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# EXPLAINING THE KNOWLEDGE AND ATTITUDES OF MEDAN CITY RESIDENTS IN USING TELEMEDICINE DURING THE COVID-19 PANDEMIC

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**ABSTRAK**

Penyakit Coronavirus 2019 (COVID-19) adalah infeksi saluran pernapasan yang disebabkan oleh sindrom pernapasan akut parah coronavirus 2 (SARS-CoV-2). Pemerintah harus menggunakan telemedicine, kombinasi teknologi informasi dan komunikasi dan keahlian medis, untuk memberikan layanan medis, mulai dari konsultasi hingga diagnosis dan perawatan, tanpa dibatasi ruang atau disampaikan dari jarak jauh. Tujuan dari penelitian ini adalah untuk mendeskripsikan pengetahuan dan sikap masyarakat di kota Medan mengenai penggunaan telemedicine pada masa pandemi COVID-19. Metodologi survei adalah survei deskriptif, pengambilan sampel sebanyak 99 responden dengan menggunakan metode sampling tertarget. Hasilnya, tingkat pengetahuan masyarakat Kota Medan tentang telemedicine tergolong baik (86,9%), cukup baik (10,1%) dan kurang (3%). Sikap warga kota Medan terhadap penggunaan telemedicine masuk dalam kategori Baik (66,7%), Cukup Baik (32,3%) dan Kurang (1%). Kesimpulan dari penelitian ini adalah deskripsi tingkat pengetahuan dan sikap masyarakat di kota Medan dengan kategori baik.

**Kata kunci :** Pandemi COVID-19, Pengetahuan, Sikap, *Telemedicine*

**ABSTRACT**

*Coronavirus disease 2019 (COVID-19) is a transmissible respiratory disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Governments should encourage telemedicine, the use of technology that combines information and communication with medical expertise to deliver health services, and the ability to diagnose and administer medical care without being held in confined spaces or remote locations. We are calling on the public to start consultations on. Study this aim for knowing description knowledge and attitude the people of Medan City in utilising telemedicine during the COVID-19 pandemic. Method study character survey descriptive, taking sample use method purposive sampling with amount sample as many as 99 respondents. Research results show that the level of knowledge of the people of Medan City against telemedicine with categories good (86.9%), enough good (10.1%), and less good (3%). Attitude level the people of Medan City utilise telemedicine with categories good (66.7%), enough good (32.3%), and less good (1%). The study this is description level knowledge and attitude the people of Medan City are in category good.*

**Keywords :** *;* COVID-19 Pandemic, Knowledge, Attitude, Telemedicine

## INTRODUCTION

At the end of 2019 to be exact in December, Coronavirus was first reported in Wuhan City, Hubei Province, China. Coronavirus (CoV) is a part of a family of viruses that cause diseases start from flu to more disease _ heavy like Middle East Respiratory Syndrome (MERS- CoV) and Severe Acute Respiratory Syndrome (SARS- CoV) (Widiyani, 2020). On March 11, 2020, the WHO stated Coronavirus Disease 2019 (COVID-19) as a global pandemic. World Health Organization (WHO) announces a mandatory Lockdown program complied with by countries that have been infected with this virus. Lockdown Program is a stay-at-home program. Avoid for go out home. Almost all activity at home, Lockdown expected could help prevent the spread of the coronavirus to an area, so people living in an area expected could avoid fast epidemic spread (Saputra & Simbolon, 2020). Indonesia's disease, this already been declared a non-natural disaster in the form of plague disease that causes The President of Indonesia took the step to implement Restrictions Social Scale Large (PSBB) in March 2020 and has been enforced several times back in some vulnerable areas spread of COVID-19. The policy is also followed with policy for limiting self in activity outside the home and meeting with people (physical distancing) (Lubis, 2021).

One solution for fulfilment needs and answers to the above challenge is to utilise telemedicine or known as service medical distance far through technology information and communication (Bahl et al., 2020). Telemedicine is one of the prevention strategies for the spread of COVID-19 in many countries because telemedicine is providing services to health using technology communication electronics. Patients and staff medical do not need to meet directly in something place however permanent communicate through something application (Datta et al., 2021). President has state supports telemedicine programs in the process of handling COVID-19 patients. in the middle COVID-19 pandemic, telemedicine by appeal government to do physical distancing to use cut off the spread of COVID-19 (Waniknas, 2020).

Telemedicine is one of the services used to increase the quality of life Public amid the COVID-19 pandemic (Kichloo et al., 2020). Ministry of Communication and Information uncover a spike in

visits to application telemedicine by 443% during the COVID-19 pandemic (Kominfo.go.id, 2020). Until now the data obtained already more from 300 thousand community that has utilise service telemedicine (GT National Public Communication Team, 2020). Based on things that, research this aim to get description knowledge and attitude of the people of Medan City in utilise telemedicine during the COVID-19 pandemic to reduce contact physique Among Public with power medical and society with Public other for cut off the chain the spread of the coronavirus.

## METHODS

This research was conducted in Medan City and was conducted from February to May 2021. The population of this research was the people of Medan City. The sampling technique used is purposive sampling, which is a method that uses the criteria that have been selected by the researcher. In selecting the sample to be studied, the inclusion criteria were determined as follows: Willing to be a respondent, living in Medan City, able to read well, and aged 15-64 years.

Type research is used in descriptive research surveys. Survey descriptive aim for seeing description phenomena that occur within something population certain, this research for knowing description knowledge and attitude of the people of Medan City in utilise telemedicine during the COVID-19 pandemic.

## RESULTS AND DISCUSSION

This study was followed by 99 respondents. The majority of respondents were women 79.8% with a mean age of 20-24 years (75.8%) and an average education of SMA/SMA/Equivalent 61.6%.

**Table 1.** Frequency Distribution by Gender, Age and Education

| **Gender** | **Total (f)** | **Percentage (%)** |
|---|---|---|
| Man | 20 | 20.2 |
| Woman | 79 | 79.8 |
| In Total | 99 | 100 |
| **Age** | Total (f) | Percentage (%) |
| 15-19 years old | 17 | 17.2 |
| 20-24 years old | 75 | 75.8 |
| 25-29 years old | 1 | 1 |
| 30-34 years old | 1 | 1 |
| 45-49 years old | 1 | 1 |
| 50-54 years old | 2 | 2 |
| 55-59 years old | 2 | 2 |
| In Total | 99 | 100 |
| **Education** | Total (f) | Percentage (%) |
| SMA/SMK/Equivalent | 61 | 61.6 |
| D1 | 2 | 2 |
| D3 | 19 | 19.2 |
| D4/S1 | 17 | 17.2 |
| In Total | 99 | 100 |

Table 2 shows that out of 99 respondents, 20 people (20.3%) live in district. Medan Selayang and 26 people (26.3%) live in the district. Medan Tuntunga the majority of respondents.

**Table 2.** Frequency Distribution by District of Residence

| **district. Residence** | **Total (f)** | **Percentage (%)** |
|---|---|---|
| district. Amplas | 4 | 4 |
| district. Medan Area | 3 | 3 |
| district. West Medan | 5 | 5.1 |
| district. New Medan | 5 | 5.1 |
| district. Medan Deli | 2 | 2 |
| district. Denai | 1 | 1 |
| district. Helvetia | 2 | 2 |
| district. Johor | 6 | 6.1 |
| district. Medan Kota | 4 | 4 |
| district. Medan Labuhan | 1 | 1 |
| district. Medan Perjuangan | 1 | 1 |
| district. Petisah | 11 | 11.1 |
| district. Polonia | 2 | 2 |
| district. Sunggal | 3 | 3 |
| district. Selayang | 20 | 20.3 |
| district. Tembung | 3 | 3 |
| district. Tuntungan | 26 | 26.3 |
| In Total | 99 | 100 |

Table 3 shows that from 99 respondents, 53 people (53.5%) used Alodokter App, 57 people (57.6%) used Halodoc App, 15 people (15.2%) used KlikDokter App, 7 people (7.1%) used Gojek (Gomed) App, 11 people (11.1%) used Grab (GrabHealth) App, 2 people (2%) used Good Doctor App, and 14 people (14%) voted and others. Thus, the majority of respondents based on the type of telemedicine that is often used the most is Halodoc App (57.6%)

**Table 3** Frequency Distribution by Type of Telemedicine Frequently Used (more than one can be selected)

| **Types of Telemedicine** | **Total (f)** | **Percentage (%)** |
|---|---|---|
| Alodokter App | 53 | 53.5 |
| Hellodoc App | 57 | 57.6 |
| ClickDoctor App | 15 | 15.2 |
| Gojek (Gomed) Apl | 7 | 7.1 |
| Grab (GrabHealth) App | 11 | 11.1 |
| Good Doctor App | 2 | 2 |
| Etc App | 14 | 14.1 |

Table 4 shows that of 99 respondents, 50 people (50.5%) used telemedicine for less than 1 month, 12 people (12.1%) used telemedicine for 2 months, 5 people (5%) used telemedicine for 2 months, 3 months, and 32 people (32.3%) used telemedicine for more than 3 months. Thus, the majority of respondents based on the time of using telemedicine is less than 1 month with a total of 50 respondents (50.5%).

**Table 4.** Frequency Distribution by Time of Telemedicine Use

| Usage Time | Total (f) | Percentage (%) |
|---|---|---|
| Less than 1 month | 50 | 50.5 |
| 2 months | 12 | 12.1 |
| 3 months | 5 | 5 |
| Over 3 months | 32 | 32.3 |
| Total | 99 | 100 |

Table 5 shows that from 99 respondents, 12 people (12.1%) learned about telemedicine from friends, 3 people (3%) from family, 60 people (60.6%) from social media, 18 people (18.2%) from advertisements/ promotions, and 6 people (6.1%) found out from other sources.

**Table 5.** Frequency Distribution by Source of Information Knowing Telemedicine

| Resources | Total (f) | Percentage (%) |
|---|---|---|
| Friend | 12 | 12.1 |
| Family | 3 | 3 |
| Social media | 60 | 60.6 |
| Advertising/Promotion | 18 | 18.2 |
| etc | 6 | 6.1 |
| Total | 99 | 100 |

Based on table 6, it can be explained that the level of good knowledge is 87 respondents (86.9%), good enough is 10 respondents (10.1%), and less good is 3 respondents (3%). The total score of all respondents' knowledge about telemedicine during the COVID-19 pandemic in Medan City was 840. Overall respondents' knowledge level about telemedicine during the COVID-19 pandemic in Medan City was: (840:1000) x 100% = 84%, including the category of good knowledge.

**Table 6.** Frequency Distribution of Respondents' Knowledge Level

| Knowledge | Frequency (f) | Percentage (%) |
|---|---|---|
| Well | 86 | 86.9 |
| Pretty good | 10 | 10.1 |
| Not good | 3 | 3 |
| Total | 99 | 100 |

Based on table 7, it can be explained that the level of a good attitude is 66 respondents (66.7%), quite good 32 respondents (32.3%), less good 1 respondent (1%). The total score of all respondents' attitudes toward using telemedicine during the COVID-19 pandemic in Medan City was 3256. Overall, the attitude level of respondents in using telemedicine during the COVID-19 pandemic in Medan City was: (3256:4000) x 100% = 81, 4%, included in the category of a good attitude.

**Table 7.** Frequency Distribution of Respondents' Attitude Levels

| Attitude | Total (f) | Percentage (%) |
|---|---|---|
| Well | 66 | 66.7 |
| Pretty good | 32 | 32.3 |
| Not good | 1 | 1 |
| Total | 100 | 100 |

From the results of the research on the description of the knowledge and attitudes of the people of Medan City in utilizing telemedicine during the COVID-19 pandemic with a total of 99 respondents, the following discussion was obtained: the characteristics of the respondents obtained included gender, age, education, district of residence, type of telemedicine used. often used, time of use and sources of information about telemedicine.

Based on the data, it is found that in the sub-district group where most of the respondents live in the Medan Tuntungan sub-district as many as 26 respondents (26.3%). This shows that some people in Medan Tuntungan District use telemedicine more. Based on table 4.5, it was found that most of the respondents used Halodoc telemedicine many of 57 respondents (57.6%). This is to the number of Halodoc users in Indonesia which is more than other types of telemedicine and the number of users is 18 million people (Evandio, 2021). Based on table 4.6 , 50 respondents (50.5%). Based on table 4.7, it is found that most of the sources of information to find about telemedicine are social media as many as 60 respondents (60.6%). This is because the majority of respondents aged 20-24 years are more active in using and receiving information on social media.

To prevent further spread of COVID-19, governments are urging public and medical staff to use telemedicine as a remote or online public health application between hospitals and patients (Lubis, 2021). In practice, however, several challenges arise, including technical feasibility, data security and patient privacy, laws and regulations, usage guidelines, and individual patient issues. (Hikumawati and Sristiadi, 2020). Therefore, action is needed to recognize

community knowledge and attitudes in using telemedicine during a pandemic.

Based on the results of this survey obtained on the basis of Table 4.8, it can be explained that the knowledge level of the respondent in the "good enough" category was his 86 respondents (86.9%). 10 respondents (10.1%). From Table 4.9, it can be explained that the attitude level of respondents in the good category is 66 respondents (66.7%) and that in the fairly good category is 32 respondents (32.3%). Category 1 respondents (1%). This is different from the results of research by Zayapragassarazan (2016) regarding awareness, knowledge, attitudes and skills about telemedicine in the faculty of health professionals working in teaching hospitals, where the level of knowledge of respondents was found to be good, 41% of respondents, 35% had moderate knowledge and 24% do not have adequate knowledge of telemedicine, and attitudes towards telemedicine, 39% of respondents have high attitudes, 31% have moderate attitudes, and 30% have low attitudes. However, based on the results of the study, shows that although the respondents' knowledge is limited in telemedicine technology, most of the respondents have a positive attitude toward telemedicine.

A survey of Karachi doctors' knowledge and attitudes towards telemedicine conducted by Ashfaq (2020) found that Karachi's doctors have an average level of telemedicine knowledge. However, most physicians welcome the adoption and application of this technology. Physician understanding of telemedicine support, development and research is at a high level. Furthermore, the results of research from (Triantafillou & Rajasekaran, 2020) demonstrated that telemedicine allows for patient medical examinations, which can help to increase the patient's knowledge virtually about changes in the physical examination and the symptoms that lead to discussions with doctors. Similarly, research results from (Datta et al., 2021) indicate that the health information stored by the patient can guide future examinations.

However, be aware that some hospitals and clinics in some countries may not have the resources to cope with the increase in telemedicine and virtual patient care. Healthcare decision makers may use telemedicine for the potential role it plays. Therefore, the use of telemedicine could be a solution during the COVID-19 pandemic due to the large number of outpatients in need of medical care. The benefits of telemedicine are enormous and include increased patient access to healthcare in rural areas, increased convenience with reduced travel time to healthcare, reduced waiting times, increased flexibility in scheduling consultations with doctors, and potential cost savings. (Wahezi et al., 2020). But barriers to implementing telemedicine persist around the world. A systematic literature review on the evaluation of some of the barriers to implementing telemedicine worldwide in 2016, identified several problems namely health workers (11%), resistance to change (8%), costs (8%), patient age (5%), and education level. patients (5%). This study identified some of the problems with telemedicine that could be eliminated by training health workers and making changes to some policies (Scott Kruse et al., 2018).

## CONCLUSION

Based on the description of the study findings and the discussion based on the questionnaire responses on the descriptive knowledge and attitudes of people in Medan city using telemedicine during the COVID-19 pandemic, we can conclude that: The people of Medan city regarding telemedicine during the COVID-19 pandemic are good, and the good attitude of the people of Medan city regarding the use of telemedicine during the COVID-19 pandemic is good.

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### CONFLICT OF INTEREST

The authors have declared that there are no conflicts of interest.

### REFERENCES

Ashfaq, A., Memon, SF, Zehra, A., Barry, S., Jawed, H., Akhtar, M., Kirmani , W., Malik, F., Khawaja, AW, Barry, H., Saiyid, H., Farooqui, N., Khalid, S., Abbasi, K., & Siddiqi, R. (2020). Knowledge and Attitude Regarding Telemedicine Among Doctors in Karachi. *Cureus* , *12* (May 2005), 10–15. https://doi.org/10.7759/cureus.6927

Bahl, S., Singh, RP, Javaid, M., Khan, IH, Vaishya, R., & Suman, R. (2020). Telemedicine technologies for confronting the covid-19 pandemic: A review. *Journal of Industrial Integration and Management* , *5* (4), 547–561. https://doi.org/10.1142/S2424862220300057

Datta, R., Singh, A., & Mishra, P. (2021). A survey of awareness, knowledge, attitude, and skills of telemedicine among healthcare professionals in India. *Medical Journal Armed Forces India* , *xxxx* . https://doi.org/10.1016/j.mjafi.2021.08.017

Hikmahwati, & Sulistiadi, W. (2020). *A Systematic Review: Challenges and Evaluations Related to Telemedicine as a Healthcare's Hope to Tackle COVID-19* . *30* (Ichd), 194–201. https://doi.org/10.2991/ahsr.k.201125.033

Kichloo, A., Albosta, M., Dettloff, K., Wani, F., El-Amir, Z., Singh, J., Aljadah, M., Chakinala, RC, Kanugula, AK, Solanki, S., & Chugh, S. (2020). Telemedicine, the current COVID-19 pandemic and the future: a narrative review and perspectives moving forward in the USA. *Family Medicine and Community Health* , *8* (3), 1–9. https://doi.org/10.1136/fmch-2020-000530

Kominfo.go.id. (2020, June 30). *Teleconferencing App Usage Up 443 PercentSince*Pandemic https://www.kominfo.go.id/content/detail/27509/gunakan-application-telekonference-naik-443-persen-sejak-pandemi/0/sorotan_media Diakses 23 Juni 2022

Lubis, ZI (2021). Qualitative Analysis of the Use of Telemedicine as a Health Service Solution in Indonesia during the COVID-19 Pandemic. *Physiotherapy Health Science (PhysioHS)* , *2* (2),

76–82. https://doi.org/10.22219/physiohs.v2i2.15148

Saputra, AW, Simbolon, I. (2020). The Relationship of Knowledge Levels about COVID-19 to Compliance with the Lockdown Program to Reduce the Spread of COVID-19 Among Indonesian Adventist University Dormitory Students. *Nutrix Journal* , 4(No.2), 1-7.

Scott Kruse , C., Karem, P., Shifflett, K., Vegi , L., Ravi, K., & Brooks, M. (2018). Evaluating barriers to adopting telemedicine worldwide: A systematic review. *Journal of Telemedicine and Telecare* , *24* (1), 4–12. https://doi.org/10.1177/1357633X16674087

Syafrida , S., & Hartati , R. (2020). Together Against the Covid 19 Virus in Indonesia. *GREETINGS: Journal Social And Cultural Shar- I* , *7* (6), 495–508 . https://doi.org/10.15408/sjsbs.v7i6.15325

Triantafillou, V., & Rajasekaran, K. (2020). A Commentary on the Challenges of Telemedicine for Head and Neck Oncologic Patients during COVID-19. *Otolaryngology - Head and Neck Surgery (United States)* , *163* (1), 81–82.

Wahezi, S., Duarte, RA, Yerra, S., Thomas, MA, Pujar, B., Sehgal, N., Argoff, C., Manchikanti, L., Gonzalez, D., Jain, R., Kim, C., Hossack, M., Sentthelal, S., Jain, A., Leo, N., Shaparin, N., Wong, D., Wong, A., Nguyen, K., … Kaye, AD (2020) . Telemedicine during covid-19 and beyond: A practical guide and best practices multidisciplinary approach for the orthopedic and neurologic pain physical examination. *Pain Physician* , *23* (4 Special Issue), S205–S237. https://doi.org/10.36076/PPJ.2020/23/S205

Wantiknas, 2020. *Telemedicine Solutions in the Midst of a Pandemic* ,Available_online_from:http://www.wantiknas.go.id/wantiknasstorage/file/img/ebuletin/20200805_e_Buletin%20Wantiknas_Solusi%20Telemedicine%20Di%20Tengah%20Pandemi_Edisi%2004. pdf [Accessed 29 January 2021]

Widiyani, R., 2020. *Background of the Corona Virus, Developments to the Latest Issues* . Available online from: https://news.detik.com/berita/d-4943950/latar-berat-virus-corona-perkembangan up-to-date [Accessed 28 January 2021]

Zayapragassarazan , Z., & Kumar, S. (2016). Awareness, knowledge, attitude and skills of telemedicine among health professional faculty working in teaching hospitals. *Journal of Clinical and Diagnostic Research* , *10* (3), JC01–JC04. https://doi.org/10.7860/JCDR/2016/19080.7431