

# Patient satisfaction with tele-advice during the COVID-19 pandemic

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## Abstract

**Introduction:** The coronavirus pandemic has shed a whole new light on telehealth, which has become an alternative for diagnosis, monitoring, treatment and support without physical contact between patient and healthcare professional. The aim of this study was to examine patient satisfaction with medical services provided with tele-advice during the Covid-19 pandemic.

**Material and methods:** The study was conducted using our own questionnaire via Google Form that was correctly completed by 133 individuals between the ages of 18 and 76 years (mean 33.1 ± 13.1 years) who received medical services via tele-advice.

**Results:** Patients with chronic conditions were statistically more likely to seek specialist services via tele-advice ( $p = 0.003$ ). Slightly less than one-third of respondents ( $n = 39$ ; 29.3%) were asked during the tele-advice to attend the clinic / office in person to complete the visit with a physical examination. The vast majority of subjects ( $n = 95$ ; 71.4%) responded that their health status had not changed since the pandemic and the introduction of tele-advice. Nearly half ( $n = 64$ ; 48.1%) believed that their health problem had been solved via tele-advice. Only 4.5% of the respondents ( $n = 6$ ) strongly agreed with the statement that “tele-advice enables proper diagnosis and matching of effective treatment”, 18.0% ( $n = 24$ ) tended to agree. The vast majority of respondents believed that everyone should be able to choose between tele-advice and a traditional medical visit ( $n = 121$ ; 91.0%).

**Conclusions:** The majority of people surveyed did not perceive a difference in their health since the pandemic and the introduction of tele-advice. Nearly half of respondents believed that their health problem had been resolved with a telemedicine consultation, with even fewer people convinced that “tele-advice allows for proper diagnosis and matching of effective treatment.” Patients would mostly like to have a choice between tele-visit and in-person visits, with no clear indication of the superiority of one or the other. Continuous improvement of current solutions will certainly contribute to increased patient satisfaction with the medical services provided.

## Keywords

- telemedicine
- tele-visit
- care quality
- Covid-19 pandemic

## Contribution

- A – the preparation of the research project
- B – the assembly of data for the research undertaken
- C – the conducting of statistical analysis
- D – interpretation of results
- E – manuscript preparation
- F – literature review

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## Introduction

According to the World Health Organization (WHO), quality of health care is “the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge”.<sup>1</sup> According to the triad of A. Donabedian (the founder of quality in medicine), three essential dimensions of quality are important:

- a technical dimension, which concerns the science and technology of solving a given health problem;
- a non-technical dimension based on psychological interactions between the provider of the services and the patient;
- an environmental dimension – place of services.<sup>2</sup>

The process of quality improvement never ends. It is constantly striving to develop the technical base and the skills and knowledge of medical personnel, so that society can enjoy the longest possible healthy life.

The spread of a new, highly pathogenic coronavirus from Wuhan has shed a whole new light on telehealth, which has become an alternative for diagnosis, monitoring, treatment, and support without physical contact between patient and health care professional. The public has been compelled by the situation to take advantage of telecare opportunities. On March 6, 2020, the National Health Fund began recommending medical tele-advice as a way to protect patients and employees from possible infection.<sup>3</sup> The ongoing epidemic has only highlighted the condition of the Polish health care system and contributed to the exposure of problems that previously seemed to be overlooked. The Board of Experts at the Patient Ombudsman has issued recommendations on health care in the current coronavirus situation. Particular emphasis was placed on strengthening the role of telemedicine.<sup>4</sup>

Telemedicine consultations can take place via ICT systems: by phone, chat or video call. The doctor, nurse or midwife collects the patient’s medical history and, at the end of such teleconsultation, can issue e-prescriptions, e-referrals, e-releases or suggest a direct visit to the outpatient clinic or contact the sanitary-epidemiological station, if necessary.<sup>5</sup>

On August 12, 2020, the Minister of Health issued a regulation on the organizational standard of tele-advice in primary health care. The patient during the tele-advice must be informed about the possible need to visit the doctor in person, ensuring confidentiality and security during the digital transfer of medical records. At the same time, the identity of the caller must be properly confirmed.<sup>6</sup> Leakage of inadequately secured data could result in serious consequences for the medical facility.<sup>7</sup>

Barriers related to telemedicine consultations include the issue of confirming the identity of the patient, especially during the first visit. There is still a lack of detailed procedures in the area of telemedicine, which can be abused by patients who need prescriptions, among others. Other barriers include, but are not limited to, problems with breaking the connection or making video contact.<sup>5</sup>

Telemedicine is not only limited to telephone contact between the patient and the doctor, but also includes the computerization of health care. For example, in Spain, the TV – AssistDem (TeleVision-based ASSistive Integrated Service to support European adults living with mild DEMentia or mild cognitive impairment) project was implemented, which offered a TV-based integrated service to assist older adults with mild cognitive impairment and their caregivers. The project used specially made recordings that were then broadcast to the subjects. They covered memory training, exercise, and a variety of other information that fit within the scope of health education. The intervention sample consisted of seniors who were offered the integrated television-based research technology and compared it to a control sample, seniors who were supported through traditional means. A comparison of the well-being and health of the two groups showed that there were no significant differences between them, meaning that modern telehealth technology was sufficient.<sup>8</sup>

It can be a challenge to reach out to the IT excluded patients. Support can be provided by social services that are well informed about the needs of their clients.<sup>4</sup>

Many potential benefits of telemedicine can be envisaged, including: improved access to information; provision of care not previously deliverable; improved access to services and increasing care delivery; improved professional education; quality control of screening programmes; and reduced health-care costs.<sup>9</sup>

The study was conducted to examine patient satisfaction with medical services provided with tele-advice during the Covid-19 pandemic.

## Material and methods

The study was conducted using our own questionnaire via Google Form, consisting of 18 questions (mostly single-choice), the questionnaire form was shared on social media. Inclusion criteria: age  $\geq 18$  years. Exclusion criteria: questionable validity of content (each participant was required to read the informed consent form that appeared on their computer screen prior to beginning the survey). A total of 155 individuals who used tele-advice completed the questionnaire, of

which 133 questionnaires were included in the analysis (the remaining questionnaires were discarded due to incomplete data). The study was conducted in accordance with the principles of scientific research ethics.

The analysis of the survey results was conducted by the statistical package Statistica for Windows 9.0. Distributions of answers to survey questions were analyzed using the dependency test chi2. Statistical analyses assumed a significance level of  $p = 0.05$ .

Respondents were aged between 18 and 76 years (mean  $33.1 \pm 13.1$  years), mostly living in an urban area ( $n = 79$ ; 59.4%), declaring secondary education ( $n = 71$ ; 53.4%), followed by higher education ( $n = 48$ ; 36.1%), vocational education ( $n = 10$ ; 7.5%) and primary education  $n = 4$ ; 3.0%).

## Results

Slightly less than half of the respondents, 40.6% ( $n = 54$ ) had chronic medical conditions. Those with chronic conditions were statistically more likely to seek specialist services via tele-advice ( $p = 0.003$ ).

Only one person, i.e., 0.8% responded that their health had improved significantly since the introduction of the tele-advice, while 2.3% ( $n = 3$ ) had improved slightly and 18.8% ( $n = 25$ ) had worsened slightly or significantly ( $n = 9$ ; 6.8%). The vast majority of respondents ( $n=95$ ; 71.4%) said that their health had not changed since then.

In the vast majority of cases, tele-advice was provided by a physician ( $n = 119$ ; 89.5%), with a small percentage provided by a nurse ( $n = 14$ ; 10.5%).

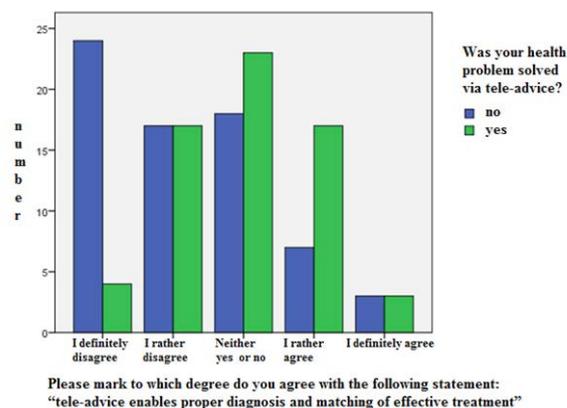
Slightly less than one-third of the subjects ( $n = 39$ ; 29.3%) were asked during the tele-advice to attend the clinic/office in person to complete the visit with a physical examination. However, this was not associated with having or not having a chronic condition ( $p > 0.05$ ).

Nearly half ( $n = 64$ ; 48.1%) of respondents believed that their health problem was solved through tele-advice, the rest were of the opposite opinion. The opinion on the effectiveness of the tele-advice (solving a health problem via tele-advice) did not depend on who provided the tele-advice ( $p > 0.05$ ).

Only 4.5% of the respondents ( $n = 6$ ) strongly agreed with the statement that "tele-advice enables proper diagnosis and matching of effective treatment", 18.0% ( $n = 24$ ) tended to agree, 30.8% ( $n = 41$ ) answered neither yes nor no, 25.6% of the respondents ( $n = 34$ ) tended to disagree, and the remaining 21.1% ( $n = 28$ ) strongly disagreed.

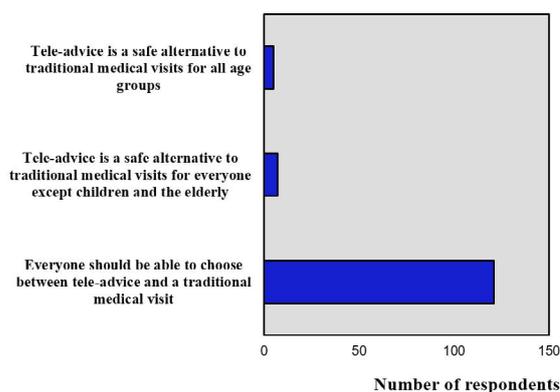
Responses to the above question did not differ depending on respondents' education ( $p > 0.05$ ). Also,

having a chronic disease, as well as the change in health status since the introduction of tele-advice did not condition the agreement with the statement that tele-advice enables making the correct diagnosis and matching of effective treatment. In contrast, it was shown that people whose health problem was solved via tele-advice consider this form of diagnosis as effective ( $p < 0.0001$ , Figure 1).



**Figure 1.** Respondents opinion: „Tele-advice enables proper diagnosis and matching of effective treatment”

There is a statistically significant association between resolution of health problems by tele-advice and improvement in health status since the introduction of tele-advice. Individuals whose health improved after tele-advice responded that it solved their health problem ( $p < 0.0001$ ).



**Figure 2.** Respondents opinion about tele-advice

The vast majority of respondents believed that everyone should be able to choose between tele-advice and a traditional medical visit ( $n = 121$ ; 91.0%). According to 5.3% ( $n = 7$ ), tele-advice is a safe alternative to

traditional medical visits for everyone except children and the elderly, and for the remaining 3.6% ( $n = 5$ ), tele-advice is a safe alternative to traditional medical visits for all age groups (Figure 2).

## Discussion

According to the rules in force since March 16, 2021, the GP cannot, except in a few situations, impose a tele-visit, and a face-to-face visit must take place in the case of deterioration of health in a chronically ill person, suspicion of cancer, in a child under 6 years of age, and on the first visit to the doctor, nurse or midwife indicated in the declaration of first choice.<sup>10</sup> The vast majority of respondents (91.0%) agree that everyone should be able to choose between a traditional visit and a tele-advice.

The present study showed a negligible percentage of tele-advices given by nurses (10.5%), however, it should be emphasized that the study was conducted in April 2021, i.e., before the official launch of the Nursing Advice Programme within the First Contact Teleplatform, which was made available for use by the National Health Fund on May 25, 2021. The platform is used by patients in case of sudden illness or the need to issue e.g. an e-prescription, when the primary care clinics have already closed (from 6 p.m. to 8 a.m.) and on weekends and holidays. A nurse or midwife connects with the patient first. In emergencies that threaten life and health, the nurse or midwife will order a medical emergency team. If the nurse or midwife decides that the patient needs an additional consultation, they refer the patient to a doctor, during the same call. By July of this year, approximately 18,000 people have used the teleplatform.<sup>11</sup> The organizational standard of the tele-advice in primary health care is defined in the Regulation of the Minister of Health of August 14, 2020.<sup>6</sup>

It seems that the epidemic has most severely restricted the right of access to health services. Complaints received by the Patient Ombudsman in March and April 2020 were mainly about primary care physicians and specialists being unavailable, and hospitals withholding treatments even from oncology patients. Staff at the PO office reported as many as four times more calls per week during the pandemic than usual.<sup>12</sup> More than half of the respondents (51.9%) felt that their health problem was not resolved by tele-advice. Furthermore, a significant proportion of individuals indicated (25.6%) that their health had worsened since the pandemic and the introduction of tele-advices. Also, according to the document made available by the Ministry of Health, 42.3% of patients using tele-advice felt that the quality

of service was inferior to the advice provided during a face-to-face visit at a primary care center.<sup>13</sup> The reasons for dissatisfaction with telemedicine services may vary, and among them may be the psychological barrier and the perception of such a form of contact as dehumanizing the doctor-patient relationship, making it difficult to establish interpersonal relationships leading to the trust necessary in the nursing and treatment process.<sup>5</sup> This type of barrier may be important for people with psychological problems, for whom trust in the person providing advice/support is extremely important.

SR Health by Solutionreach conducted a comparative study to determine changes in patient communication preferences both before and during the pandemic. It presented the results in a report titled "Patient Communication Preferences: The COVID-19 Impact." Overall satisfaction with health care services decreased by 7 percentage points during the pandemic. Patients cited timeliness of communication with their provider, difficulty getting answers to nagging questions, and a decrease in feeling heard as the most common reasons for being less satisfied with care. The authors of the report point out that such changes are primarily due to the overwhelming workload of medical staff. The same study also found that patients are open to using new technologies to interact with their healthcare. Although as many as 78% of patients had never been exposed to telemedicine before the pandemic, 63% of them are comfortable taking part in tele-visit. Moreover, 60% say they would be happy to keep tele-visits (either in a hybrid system with inpatient visits or tele-visits alone) as a tool for interacting with their provider even once inpatient visits are completely secure.<sup>14</sup>

## Summary and conclusions

The current study revealed a medium level of satisfaction and attitude of patients towards telemedicine consultation services at the lock down time of COVID-19. The majority of people surveyed did not perceive a difference in their health since the pandemic and the introduction of tele-advice. Nearly half of respondents believed that their health problem had been resolved with a telemedicine consultation, with even fewer people convinced that "tele-advice allows for proper diagnosis and matching of effective treatment."

The pandemic has, in a way, forced the use of new media in medical practice and accelerated the development of digitization, which is expected to increase patient access to medical professionals. There should not be a threat of new solutions and automation of processes that can be automated, as patients are favorably

disposed to changes in this direction and would mostly like to have a choice between tele-visit and in-person visits, with no clear indication of the superiority of one or the other. Continuous improvement of current solutions will certainly contribute to increased patient satisfaction with the medical services provided.

The current COVID-19 pandemic will not be the only one we will face. It is therefore important to learn from the current situation caused by COVID-19, to test different solutions, and to develop rapid response procedures for similar health disasters in the future.

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