of spreading the virus in clinics or hospitals. It made telemedicine a popular way of contacting with doctors.

Telemedicine is the exchange of medical information from one location to another using electronic communication, which improves patient health status. Telemedicine has multiple applications and can be used for different services, which includes wireless tools, email, two-way video, smartphones, and other methods of telecommunications technology. [1]. This solution has a lot of advantages, including: no need to leave house or travelling long distance to see a doctor, ability to get a prescription without leaving house, smaller risk of COVID-19 infection and ability to get quick consultation, without waiting in a queue.

However, telemedicine has also a lot of disadvantages, that traditional consultations do not have. Undoubtedly, the biggest threat is the fact, that doctor cannot provide a patient's physical examination, what can cause a wrong diagnosis. It must be noted, that patients often have problems with communication and describing their symptoms [2]. Despite of that, it is a solution, which is necessary to control infections rate and the amount of hospitalizations.

At the end of August 2020, Health Minister of Poland prepared some regulations according to telemedicine as a prime care [3]. In addition to that, the national consultant of general medicine, Agnieszka Mastalerz-Migas, published recommendations according to using telemedicine as a prime healthcare during the pandemic. Those recommendations are related to most of the important issues, for example a way of patients' registration or work organization standards. They also describe specifically, in what cases patient should come for a face to face visit [4]. Those recommendations were published after a few months of using e-consultations and a vast majority of patients has already made up their minds on that issue. Unfortunately, some organizational issues, related to the early stages of developing telemedicine in Poland had a negative influence on patients' opinion, what can be shown in our research.

As it turned out in practice, Poland is not well prepared for conducting e-consultations on such a scale. Patients complain about numerous problems that start already at the stage of registration in the clinic, and the media report on further cases of misdiagnosis or tragic consequences of lack of access to medical advice. Specialists alert that for the period from March 2020, the availability of access to medical advice has significantly decreased, and patients who reach them are often already at an advanced stage of the disease and should get medical help much earlier [5].

The society however has many doubts as to the effectiveness of telemedicine, complains about many problems with the availability of this form of consultation, and often also about technical problems related to making an appointment. This results in postponing appointments with doctors until the epidemiological situation stabilizes. This often has tragic consequences, especially when help is provided too late.

Telemedicine, despite its disadvantages, is so far one of the essential forms of preventing the spread of coronavirus among health care workers. This is important, due to the fact that direct contact with an infected patient can result in illness or quarantine of health care personnel, causing serious problems in access to medical care and increasing the shortage of health care workers. However, the system of remote advice should be improved, its universality should be increased and the most serious defects should be eliminated, as the majority of respondents (73%) would like e-consultations to become one of the forms of contact with a doctor even after the pandemic. The patients' opinion is also shared by specialists, who consider telemedicine to be a good solution - it speeds up and organizes their work better, and they would like to use this form of medical advice also after the end of the epidemic [6].

2. Material and methodology

In order to analyze the issue, a self-designed questionnaire was created, consisting of 17 questions. The first part of the survey contained questions about the respondent, including age, place of residence and gender. In the second part of the survey respondents answered questions directly related to the topic of the study, describing their experiences with the use of teleportation. The survey was conducted online, using tools provided by Google (Google Forms). Facebook was used to distribute the survey.

The first four questions were aimed at establishing the socio-demographic profile of the respondents and concerned, in particular, the following: age (open question), gender (closed question with division into two genders), place of residence (closed question with options to choose from: village, town with population up to 50 thousand, town with population between 50 and 150 thousand, town with population between 150 and 300 thousand, town with population over 300 thousand) and education (closed question with options to choose from: primary, secondary, university, during studies).

The second part of the survey was designed to explore respondents' opinions on the use of telemedicine. It included questions designed to determine whether respondents had used e-consultations before and during the pandemic, and how they rated their experience.

Question five determined whether the respondent had used e-consultation prior to the COVID-19 pandemic, and the next question addressed to those who had, how they rated the quality of the teleportation received on a five-point scale, where five meant very good and one meant very bad.

The seventh question, also directed at those who had used e-consultation before the pandemic, was designed to determine the reason for using this form of consultation. The question allowed participants to select one of the prepared responses (not needing to leave home, not being able to leave home, wanting more information after the visit, needing a prescription, embarrassment about seeing a doctor) or add their own option.

Question eight asked whether respondents had used telemedicine during the COVID-19 pandemic, and the next question, as before, allowed respondents to rate its quality on a five-point scale. The tenth question asked respondents to provide a reason for using e-consultation. The structure of this question was similar to the one described above, which was addressed to people who used telemedicine before the pandemic.

Question eleven was designed to identify the benefits of e-consultations. It contained pre-prepared answers from which respondents could choose (no need to leave home, less risk of exposure to disease, speed of help obtained, ability to obtain a prescription without leaving home, lower cost than a traditional visit) and the option to provide their own answer. The next question was similar in format, but addressed the disadvantages of telemedicine. Prepared answers included: inability to perform a physical examination, problems communicating with the doctor, problems describing one's own ailment, higher risk of incorrect diagnosis, and problems calling the doctor. In this question there was also an ability to add your own answer.

Question thirteen was to determine if respondents would like to see e-consultations as a way to make a doctor's appointment after the pandemic ended. The next question aimed to determine in what situations respondents would like to use e-consultations after the end of the pandemic. The answer choices were: anytime with any specialist, prescription only, if they wanted more information after their appointment, if they were unable to see a specialist in person, or their own answer. Question fifteen sought to determine which medical specialties should be allowed to conduct post-pandemic e-consultations. The options prepared were: internal medicine, psychology/psychiatry, family physician contact, dental, all of the above, or own answer.

Question sixteen was a closed question and was designed to determine if the respondents had chronic illnesses. The last question, also a closed one, was used to examine the feelings of the respondents related to medical care. It was designed to determine if, in the patients' opinion, not being able to receive traditional health care during the pandemic had a negative impact on the respondent's well-being.

3. Results

Sixty-eight people participated in the survey. The majority of participants were women, with 62 respondents (91.2%); men comprised only 6 respondents (8.8%). The age of the respondents mostly ranged from 19 to 31; one person was 37 years old. The most common answer regarding age was: 23 years old (20.6%).

Most of the respondents live in the countryside - 25 answers (36,8%), then in the city over 300 thousand inhabitants - 22 answers (32,4%), in the city of 50-150 thousand inhabitants - 12 answers (17,6%), in the city of 150-300 thousand inhabitants - 6 answers (8,8%) and in the city up to 50 thousand inhabitants - 3 answers (4,4%).

Half of the respondents are studying - 34 responses (50%). 28 (41,2%) respondents have higher education, 6 (8,8%) respondents have secondary education.

Before the onset of the pandemic, only 4 respondents (5.9%) used e-consultations. Of these, two rated its quality on a 5-point scale as 4, meaning "good," and two rated it as 2, meaning "poor." The most common reason for using telemedicine prior to the pandemic was the need for a prescription, with 100% of respondents indicating this response. The second most common answer was not being able to leave the house - 3 people answered this way.

During the pandemic, 58 respondents (85.3%) used medical teleconsultation. E-consultations were most often rated as 2 (rather bad) and 5 (very good) - such answers were given by 15 respondents (25.9%). They were rated at 4 (fairly good) by 11 respondents (19%), at 1 (bad) by 8 respondents (13.8%), and at 3 (neutral) by 9 respondents (15.5%). During the pandemic, respondents most frequently used telemedicine for prescriptions with 30 responses (44%). Not being able to leave home or not having to leave home was the choice of 9 (13%) respondents for each response.

The most frequently cited advantage of telemedicine is the ability to obtain a prescription without having to leave home, with 49 (72%) responses. Not having to leave home is an advantage of e-consultations for 40 respondents (58%), and a lower risk of illness for 25 (36%) respondents. On the other hand, the most common disadvantage of telemedicine is the inability to perform a physical exam, which was indicated by 62 (91%) respondents. Respondents also believe that using e-consultations can lead to incorrect diagnosis - 56 (82%) respondents chose this option. Problems with contacting the doctor is the third most common answer, with 40 (58%) respondents selecting it. Still, nearly three-quarters of respondents - 50 (73.5%) - want e-consultations to be a tool used by doctors after the pandemic ends. According to the respondents, it should be used to: issue/renew a prescription - 47 (69%) responses, to obtain additional information after a visit - 32 (47%) responses, when an in-person visit is not possible - 22 (32%) responses.

According to 39 (57%) of the respondents, the possibility to use e-consultation should be available when contacting a family doctor. According to 16 (23%) respondents as a form of contact with a psychologist or psychiatrist, according to 13 (19%) respondents - as a form of appointment with any doctor, regardless of specialty.

More than half of the respondents (54.4%) does not have chronic diseases. According to 41 (60%) of the respondents, not being able to contact their doctor in person had a negative impact on their well-being.

4. Discussion

Telemedicine can have both a positive impact on the functioning of health care and lead to numerous problems associated with it. Study *The Risk and Opportunity of Telemedicine in Healthcare Management* focuses mainly on the risks associated with telemedicine. The main disadvantages of this system are: the lack of possibility of physical examination, less time and therefore less information available, advice given over the phone may be new to the patient, increased stress for the doctor, associated with the number of calls. The authors also point out the problems resulting from the use of video calls, such as poor image quality due to unstable Internet connection, lack of privacy due to lack of encryption in the most popular communication applications. The most common objections from patients to e-consultations were: long waiting time for diagnosis, lack of medical records, inadequate communication with the patient and his family, misdiagnosis due to missing medical records. The results of the above work also show the risks associated with the legal liability of medical staff - incorrectly conducted e-consultation may result in a lawsuit against the doctor. Therefore, improvement of the quality of tele-treatment is a key challenge for modern medicine [7].

However, telemedicine also has many advantages, one of the most important being the ability to early diagnose patients with COVID-19 symptoms. This prevents health care workers from being exposed to infected patients, which reduces the risk of medical staff being sent to quarantine. Reducing the risk of staff shortages also contributes to lower stress levels among health care workers [8].

The literature review conducted by Bokolo A. confirms that telemedicine is one of the branches of medicine that will grow rapidly in the upcoming years. Not only does it allow help to reach remote, low-populated areas, but it also allows patients to be assisted in crisis situations such as the COVID-19 pandemic. In addition, the use of telemedicine reduces costs and increases the efficiency of medical personnel. By reducing the exposure of healthcare workers to pathogens during an outbreak, it also reduces the risk of staff shortages, thereby relieving the burden on working physicians. However, it is necessary to continuously improve this method of consultation, to create new guidelines adapted to the epidemiological situation and, above all, to learn the correct communication between the physician and the patient [9]

The important role of communication in the physician-patient relationship is confirmed by numerous studies, reviewed by the authors of *Telemedicine and physician-patient communication: an analytical survey of the literature*. Communication plays a key role during e-consultations, when physical examination is not possible. The authors conducted a meta-analysis of 38 studies related to physician-patient communication during teleconsultations. The analyzed papers were mostly from the USA (21 papers), the others from the UK (6), Australia (4), Norway (3), Canada (2), Finland and Sweden (1 each). Most of the papers reviewed (80%) showed that telemedicine had more advantages than disadvantages. However, this was due to the fact that healthcare professionals are adequately prepared to perform e-consultations, which confirms the important role of learning how to communicate with the patient when training future physicians. However, further research should be conducted to identify the specific aspects of communication that should receive the most emphasis during learning [10].

5. Conclusions

Telemedicine has many advantages, the most important of which nowadays is reducing the risk of disease, but because it is a relatively new method of consulting with a physician, it probably has disadvantages as well. During the pandemic, teleconsultations can be a tool to pre-assess the need for face-to-face contact with each patient. This reduces the number of

patients visiting a doctor's office, thereby reducing the risk of infection of healthcare workers. Telemedicine also protects patients from infection, which is essential, especially for those at risk - the elderly and those with immunity issues. Such measures not only limit the spread of the SARS Cov-2 virus, but also prevent outbreaks in medical facilities, thereby reducing the number of infections among staff.

However, the survey shows that the average patients' satisfaction with remote advice is low, which is due, among other things, to a lack of trust in the diagnoses made by doctors on the basis of history alone and the difficulty to contact the doctor. Certainly, organizational problems related to the large-scale introduction of the teleconsultation system have also contributed to the patients' negative opinion. The most frequently mentioned disadvantages of remote consultations are the inability to perform a physical examination, and thus the risk of misdiagnosis, and difficult communication with the doctor. Respondents believe, however, that in certain situations telemedicine works better than traditional medical appointments, i.e. when a prescription is filled, or when a medical note or sick leave needs to be obtained. Most respondents would also like to see e-consultation as a form of contact with the doctor after the pandemic has ended, especially for psychological and psychiatric consultations.

The results of the study correlate with the results of the original survey, showing that telemedicine can be an effective way to develop physician consultations, which still requires continued development. Telemedicine can be effective for both physicians and patients, enabling better workflow and time savings for prescription extension visits.

However, continuous improvement in the field of telemedicine is crucial to ensure high efficiency and satisfaction for both the patient and the physician. Work on the development of this branch of medicine can provide measurable benefits to the health care system in the future and become a constantly used tool to speed up and facilitate communication between the patient and the doctor.

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