

Telemedicine Usage of Physicians and Views on Telemedicine

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Abstract

Background: With the Covid-19 pandemic, those who care about working online from home office, computer and / or phone. it is aimed to pay attention to the use of telemedicine in the field of health and the attitudes of specialist physicians.

Methods: 85 specialist physicians participated in our research. The collected selection analysis was performed with the SPSS 22.0 program.

Results: Physicians working in internal sciences constituted 76.47% (n=65) of the study group. Among the matched branches, 24% (n=16) of clinical sciences consisted of pediatricians and their sub-branch physicians. 84.70% (n=72) of the physicians participating in the study did not perform video examination with telemedicine. Since it was only reviewed with telemedicine during working hours; 90.58% (n=77) of our study group stated that patients with at least 29 and below can be treated. During both face-to-face and telemedicine visual examinations, 83.52% (n=71) of our study group stated that a maximum of 9 patients could be treated by telemedicine. 85.88% of our study (percussion, palpation, auscultation) thought that telemedicine might be insufficient in evaluating the inspection user physical examination components. As for what precautions should be taken before telemedicine applications are popularized by the public, 83% of our physicians were supporters of the insurance company that wanted to intervene in helping the malpractice police. It should be considered as 76.47% (n=65) of our study group.

Conclusions: It is thought that telemedicine will facilitate the work of specialist physicians. However, more studies and data are needed before it can be used.

Keywords: Telemedicine, Pandemic, Physical Examination.

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INTRODUCTION

With the coronavirus pandemic (Covid-19) introduced into our lives, remote working from home or office by computer or phone has gained prominence. The success of remote working in certain areas has raised the question of whether this practice can also be successful in health.

By definition, telemedicine is the process of performing anamnesis and examination that takes place between the physician and the patient by seeing each other on any screen simultaneously with an online connection. Since physical contact with the patient is not possible, communication between the doctor and the patient should be maintained simultaneously through technological methods. Therefore, the existing infrastructure, internet network, and hospital data system should be fast and near perfect. Considering that the danger of contact with Covid-19 in health institutions is not over yet, using telemedicine may be a good option. For this reason, doctors examine patients who require green zone examination in hospitals in many countries through the telemedicine system (1).

It is stated that telemedicine was first used as a warning system based on smoke communication in an unknown epidemic (2).

In recent years, one of the most striking examples is a lung malignancy case in Antarctica in 1999. In this example, it is stated that a patient shared a mass in her chest via satellite, got diagnosed with malignancy, and the chemotherapy agents were delivered back to the patient using the airway (2).

In Turkey, this practice was first used in radiological imaging. Accordingly, images and reports were presented to an internet environment that could be accessed continuously. The *“Telemedicine and Teleradiology System Integration Guide”* prepared by the Department of System Management and Information Security was updated in July 2020 (3). The guide was specified as a system that includes imaging, teleconsultation, and teleradiology applications. Later, by logging into this system via the *“e-Nabız”* application it was made possible that the patient or physician can reach the patient’s information. The system has become even more helpful with the integration of laboratory results. As a result, repeated examinations were to be prevented (4).

Departments such as Gastroenterology, General Surgery, Psychiatry, and Family Medicine of Kocaeli University Faculty of Medicine, already provide telemedicine services under the name of “web clinics” (5).

Regarding the legal aspect of telemedicine, the *“Framework for the Implementation Procedures and Principles of a TeleHealth Service”* issued in 2015 specifies the procedures and principles for medical services for aircraft and sea vehicles cruising within the Turkish Search and Rescue Area (5). In February 2021, the General Directorate of Health Information Systems of the Ministry of Health tried to create a *“dr.e.nabız”* system and even published a user manual. (6). However, due to unknown reasons, the system was not implemented. Finally, with the *“Regulation on the Provision of Remote Health Services”* published in the official gazette on 10.02.2022, a crucial step was taken on how physicians can use this system (7). According to this regulation, health centers must get an operating permit from the Ministry of Health after fulfilling the minimum requirements.

In addition to the recent studies, in this study, telemedicine in health will be discussed to add a new aspect to the literature.

MATERIALS AND METHODS

Our study was conducted between 1.11.2021 and 31.12.2021 with the approval of Tepecik Education and Research Hospital Ethics Committee dated 15.10.2021 and numbered 2021/10-11. Our study is a descriptive, statistical study. We have included 85 specialist physicians in the study. The sample size was determined to be all available specialist physicians actively working at clinics within the attributed time. Not included were assistant physicians, emergency physicians, and preclinical physicians (biochemistry, microbiology, etc.) who do not work at clinics. Participants were asked 13 multiple-choice and 1 open-ended questions with a web-based questionnaire developed by researchers, using the remote communication method within the scope of Covid-19 measures.

The questionnaire included sociodemographic questions such as age, gender, the total period of service in the profession and specialty, as well as questions related to telemedicine. According to this, acting on assumptions, participants were asked some questions about what should be done before telemedicine is configured, the advantages or disadvantages of telemedicine in the future, and how many patients should be included in telemedicine.

SPSS 22.0 program was used to analyze the data obtained after the questions. Categorical variables were presented in tables with frequency and percentages.

RESULTS

The study group consisted of 63.52% (n=54) males and 36.48% (n=31) females.

The highest participation in the study was composed of internal medicine with 76.47% (n=65). Looking at the distribution of specialties, 24.61% (n=16) of clinical medicine consisted of the pediatric health and diseases department and its sub-branch physicians.

Looking at the total period of service in the profession, 70.58% (n=60) of the participants had worked for 14 years or less. 29.42% (n=25) of the participants had worked for 15 years or more. Sociodemographic data are given in Table 1.

Table 1. Sociodemographic Data

		n
Age		
39 and below	70.58%	60
40 and above	29.42%	25
Gender		
Female	36.48%	31
Male	63.52%	54
Department		
Internal Medicine	76.47%	65
Surgery Medicine	23.53%	20
Active Years in Profession		
14 and below	70.58%	60
15 and above	29.42%	25

84.70% (n=72) of the physicians participating in the study did not perform telemedicine video call examinations. Considering the assumption that only a video call examination will be performed with telemedicine during working hours, 90.58% (n=77) of our study group stated that a maximum of 29 patients could be examined.

Considering the assumption that the physicians will perform face-to-face and telemedicine examinations, 83.52% (n=71) of our study group stated that a maximum of 9 patients could be examined through telemedicine. 32.39% (n=23) of this rate noted that no patients could be examined.

Considering the assumption that telemedicine practices will be used by being ultimately disseminated throughout the country, 82.35% (n=70) of the study group noted that the legal ground and its comprehensive legal dimension should be addressed. Again, 85.88% (n=73) of the study group stated that telemedicine might be insufficient in evaluating other physical examination components (percussion, palpation, auscultation) other than inspection. In addition, 68.23% of the study group was worried about experiencing network and infrastructure problems.

In the study group, 88.24% (n=75) of the physicians believed that 50% or less of the target groups they provide health services for in their clinics could reach them by telemedicine using the existing internet infrastructure (Table 2).

Table 2. Telemedicine Related Data

Do You Currently Use Telemedicine?		n
Yes	15.30%	13
No	84.70%	72
What Do You Think About Telemedicine?		
I'm not interested because I think it will increase my workload.	18.82%	16
I'm not interested because it could cause malpractice.	24.70%	21
Although I am interested, I believe the physical examination of the patient should be conducted face to face.	50.59%	43
Considering the current pandemic situation, it may be possible with a certain number of appointments.	23.52%	20
If working from home can be improved, it can be a good alternative to examine patients from home with telemedicine only on certain days of the week and face-to-face in the polyclinic on other days.	27.06%	23
How Many Patients Can Be Examined with Only Telemedicine During Working Hours?		
10-19	58.82%	50
20-29	31.76%	27
30 and above	9.42%	8
How Many Patients Can Be Examined Through Telemedicine During Working Hours with Both Telemedicine and Face to Face Examination?		
0	27.06%	23
1-9	56.47%	48
10-19	11.77%	10
20 and above	4.70%	4
Is Telemedicine Applicable in Your Location?		
Yes	34.18%	29
No	65.82%	56
When You Consider Your Patients Who Apply to Your Clinic, How Many of Them Can Use Telemedicine?		
0 – 25%	60.00%	51
26 – 50%	28.24%	24
51 – 75%	9.41%	8
76 – 100%	2.35%	2
What Do You Think Will Be a Problem in Telemedicine Practices?		
It will take time to prepare documents such as e-prescription, e-report, etc.	40.00%	34
If the network of both parties is not good enough, there will be an image or sound problem.	68.24%	58
Even if there is no problem with the anamnesis, the chance of diagnosis and treatment will decrease since physical examination cannot be performed.	85.88%	73
It will not be effective unless its legal basis and legal dimension are improved.	82.35%	70

83.52% (n=73) of the physicians favored adding extra-specific articles to the malpractice policies of insurance companies about what measures should be taken before telemedicine practices are fully disseminated throughout

the country. It was observed that 76.47% (n=65) of the study group were of the opinion that the infrastructure and the existing network should be accelerated (Figure 1).

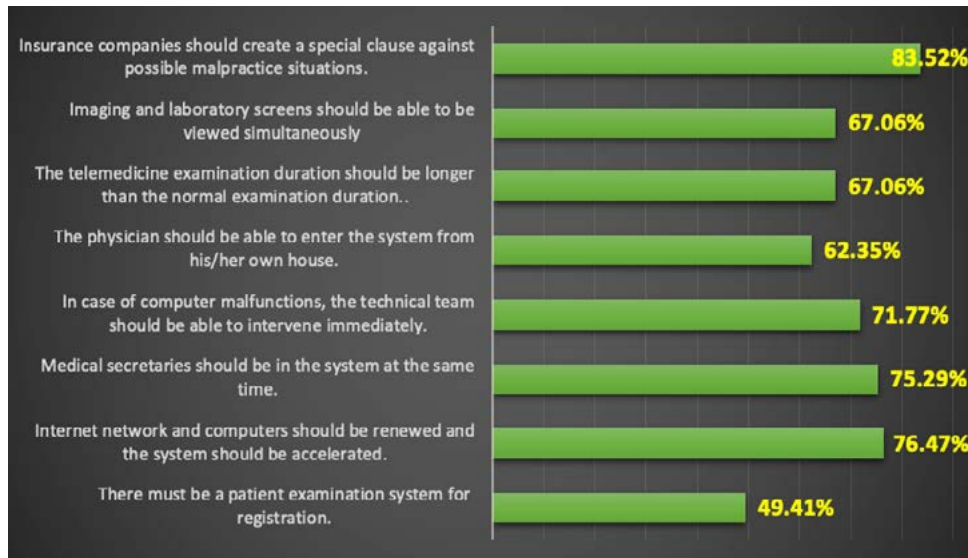


Figure 1. Measures Considered to be Taken Before Telemedicine.

Considering the benefits that telemedicine practices can provide, 85.88% (n=73) of the study group stated that patients with chronic diseases or disabilities would especially experience the ease of report renewal. 69.41%

(n=59) of the study group agreed that telemedicine would be beneficial in preventing respiratory diseases such as Covid-19 (Figure 2).

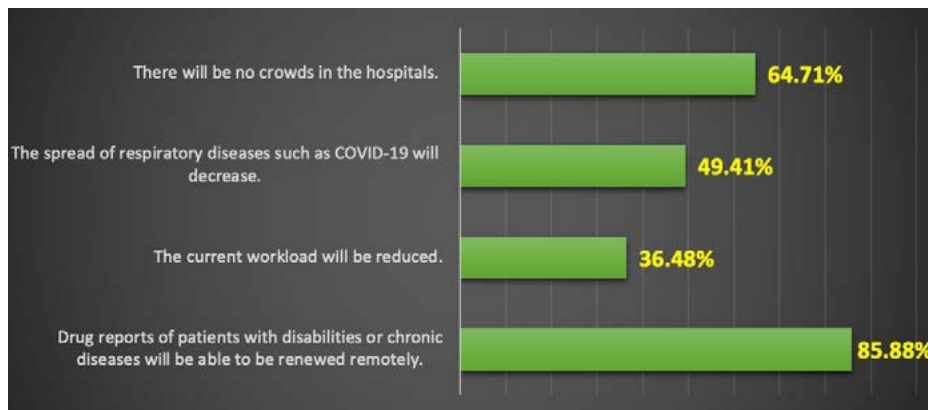


Figure 2. Advantages Telemedicine Will Bring

DISCUSSION

Considering all aspects of the literature, several studies were conducted in terms of patient satisfaction in telemedicine. However, studies on how the practice will work or what the minimum components should be are minimal.

A recent study on telemedicine, mentioning the lack of evidence in the relevant field and practice, legal gap (legal concerns), medical ethical concerns, medical prejudices, inadequacies of technical infrastructure, and server-receiver access to technology, stated that these aspects might pose an obstacle (8). In our study, too, most physicians expressed malpractice concerns and desires to strengthen the legal basis and medical malpractice insurance by increasing them. With the *“Regulation on the Provision of Remote Health Services”* published in the official gazette on 10.02.2022, we believe that the hesitations will be resolved, at least regarding which standards physicians will provide telemedicine services (7).

However, according to the studies in the literature, there are privacy concerns. In the study conducted by Gülay Y. et al. (9) on this subject, the reliability of health information on the internet is also considered a problem. It is stated that the protection of patients' medical information will be insufficient due to technical reasons (10, 11). Along with the *“Protection of Personal Data Act”* which has been frequently mentioned recently, a necessary and crucial step has been taken in this regard with the *“Regulation on the Protection and Processing of Data at the Social Security Institution”* published in the official gazette on 19.02.2022 (12).

In their study, Belazzi et al. (13) stated that telemedicine could be an effective method in increasing the patients' health, improving their precautions in primary care, and concluded that it has the potential to increase the adaptation of patients in the management of chronic diseases. Another study stated a decrease in emergency service admissions and hospitalizations of asthma and chronic obstructive respiratory disease patients thanks to telemedicine practices (14). Again, another study indicated that the practice caused a significant decrease in HbA1c levels in diabetic patients. (15).

In our study, physicians stated that they believe that disabled and chronic patients could benefit from telemedicine services at a high rate. There is a similarity with the literature in this respect. According to a recent study by Güner Y et al. (16) data were obtained on the decrease of the Covid-19 infection rate among healthcare professionals. With the decrease in the number of patients in hospitals, it may be hypothesized that Covid-19 or other respiratory diseases can be prevented.

The World Medical Association and the Standing Committee of European Doctors states that *“face-to-face interaction is gold standard communication”* and it has been noted that remote communication can only be a complementary element as long as the right technology and the requirements are provided. (17, 18). In addition, telemedicine practices may reduce face-to-face interactions with physicians and cause disease symptoms to be overlooked (5,19).

The study concluded that a complete systemic physical examination cannot be performed, and physicians may experience malpractice concerns due to insufficient pre-diagnosis. Still, telemedicine could be effective in situations that do not require a complete physical examination (report renewal, etc.). In the Covid-19 pandemic, remarkable progress has been made in the fight against Covid-19, as physicians called patients in isolation rather than video call examination (20). One of the most recent studies on this subject by Ören MM et al. stated that at least one follow-up of 1,042 patients was performed through telehealth service, and 26 physicians performed the follow-up of 860 patients for 21 days. In addition, it was determined that physicians made a total of 11,736 calls in this process (21). Obtaining these satisfactory results in video call examinations will also motivate physicians. At this point, we believe that telemedicine should be used to expand the range of health literacy.

Telemedicine will be an essential patient follow-up method, at least for internal medicine with a near-perfect infrastructure and network in the future.

In our study, physicians stated that even if anamnesis and inspection were performed face to face, palpation and auscultation stages could not be completed. However, they were of the opinion that this issue should be addressed.

It is a fact that physicians have turned to defensive medicine, especially in recent years, while practicing their profession. Integrating the minimum technological components required in the practice of medicine into telemedicine by considering costs/effectiveness will provide convenience for physicians and patients. Detailed studies on the subject are insufficient; the article was written with the available sources.

Declarations

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This study was approved by Tepecik Education and Research Hospital Ethics Committee (Approval date: 15.10.2021 Approval number: 2021/10-11)

REFERENCES

- Portnoy J, Waller M, Elliott T. Telemedicine in the Era of Covid-19. *J Allergy Clin Immunol Pract*. 2020;8(5):1489-1491.
- Waller M, Stotler C. Telemedicine: A Primer. *Curr Allergy Asthma Rep*. 2018;18(10):54.
- T.C. Sağlık Bakanlığı Sağlık Bilgi Sistemleri Genel Müdürlüğü. Ulusal Projeler Yönetim Koordinatörlüğü. Teletıp ve Teleradyoloji Sistemi Entegrasyon Kılavuzu. 2022. Available at <https://www.teletip.saglik.gov.tr/docs/TeletipC4B1pEntegrasyonK%C4%B1lavuzuV3.39.pdf> Accessed October 24, 2022
- Sungur C. Teletıp Uygulamalarında Hasta Memnuniyeti: Bir Sistemik Derleme Çalışması. *Hacettepe Sağlık İdaresi Dergisi*. 2020;(3):505-522
- Dilbaz B, Kaplanoğlu M, Kaplanoğlu DK. Teletıp ve Telesağlık: Geçmiş, Bugün ve Gelecek. *Eurasian Journal of Health Technology Assessment*. 2020;4(1):40-56.
- Yıldırım B, Uzan MM, Egici MT. Telemedicine/Telehealth in Preventive Medicine. *Archives of Current Medical Research*. 2022;3(1):1-5.
- Resmî Gazete. T.C. Sağlık Bakanlığı. Uzaktan Sağlık Hizmetlerinin Sunumu Hakkında Yönetmelik. 2022. Available at <https://www.resmigazete.gov.tr/eskiler/2022/02/20220210-2.htm> Accessed October 24, 2022
- Dağdelen S. Teletıp Uygulamaları: Bugünden Geleceğe Öngörü ve Beklentiler. In: Kutsal YG, Aslan D editors. *Teletıp Yaşlılık ve Teletıp Uygulamaları*. Ankara: 2021 p.127-136.
- Yıldırım G, Karagözoğlu Ş, Yıldız E, Özbay S. Determination of Advanced Technology Usage Level of Physicians Working in Hospitals in a Province. *Lokman Hekim Journal*. 2022;12(1):126-135
- Ataç A, Kurt E, Yurdakul SE. An Over View to Ethical Problems in Telemedicine Technology. *Procedia – Social and Behavioral Sciences*. 2013;103(26):116–121
- İzgi C. Personal health data in the context of the concept of privacy. *Turkish Journal of Bioethics*. 2014;1(1):25-37
- Resmî Gazete. Sosyal Güvenlik Kurumu Başkanlığı. Sosyal Güvenlik Kurumu Nezdindeki Verilerin Korunmasına ve İşlenmesine İlişkin Yönetmelik. 2022. Available at <https://www.resmigazete.gov.tr/eskiler/2022/02/20220219-4.htm> Accessed October 24, 2022
- Bellazzi R, Arcelloni M, Ferrari P, Decata P, Elena Hernando M, García A, et al. Management of patients with diabetes through information technology: tools for monitoring and control of the patients' metabolic behavior. *Diabetes Technology & Therapeutics*. 2004;6(5):567-78
- McLean S, Nurmatov U, Liu JL, Pagliari C, Car J, Sheikh A. Telehealth Care for Chronic Obstructive Pulmonary Disease: Cochrane Review and Meta-analysis. *Br J Gen Pract*. 2012;62(604):e739-49.
- Polisena J, Tran K, Cimon K, Hutton B, McGill S, Palmer K. Home Telehealth for Diabetes Management: A Systematic Review and Meta-analysis. *A Journal of Pharmacology and Therapeutics*. 2009;11(10):913-930
- Güner Y, Güner KE, Çilingir D. Technological Innovations in New Type Coronavirus and Health System. *Bezmialem Science*. 2021;9(Supplement 1):69-73
- World Media Association (WMA). WMA Statement on the Ethics of Telemedicine. 2007. Available at <https://www.wma.net/policies-post/wma-statement-on-the-ethics-of-telemedicine/> Accessed October 24, 2022
- Medicins Europeens European Doctors (CPME). Ethical Guidelines in Telemedicine. 1997. Available at https://www.cpme.eu/api/documents/adopted/cp-1997_033.pdf Accessed October 24, 2022
- Kutsal YG. Teletıp. In: Kutsal YG, Aslan D editors. *Teletıp Yaşlılık ve Teletıp Uygulamaları*. Ankara: 2021. p. 1-16.
- T.C. Sağlık Bakanlığı Halk Sağlığı Genel Müdürlüğü. Temaslı Takibi, Salgın Yönetimi, Evde Hasta İzlemi ve Filyasyon. 2021 Available at <https://covid19.saglik.gov.tr/Eklenti/41623/0/covid-19rehberit-emaslitakibievdehastazilemivefilyasyon-021021pdf.pdf> Accessed October 24, 2022
- Ören MM, Özgülner N, Canbaz S, Karabey S, Önal AE, Öncül MO. An Integrated Care Model Based On Hospital and Home During The Covid-19 Pandemic: Telehealth. *J Ist Faculty Med*. 2022;85(1):9-14.