Implementation of Telemedicine in Indonesian Urology Practice During COVID19- Pandemic: a National Survey

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Many aspects of living were affected by the pandemic of Coronavirus-19 (COVID-19). Medical care demand keeps going on, although the pandemic put many other activities to be restricted. The care of the patients should not be compromised, although many restrictions and locks down may limiting our patients or even our physical presence in the urological field. Nevertheless, the ability to deliver the standard of care is precedence. Like many other works that shifted to amplify online platforms, the medical field also faces a similar problem and needs changes to adapt to the new situation.

In the urologic field, the treatment of our patients is reprioritized with specific safety measures. Treatments should be regulated by considering the risk to benefit ratio. Therefore, guidelines are issued to help urologists take the proper decision upon urologic treatment during the pandemic. One of the recommendations from the Indonesian Urological Association is to improve the utilization of telemedicine. This study is aimed to understand the views of applying this method from urological practitioners throughout Indonesia.

An online survey created using www.typeform.com was conducted from October to November 2020. The Indonesian Urological Association accompanied the survey. The survey was sent by email to all association members, urology specialists, and urology residents throughout the country.

The online survey page was targeting a total of 485 urologists and 220 urology residents across Indonesia. However, the survey was engaged by only 410 or 58% of the targeted respondents, and 43% were dropped off on the welcome screen. Then, 270 participants continued, but only 232 participants finished the survey (85% completion rate). The average time to complete this survey was in 6 minutes. The survey was completed by 50 urologists (10,3%) of Indonesian Urological Association members and 182 urology residents (82%) of total urology residents from 5 urology centers in Indonesia. Our respondents came from 15 provinces in Indonesia, and the majority (70%) was from Java, the most populated and developed island where the capital city of Indonesia, Jakarta, is located. The working experience period of participated urologist was mostly $\leq$ five years (49%) and followed by > 10 years (29,4%), and for the rest, 21,5% is for 6-10 years. They work mostly at the secondary-tier hospital (type B and C hospital in Indonesia) for 90%, and the rest are working in a tertiary-tier hospital (type A hospital in Indonesia). The urology resident participants come from urology centers in 5 universities in Indonesia.

The majority of respondents (64%) had provided informal medical consultation using social media, a messaging application, or a medical consultation website. The most used platform was messaging apps (62%), such as WhatsApp or Line, and secondly, the informal consultation was through social media (16%) like Instagram or Facebook.

Almost half of our respondents currently do not have facilities to held a telemedicine practice in their institution. The other respondents have a formal official telemedicine facility in their institutions, but the facility reported inadequate by 14%. A total of 28% of respondents reported formal telemedicine practice in their institution, and half of them used texting and picture sharing through the institution's official platform. Video call and voice call are used by 28 % and 19%, respectively. Most participants rated their telemedicine practice's effectiveness 4 to 5 from a maximum score of 5.

We have positive responses regarding telemedicine appliances as a hospital service. Over half of the respondents agree with telemedicine service, while 23 percent still neutral and 4 percent disagree with telemedicine. If they could encounter telemedicine, the majority will choose texting and picture sharing platforms (48%), followed by video call forms with picture sharing (34%). Video call-only is preferred by ten percent, while both text-only or voice call-only are chosen by three percent.

We proposed several possible service areas to use telemedicine, and we assessed how many respondents selected these areas. The most widely chosen area is the outpatient visit for a follow-up patient non-operative or preoperative case that accounted for 77%. Outpatient for postoperative follow-up is chosen by 55%, followed by a new outpatient visit and inpatient ward rounding (online rounding) for 46% and 24%. To know the preferred case to be treated through telemedicine, we ask the possible cases to use telemedicine. All urology problems without emergency voted by 73% of the respondents, followed by benign prostate hyperplasia (46%), stone cases (40%), malignancy (20%), pediatric (14%), and kidney transplant cases (7,5%).

As much as 39% of participants think that a possible obstacle to run this method was due to insufficient facility. Other issues like insurance coverage and patient's inter-

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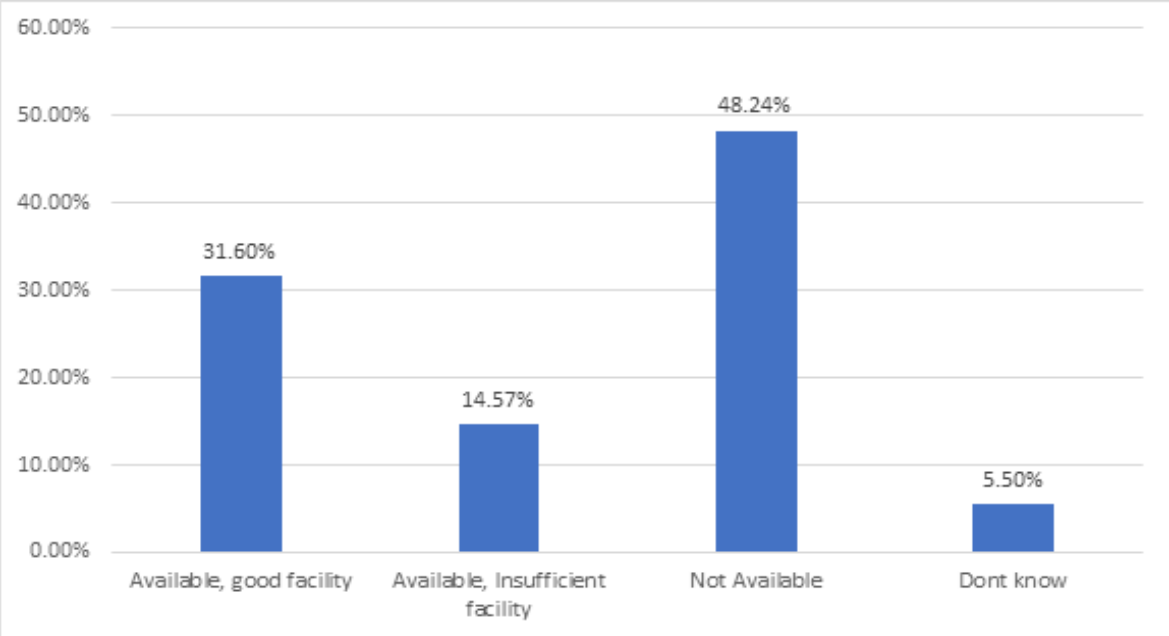

Figure 1. Current telemedicine situation

est in telemedicine were both voted by 16%. The risk of patient data leak and the urologist's lack of interest in telemedicine accounted for 11% and 10%. Participants also mentioned inadequate physical examination (2,5%) and the unsettled legal protection of telemedicine (1,5%) as a potential obstacle.

Despite some doubts about telemedicine, in sum, 36% of the respondents thought telemedicine would keep utilized although the pandemic is resolved, and even more, 17% highly agreed. However, 29% voted for neutral regarding this, and the rest is on the contrary. Disagree and highly disagree for 11 and 5 percent, respectively.

DISCUSSION

Looks back to 1997, according to the World Health Organization, telemedicine is the delivery of health care services by all health care professionals using information and communication technologies that intended not only for the diagnosis, treatment, and prevention of disease and injury but also for the research and evaluation, and the continuing education of health care providers1. Telemedicine was described in 1950 by The Lancet's article explaining the telephone's uses to reduce unnecessary patient visits. With more accessible communication technology, the modern infrastructure nowadays

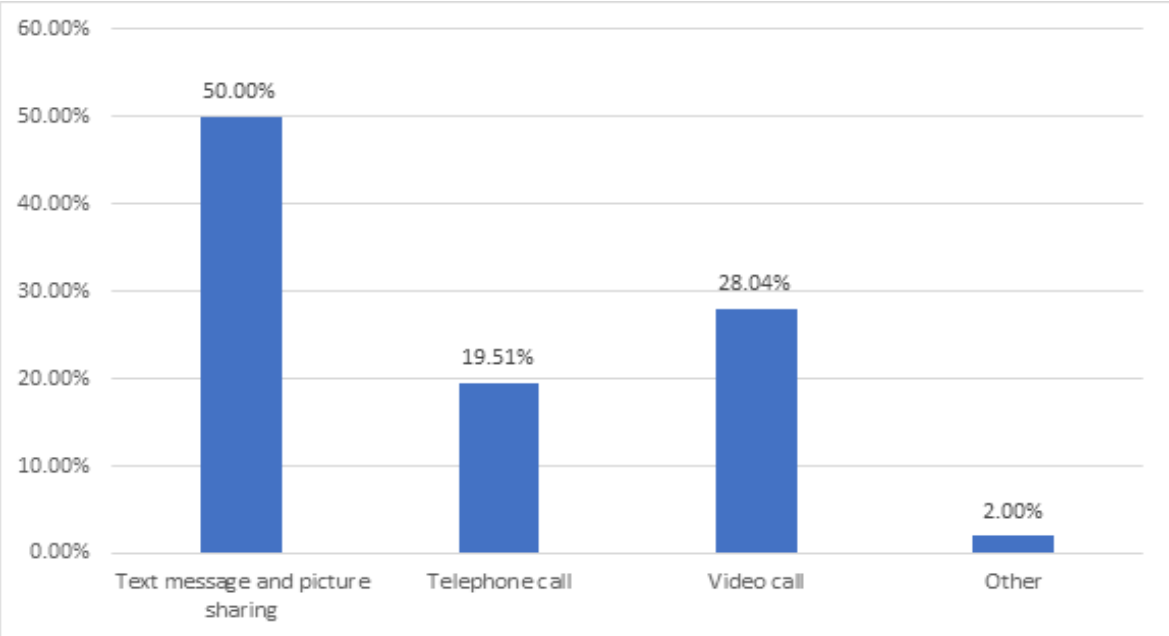

Figure 2. The form of institution-based official telemedicine performed

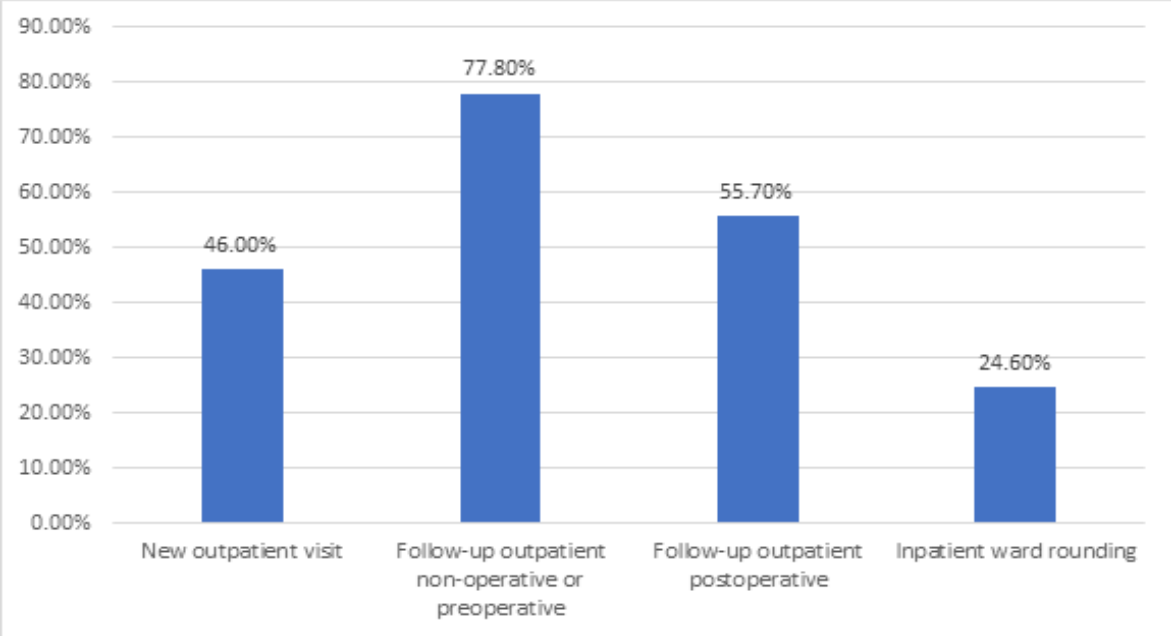

Figure 3. Possible areas to utilize telemedicine

uplifted communication technology utilization in the medical field2.

The COVID-19 pandemic highlighted, even more, the critical role of telemedicine to reduce the risk of virus transmission caused by a person-to-person close contact at the medical care. The chance of the virus transmission is lowered by "social distancing", which lessens physical contact. Telemedicine can help to mitigate the risk for the patients and also the physician. Both physicians and patients can avoid crowds in the clinic or waiting rooms 3.

While the current pandemic situation pushes us to adapt and implement telemedicine, telemedicine uses in urology are not very well defined. Data to support the evidence-based practice of telemedicine is not robust 4. Studies to evaluate the use of telemedicine in urology practice were obtained only from developed countries. A literature review paper about telemedicine in urology revealed that currently, telemedicine is used for several roles in delivering care and educational purposes, including outpatient teleconsultation, televisit, remote patient monitoring, and telementorship 2. Another article reported its use for telerounding, teleimaging, and telesurgery 4,5. Previous studies reported its impact on

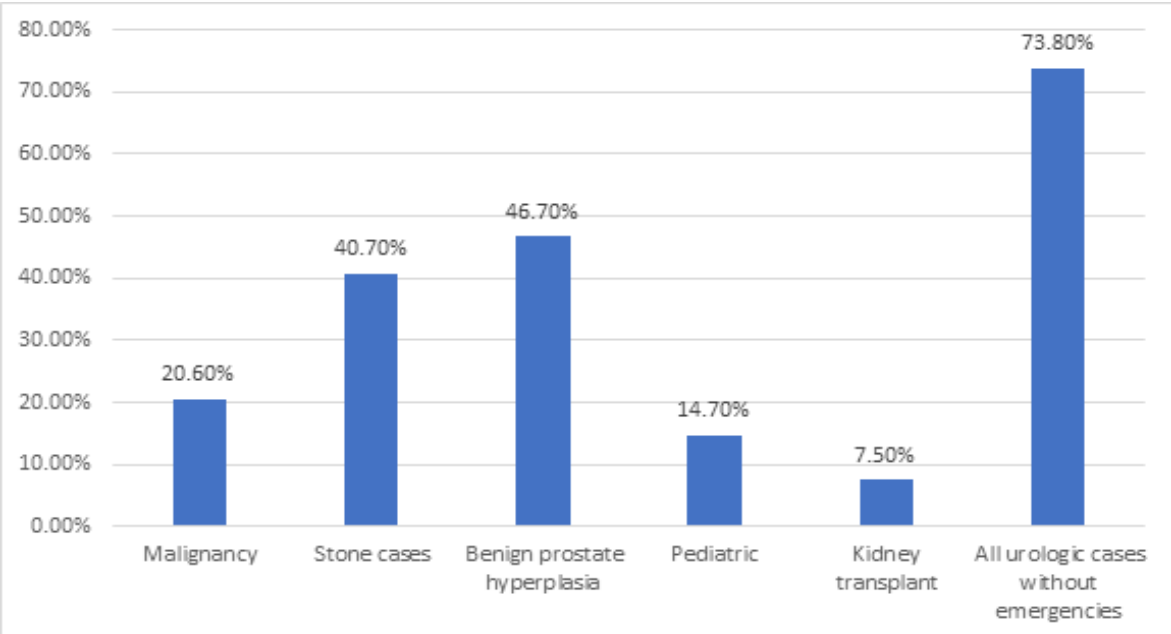

Figure 4. Urologic case to be treated with telemedicine

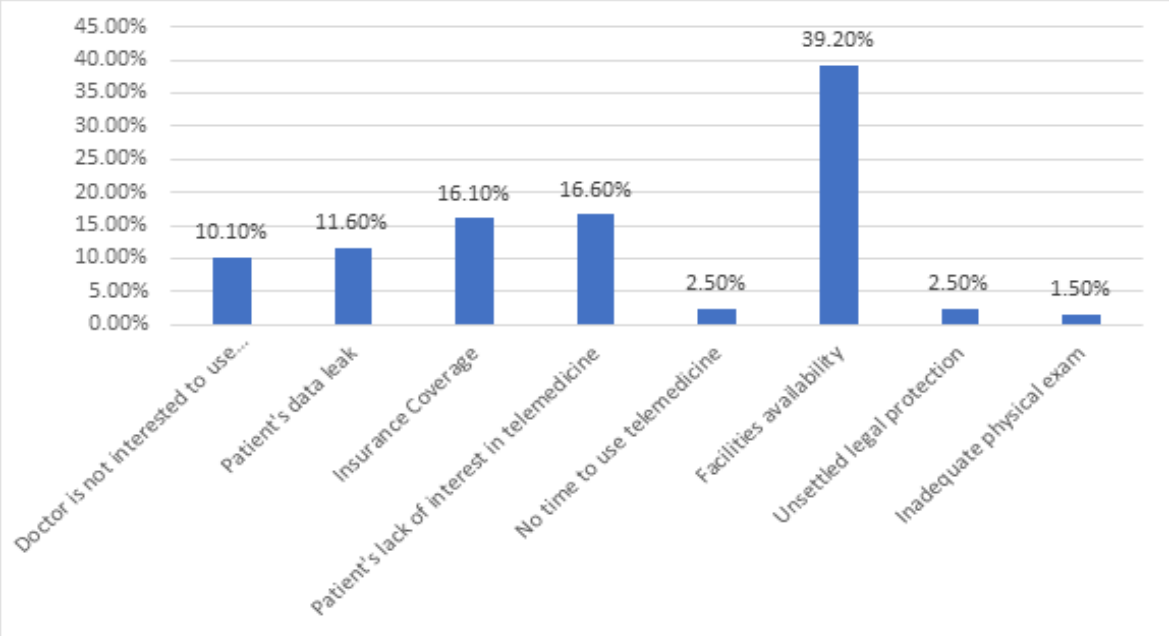

Figure 5. Potential obstacle during the implementation of telemedicine

means of efficiency of time and cost spent for the travel expenses 6.

A potential drawback when adopting this method is a lack of physical examination 7, which our responders also realized. However, a good and systematized anamnesis may be enough leading to the diagnosis. Perhaps this matter will decide whether a patient may need a visit to the clinic or not. On the other hand, when the physical examination is not critical, such as a clear photo of the abnormal findings, and a laboratory test report may be sufficient to evaluate.

Another potential challenge is to provide the device to conduct telemedicine and excellent internet infrastructure on both of care provider and patient's side, so the exchange of information runs smoothly. Even so, the patients, nurses, and hospital management needs to adapt to the approach. Moreover, the government or regulatory institution needs to solve the policy arranged for this new approach, and the national health insurance coverage needs to be provided for the telemedicine service.

The engagement rate of the questionnaire by 58% of the target respondents which 43% of them were dropped off in the welcome screen, and the completion rate of

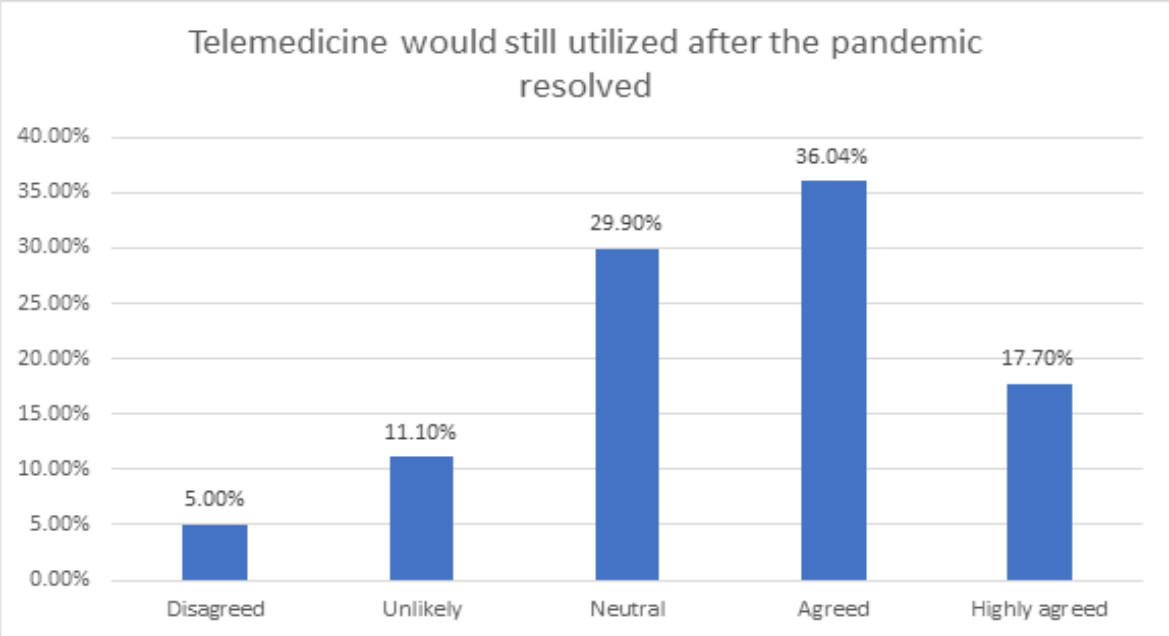

Figure 6. View of telemedicine in the future

the online questionnaire accomplished by only 10,3% of urologists and 82% of urology residents across Indonesia, these may represent that interest to voluntarily involved in this study field is low. Besides that, the response regarding the possibility of continuity of telemedicine responded positively only by 53% may reflect the current overall disinterest in telemedicine practice. After all, the low interest in adopting this method has become the greatest barrier.

The potency of telemedicine practice depends on the acceptance and willingness of the urologist to reshaping the traditional way of practice. In a developing country, we may find it hard and need more effort to adopt this approach as telemedicine may not be included in the medical training. Nevertheless, if we all together can adapt to this opportunity, then it is expected that telemedicine will be more common, popular, and keep utilized after the pandemic, especially if it has proven to be beneficial and efficient 8.

The COVID-19 pandemic has presented health care systems with challenges. Since the global situation is rapidly evolving, Indonesian urologists are currently learning the novel telemedicine implementation that may disrupt the traditional urology practice. In Indonesia, as a developing country, some challenges still need to be resolved. Starting from the regulation and legal protection fundamentally, and the health insurance coverage needs to be determined. After all, the low interest in adopting this method has become the greatest barrier.

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The authors report no conflict of interest to disclose.

REFERENCES

1. World Health Organization. A health telematics policy in support of WHO's Health-for-all strategy for global health development. 1997:33. https://apps.who.int/iris/handle/10665/63857.
2. Castaneda P, Ellimoottil C. Current use of telehealth in urology: a review. World J Urol. 2020;38(10):2377-2384. doi:10.1007/s00345-019-02882-9
3. Smith AC, Thomas E, Snoswell CL, et al. Telehealth for global emergencies: Implications for coronavirus disease 2019 (COVID-19). J Telemed Telecare. 2020;26(5):309-313. doi:10.1177/1357633X20916567
4. Ellimoottil C, Skolarus T, Gettman M, et al. Telemedicine in Urology: State of the Art. Urology. 2016;94:10-16. doi:10.1016/j.urology.2016.02.061
5. Gettman M, Rhee E, Spitz A. Telemedicine in Urology. American Urological Association. https://www.auanet.org/guidelines/telemedicine-in-urology. Published 2016.
6. Chu S, Boxer R, Madison P, et al. Veterans Affairs Telemedicine: Bringing Urologic Care to Remote Clinics. Urology. 2019;86(2):255-261. doi:10.1016/j.urology.2015.04.038
7. Miller A, Rhee E, Gettman M, Spitz A. The Current State of Telemedicine in Urology. Med Clin North Am. 2018;102(2):387-398. doi:10.1016/j.mcna.2017.10.014
8. Desouky E. Impact of COVID-19 on Urologists: Learning on the Go. Eur Urol Focus. 2020. doi:10.1016/j.euf.2020.04.008