The evaluation of telemedicine-online health services during Covid-19 in Turkey private hospitals: Thematic analysis

The evaluation of telemedicine-online health services

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Abstract

Aim: With the Covid-19 outbreak, it has been observed that people wanted to receive healthcare services remotely. In other words, people wanted to reach healthcare services or healthcare professionals from their homes without going to the hospital. Thus, this study aimed to determine how telemedicine-online health services of private hospitals are handled on websites and social media channels.

Material and Methods: Data was collected by conducting qualitative content analysis to the websites and corporate social media of hospitals in Istanbul, the city where the most private hospitals in Turkey are located. Overall, 608 data from 76 hospitals were analysed using the thematic analysis method.

Results: When the analysis of the information was received a total of 8 themes emerged. These were divided into thematic codes as the telemedicine-online health service status, including the number of hospital beds, the content of written, visuals etc. posts, features of the branches of the application and details of other online health services.

Discussion: The use of telemedicine-online health services in private hospitals is found to be at the initial stage and written and visual posts are insufficient. The information collected can help determine the current situation and contribute to private hospitals when determining new strategies.

Keywords

Telemedicine, Online health services, Private hospitals, COVID-19

Introduction

The widespread use of internet services and smartphones, as well as the emergence of fifth generation (5G) mobile networks, are facilitating online healthcare provision by health authorities [1]. The eHealth report, which includes online service delivery data, stated that the number of online health service users reached 9.3 million in 2017 and the income earned from online health services reached 47.60 billion dollars in 2018. This rate is expected to reach 132.35 million dollars by 2023 [2]. Especially in connection with the COVID-19 pandemic, health service delivery in online environments has increased rapidly [3]. Forecasts for Turkey's future investment in online health services will increase by 25% in the next five years [3]. The reason for the increased interest in the use of online health services is that healthcare providers see that the cost of remote disease diagnosis and patient care is low, and individuals with various diseases think that remote access to health services is easy [4].

Individuals with various diseases can make video calls with medical specialists through online health services, diseases can be diagnosed during the interviews, medication related to the disease can be prescribed or the necessary personnel can be sent to provide home care services to the patient. All of these applications are described as telemedicine applications in the literature [5]. Patients with different illnesses can use online health services, including telemedicine, to learn more about the illnesses, seek emotional support after treatment, or access healthy lifestyle choices [6]. Increasing healthcare use in online environments expands and diversifies the channels for patient-physician interaction [7]. Considering limited medical resources, online healthcare communities aim to provide better treatment by lowering medical costs, making full use of available resources, and providing more diverse channels for patients [8]. But the lack or inaccuracy of hospitals' marketing strategies insufficient publicity on corporate social media and websites [9], the approach of hospitals to the issue emerges as problems related to the use of online health services [10]. The authors missed reporting one of the most important advantages of telemedicine during the Covid-19 outbreak, namely the decreased risk of transmission of Covid-19, while providing continuous care to the community as reported by a recent systematic review [11]. This situation is affected by the increase in disadvantages in addition to its advantages with the emergence of telemedicine-online health services [4], [12]. This study aimed to determine how private hospitals in Istanbul, the city where most hospitals are located in Turkey, handle telemedicine-online health services on websites and social media channels.

Material and Methods

This study was carried out to determine how private hospitals in Istanbul, the city where most hospitals in Turkey are located, handle telemedicine online-health services on corporate social media accounts and websites. The study aimed to contribute to the literature by examining whether hospitals use telemedicine-online health services and on what subjects they focus on the most.

Data Collection Method

In the study, information obtained from hospitals' websites and their corporate social media accounts were recorded into an Excel table in the form of a code-definition-sample to facilitate the data collection process. The recorded code files were combined under 8 main headings, including the characteristics of the hospitals. Within the scope of the study, information about 608 general and telemedicine-online health services of 76 private hospitals in Istanbul was analysed using the content analysis method.

Data Analysis Method

First of all, the websites and social media of all private hospitals in Istanbul were examined in detail and the necessary data were collected for the study. Later, the authorized persons of private hospitals were contacted one by one, and the information on their websites was confirmed. If there was a missing part that is not included on the websites, the information obtained from the interviews was added to the study. Afterwards, the basic contents of photographs, videos, and explanatory information about telemedicine-online health services of each hospital were examined separately and recorded into the Excel table. Thus, the preliminary preparation of the study was completed. In this step, 648 properties of 81 hospitals were recorded. In the first analysis, 92% of consistency between coders was obtained. Branches of hospitals under the same name in other regions were excluded from the study for the reliability of the study. Similar features were analysed in Excel by dividing them into sub-themes. Finally, eight themes divided into sub-headings, were examined in detail using the content analysis method. The criteria that Nowell et al. (2017) [13] stated as the criteria to be applied in qualitative research such as " reliability ", " verifiability ", " transferability " were checked for their presence in the collected data.

Results

Data on the number of beds in the hospitals included in the research, whether they have telemedicine applications, whether there is information about telemedicine on the hospital websites, and whether there is information about telemedicine on corporate social media are given in Table 1.

Table 1. Characteristics of the Hospitals Included in the Research

Category	Number	%
Number of Beds in Hospitals		
40 ≤	21	28.00
41 - 80	21	28.00
81-120	13	17.50
121-160	9	10.50
161≥	12	16.00
Telemedicine Application		
Yes	31	40.78
No	45	59.22
Telemedicine Information on the Hospital Website		
Yes	26	83.80
No	5	16.20
Telemedicine Information on Hospitals' Corporate social media		
Yes	14	45.10
No	17	54.90

Table 2: Examination of Hospitals Offering Telemedicine-Online Health Services

Number of Beds of Hospitals										
Telemedicine Online Health Service	40≤		41 - 80		81-120		121-160		161≥	
	N	%	N	%	N	%	N	%	N	%
Yes	10	47.61	6	28.57	7	53.84	2	22.22	6	50
No	11	52.39	15	71.43	6	46.16	7	77.78	6	50
Telemedicine-Online Health Service Information										
On the Hospital Website	Post		Images		Detailed description		Live Chat		Form	
	N	%	N	%	N	%	N	%	N	%
Yes	25	80.64	14	53.84	13	43.33	11	35.48	24	77.41
No	6	19.36	12	46.16	17	56.67	20	64.52	7	22.59
Telemedicine-Online Health Service Information										
On Hospitals' Corporate social media	Post		Photograph		Video		Information		Live Stream	
	N	%	N	%	N	%	N	%	N	%
Yes	3	21.42	7	50	3	21.42	2	14.28	9	64.28
No	11	78.58	7	50	11	78.58	12	85.72	5	35.72
Telemedicine Application Units										
Hospital Branches	40≤		41 - 80		81-120		121-160		161≥	
	N	%	N	%	N	%	N	%	N	%
1 Branch (Psychology)	2	18.18	0	0	0	0	1	50	0	0
2-5 Branches	3	27.27	1	16.66	1	16.66	0	0	1	14.28
6 and more	6	54.55	5	83.34	5	83.34	1	50	6	85.72
Other Information on Online Health Services										
On the Hospital Website	E-appointment		E-result		E-laboratory		E-baby		E-other	
	N	%	N	%	N	%	N	%	N	%
Yes	30	39.47	21	27.63	12	15.78	9	Kas.84	16	21.May
No	46	60.53	55	72.37	64	84.22	67	88.16	60	78.95

The content analysis of telemedicine online health services within the scope of the study is shown in Table 2.

Some of the visuals related to telemedicine on the websites and corporate social media of the hospitals within the scope of the study are shown in Figure 1.
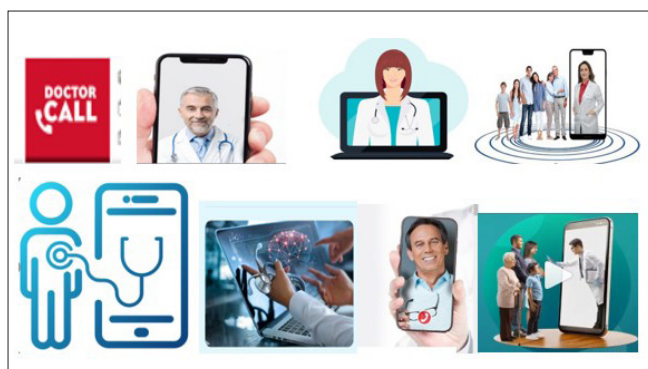

Figure 1. Images of a telemedicine application

Discussion

This study aimed to determine how private hospitals in Istanbul, the city where most hospitals are located in Turkey, handle telemedicine online-health services on corporate social media accounts and websites.

The study revealed that having more or less bed capacities in hospitals did not change the importance they place on telemedicine-online health services, but when it comes to telemedicine, a single branch (psychology) or several branches (gynaecology, etc.) focused on diseases that can be treated remotely. Allen et al. [14] pointed out that telemedicine application is complementary to the treatments performed in hospitals at the point of individual therapy, psychological counselling and clinical treatment and that the application should be expanded.

According to the findings of this study, the telemedicine-online health services used by hospitals were found to be based on asking questions to the specialist doctors at the point of diagnosing, and when necessary, inviting patients to the hospital to initiate the treatment. Al-Barazanchi et al. [15], examining telemedicine applications on diagnosis and treatment, declared that dermatological diseases such as malaria were diagnosed remotely, and their treatment was also performed remotely by prescribing necessary medications. Apart from this, the treatment of diseases requiring multidisciplinary expertise have been performed in hospitals [15]. However, the study by Machado et al. [16] has shown that even oral and dental health problems that are difficult to treat via telemedicine can be diagnosed and treated remotely, but when a vital problem is encountered, the process can be supported with the hospital.

According to another finding of the study, it was observed that even if hospitals do not use telemedicine application, they use online health services applications such as e-appointment, e-pulse, e-result. A study examining telemedicine and its current clinical applications stated that telemedicine and e-health applications are different from each other. The points where these applications differ are explained as follows: while telemedicine covers a remote clinical service, e-health is expressed as a broader term that includes remote non-clinical services [5]. It has been stated that e-health applications are more comprehensive, including understanding the health index

(e-result, e-laboratory), providing preventive health support (e-baby, e-critical) and appointment services [5]. From this point on, the telemedicine application can be included in online health services.

The examination of the visuals and written texts used by hospitals with telemedicine applications showed that visuals were designed to include technology, physician-technology, physician-patient and technologies. The study by Wang et al. [17] that suggests the application of telemedicine, stated that the visuality alone is not enough, audio effects should be added to written and visual posts for disabled people. There are no studies in the literature on hospitals using telemedicine-online health services.

Conclusion

The study found that, the number of hospitals using telemedicine-online health services is limited. Marketing strategies on telemedicine-online health services play a significant role in the success of health service delivery process of hospitals.

Corporate brand managers have an important responsibility for patient' understanding and actively participating in healthcare delivery process. It will be beneficial for the managers working in these institutions to closely follow new applications and technologies to provide the most appropriate integration to the process. In today's conditions when the use of online services is widespread, explaining new applications to patients in a transparent and reliable way can cause consequences that significantly affect the health system, while creating a small additional workload for the hospital.

In order to increase the use of telemedicine-online health services in healthcare institutions, an increase in the number of tools, which describe the process, such as videos, pictures, photographs that appeal to people's senses, may be beneficial in informing patients. Based on the findings of this study, it can be stated that hospitals with telemedicine applications have started to share the details of the application on their corporate social media by improving the processes. In addition, the remote operation of the process in a transparent and reliable way may change the patient's attitude towards the hospital. It will help encourage patients to use the application and prevent some of the costs caused by physical transportation. This situation can both improve the service quality perception of the patient and support the increase in corporate efficiency.

Since this study is limited to private hospitals operating in Istanbul, it is thought that studies to be conducted by adding more inclusive and additional variables will contribute to the literature. Since the study is limited to the province of Istanbul, the city where most private hospitals in Turkey are located, there are limitations on the spot to include other countries and cities. Considering the limited number of studies examining the use of telemedicine-online health services in hospitals, the number of studies examining the use of telemedicine-online health services in hospitals may be increased. In addition to the efficiency of the application used, measurements such as the opinions of the patients about the applications, their usage status and satisfaction can be made. Thus, it can contribute to the literature by revealing the opportunities or threats to the use of telemedicine-online health services.

References
1. Liu S. Online mental health services in China during the COVID-19 outbreak. The Lancet Psychiatry. 2020; 7(4): e17–e18. DOI: 10.1016/S2215-0366(20)30077-8.
2. Chang YW, Hsu PY, Wang Y, Chang PY. Integration of online and offline health services: The role of doctor-patient online interaction. Patient Educ Couns. 2019; 102(10):1905–10. DOI: 10.1016/j.pec.2019.04.018.
3. Govil N, Raol N, Tey CS, Goudy SL, Alfonso KP. Rapid telemedicine implementation in the context of the COVID-19 pandemic in an academic pediatric otolaryngology practice. Int J Pediatr Otorhinolaryngol. 2020; 139:110447. DOI: 10.1016/j.ijporl.2020.110447.
4. Klonoff DC. Using telemedicine to improve outcomes in diabetes - An emerging technology. J Diabetes Sci Technol. 2009; 3(4):624–8. DOI: 10.1177/193229680900300401.
5. Lupton D, Maslen S. Telemedicine and the senses: a review. Sociol. Heal. Illn. 2017; 39(8):1557–71. DOI:10.1111/1467-9566.12617.
6. Zhang X, Guo X, Wu Y, Hung Lai K, Vogel D. Exploring the inhibitors of online health service use intention: A status quo bias perspective. Inf Manag. 2017; 54(8):987–97. DOI: 10.1016/j.im.2017.02.001.
7. Purcarea VL, Gheorghe IR, Gheorghe CM. Uncovering the Online Marketing Mix Communication for Health Care Services. Procedia Econ Financ. 2015; 26(15):1020–5. DOI: 10.1016/s2212-5671(15)00925-9.
8. Wu H, Lu N. Online written consultation, telephone consultation and offline appointment: An examination of the channel effect in online health communities. Int J Med Inform. 2017; 107:107–19. DOI: 10.1016/j.ijmedinf.2017.08.009.
9. Mano RS. Social media and online health services: A health empowerment perspective to online health information. Comput Human Behav. 2014; 39:404–12. DOI:10.1016/j.chb.2014.07.032.
10. Liu S, Wang H, Gao B, Deng Z. Doctors Provision of Online Health Consultation Service and Patient Review Valence: Evidence from a Quasi-Experiment. Inf Manag. 2020; 13:103360. DOI: 10.1016/j.im.2020.103360.
11. Monaghesh E, Hajizadeh A. The role of telehealth during COVID-19 outbreak: a systematic review based on current evidence. BMC Public Health. 2020; 20(1):1193. DOI: 10.1186/s12889-020-09301-4.
12. Mills EC, Savage E, Lieder J, Chiu ES. Telemedicine and the COVID-19 Pandemic: Are We Ready to Go Live? Adv. Skin Wound Care. 2020; 33(8):410–17. DOI: 10.1097/01.ASW.0000669916.01793.93.
13. Nowell LS, Norris JM, White DE, Moules NJ. Thematic Analysis: Striving to Meet the Trustworthiness Criteria. Int J Qual Methods. 2017; 16(1):1–13. DOI: 10.1177/1609406917733847.
14. Van Allen J, Davis AM, Lassen S. The Use of Telemedicine in Pediatric Psychology: Research Review and Current Applications. Child Adolesc. Psychiatr Clin N Am. 2011; 20(1):55–66. DOI: 10.1016/j.chc.2010.09.003.
15. Al-Barazanchi I, Hamid S A, Abdulrahman RA, Abdulshaheed HR. Automated telemedicine and diagnosis system (ATDS) in diagnosing ailments and prescribing drugs. Period Eng Nat Sci. 2019; 7(2):888–94. DOI: 10.21533/pen.v7i2.486.
16. Machado RA, Souza NL, Oliveira RM, Martelli Júnior H, Bonan PR. Social media and telemedicine for oral diagnosis and counselling in the COVID-19 era. Oral Oncol. 2020; 105:104685. DOI: 10.1016/j.oraloncology.2020.104685.
17. Wang S Parsons M. Augmented reality as a telemedicine platform for remote procedural training. Sensors (Switzerland). 2017; 17(10):1–21. DOI: 10.3390/s17102294.