

Breaking COVID-19 Transmission: Leveraging on Telemedicine for Cancer Management in Indonesia

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Background and Objective

In Indonesia with a huge millennial generation, adoption of digital technology is progressing rapidly. The advancement is pushing the boundaries and making telemedicine low cost with high impact. Especially during this COVID-19 pandemic, utilization of technology to remove conventional face to face interaction is necessary. Specifically, in cancer management telemedicine has been utilized for some time in Indonesia for various purposes including tele-managerial, tele-education, tele-research, tele-medical record, and tele-consultation. The development of such technology specifically tele-consultation is elaborated in brief below.

Methods

The developed teleconsultation enabled doctors to provide services to his / her patients via video conference. There were 2 general types of teleconsultation (generic virtual teleconsultation and institution developed teleconsultation). Both system allows patients to do appointment with a particular oncologist on their allocated designated time. The patient initial data was keyed in into the system or accessed through institution e-medical records for the generic system and institutional system, respectively.

During the teleconsultation, key summary of the findings can be entered by the doctors into the system, either into the cloud medical record for generic system or institution medical record. The doctor can also access the past consultation history. Whenever, a procedure is necessary, the doctor will consult the patients on how to safely access treatment in the hospital.

Results and Discussion

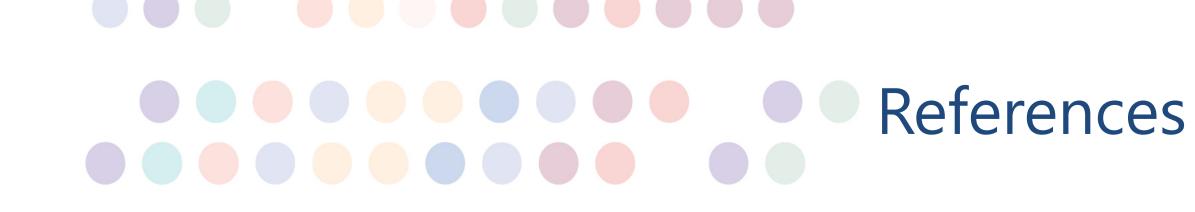
This teleconsultation tool specifically developed to assist cancer management has shown some positive impact.⁴ This system is particularly very useful to enable consultations of patients residing in rural areas with limited access of health services, particularly cancer services.⁵ This system provides great satisfaction because patients can access the oncologists early in the course of their disease, some even when there was just still a small lump. Furthermore, the cost of teleconsultation is exceedingly low compared to standard consultation in the clinic.

Some patients that were thought to have benign lesion can be consulted to delay their visit, but the alarming signs and symptoms of more severe condition is informed to the patients by the oncologist. Though, generally this system works well, nevertheless, some technical problems existed. The availability of hardware, network and connection are some of the technical problems. However, as Indonesia has 4G network in most of its archipelagos and digital transformation is happening now in Indonesia, with lots of daily activities have gone digital from market place, ride hailing, food order, and so on, the adoption of teleconsultation is soon become the norm too.

Conclusions

This result showed a high possibility that by applying telemedicine in cancer setting can have impact in continuation of cancer services in Indonesia, while preventing unnecessary hospital visit.





Trivial Disease

TELE-EDUCATION TELE-MEDICAL RECORD TELEMEDICINE TELE-RESEARCH **TELE-MANAGERIAL** TELE-CONSULTATION Institutional Based Teleconsultation **Generic Teleconsultation** System **Patient** Reception **Patient Patient**

1. Cahya D, Nugraha A, Aknuranda I. An Overview of e-Health in Indonesia: Past and Present Applications Dwi. Int J Electr Comput Eng. 2017;7(5):2441–50.

Trivial Disease

- 2. Mann DM, Chen J, Chunara R, Testa PA, Nov O. COVID-19 transforms health care through telemedicine: Evidence from the field. J Am Med Inform Assoc. 2020;27(7):1132–5.
- 3. Datta NR, Heuser M, Samiei M, Shah R, Lutters G, Bodis S. Teleradiotherapy network: Applications and feasibility for providing cost-effective comprehensive radiotherapy care in low-and middle-income group countries for cancer patients. Telemed e-Health. 2015;21(7):523–32.

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- 4. Elkaddoum R, Haddad FG, Eid R, Kourie HR. Telemedicine for cancer patients during COVID-19 pandemic: between threats and opportunities. Futur Oncol. 2020;16(18):1225–7.
- 5. Sirintrapun SJ, Lopez AM. Telemedicine in Cancer Care. Am Soc Clin Oncol Educ B. 2018;(38):540–5.

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