

## Utilisation of Online Platform to Promote COVID-19 Prevention in University of Jember: Staff and Students Acceptance

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### Abstract

COVID-19 pandemic has hit almost all regions of Indonesia in the last year. Rapid changes in information, prevention protocols, and policies regarding this pandemic often cause turmoil and confusion amid its citizens. In a workplace such as a university, different demographics and characteristics of the individuals may influence approaches in accessing and understanding the abundant information available online. This condition necessitates the building of a comprehensive COVID-19 prevention system and information network by the university. University of Jember has developed a comprehensive online platform regarding the COVID-19 pandemic, managed by health professionals. This platform contains a direct assistance service, telemedicine consultation, education through social media, and a cluster tracing system. In this paper, we share how the online

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platform has been utilized and the acceptance among its users. From the 870 students, staff, and citizens around the university utilizing social media and telemedicine services, recorded in the first five months of the pandemic, 150 were randomly chosen to fill out a short questionnaire which had been evaluated for validity and reliability. About 40% respondents rated the platform as helpful, 43% rated as very helpful, and the rest rated it as less useful. The age distribution of the users also showed that younger users tend to choose social media rather than the telemedicine service provided by appointed health professionals, but older users tend to utilize the telemedicine more. In conclusion, the online platform to promote COVID-19 prevention is generally accepted, but a subsequent study needs to be conducted to obtain better understanding of how to optimize it.

**Keywords:** *COVID-19, promotion, online, telemedicine*

## **1. Introduction**

The outbreak of the novel coronavirus SARS-CoV-2 (the cause of coronavirus disease 2019; previously 2019-nCoV), first started in Hubei Province of the People's Republic of China and spread to other countries worldwide. On 30 January 2020, the WHO Emergency Committee declared a global health emergency based on the growing case notification rates in Chinese and other international locations (Velavan & Meyer, 2020).

Seeing how fast the COVID-19 outbreak has developed, the role of health professionals in diagnosing, treating, and preventing the disease becomes more evident, so much so that it seems that the role of health promotion no longer held any critical value. On the other hand, protocols to help prevent the COVID-19 spread are very closely related to the change of human behaviour, especially in establishing healthy lifestyle; that includes frequent hand washing, wearing face masks, and keeping minimum distance between people in daily activities. These behavioural changes, a part of health promotion goals, are vital and may become a pivotal measure to change the direction of the pandemic (Brownson et al., 2010).

Simultaneously, many rumours, misinformation, and hoaxes have appeared on several social media platforms regarding the aetiology, outcomes, prevention, and cure of the disease (Tasnim et al., 2020). This stream of social media content, which is often difficult to prove, can potentially create confusion among the public. Misinformation and rumours regarding COVID-19 are hindering the practice of health-promoting behaviours, such as handwashing and social distancing, and promoting erroneous practices that increase the spread of the virus, which ultimately result in poor physical and mental health outcomes (Brownson et al., 2010; Tasnim et al., 2020). Over the last decade, social media has influenced human lives in a manner that is unprecedented in its scale and magnitude (Goel & Gupta, 2020). It is very important to have a digital platform that can be trusted and accepted by people from all levels of education.

Usage of digital platforms in mitigating a similar situation isn't new. During the SARS outbreak in 2003, Hong Kong used their electronic data system for tracing and identifying clusters (Leung et al., 2004). A more sophisticated technique using mobile data system and application was also successfully utilized to detect travel pattern during Ebola outbreak in 2014-2016 (Wesolowski et al., 2014). During the present COVID-19 pandemic, every country has been utilizing their own digital platforms to mitigate the disease spread, including by using social media (Budd et al., 2020).

In University workplace, there are people with different socio-cultural values and educational backgrounds that can potentially influence in causing confusion regarding handling COVID-19 related information. A trusted information platform regarding latest update in prevention protocols, local policy, and familiar spokesperson is needed there. University behaves similar to a small town, as there are several work units and a wide range of age among staff, lecturers, and students. Its internal policies often could not be completely taken from the city or country's policies, hence a platform to provide that information is important.

University of Jember has implemented a comprehensive online platform run by general practitioners that handles COVID-19 cluster tracing system, telemedicine, direct assistance, and education through social media. In the cluster tracing system, all close-contacts traced will be further tested and quarantined, or referred to the appointed health facilities. Direct assistance is a service conducted by our team members and volunteers who regularly visit units in the university and fill an observation checklist to assess the staff and students' behaviour regarding the COVID-19 prevention protocols. Social media and telemedicine are health promotion portals that provide two-ways communication with the users. Students, staff, and residents around the university can access the telemedicine via WhatsApp Messaging or freely browse through social media platform provided (Instagram and University Website) to get information regarding COVID-19. Any questions can be asked through WhatsApp or via personal message in Instagram.

In this study, a simple evaluation and generic identification of the users was done in order to see user acceptance towards the online platform. Data retrieved is important to further tailor the online platform according to the University of Jember online platform users' need.

## **2. Methods**

To see the general acceptance regarding the online platform among University of Jember students, staff, and residents, a qualitative survey was done. One hundred and fifty participants were randomly chosen from clustered groups based on position in University (students, staff, and residents), and 128 responded. We gave out a questionnaire toward every service in University of Jember online platform. Respondents anonymously filled the questionnaires online through Google Form.

The semi-structured questionnaire, constructed by a team, consisted of 5 closed questions using a Likert scale and one open-ended question. Twenty 'pilot' questionnaires were sent prior, to test and develop the questionnaire. Validity and reliability tests for the questionnaire were conducted using SPSS. Validity test using Pearson correlation showed all questions are valid with  $R > 0.175$ . Reliability test showed Cronbach's Alpha of 0.622 which indicated the questionnaire is reliable and can be used. The respondents were asked about their experience in using the services on the online platform and rate it from 1-4 (score 1 is useless, 2 is less useful, 3 is helpful, and 4 is very helpful), and at what rate they would recommend it to others. They were also asked to choose which service they preferred to use to get information, and the questionnaire ended with an open-ended question about their suggestion to improve the platform.

## **3. Results and Discussion**

The online technology has been rapidly developing. Harnessing an online platform for every aspect of life is now a common occurrence, since many people have familiarized themselves with it. In the isolation forced by the COVID-19 pandemic, the needs for online services are getting even higher

than before, and online platforms can also be effectively utilized to comprehensively mitigate the disease spread.

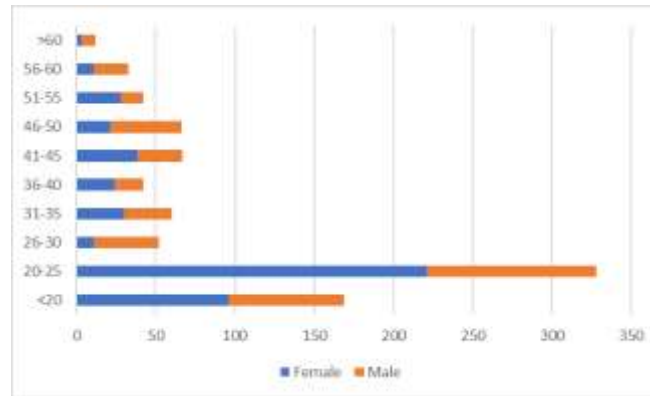


Figure 1: Age and sex distribution of University of Jember online platform users.

During the first 5 months of the pandemic (March – July 2020), the online platform has served 871 users, which consisted of students (390 users), staff (260 users), and residents around the university (221 users). As depicted in Figures 1 and 2, most users are in the relatively young age bracket of under 25 years old. This is probably mostly due to the tendency of younger age groups being more familiar with online service, with most of them preferring to access the education about health promotion approaches via social media.

Figure 1 shows the age and sex distribution of the users of University of Jember online platform. Most users, as depicted in the graph are students (age group <25 years old). In average, 57% users are female and 43% are male.

The preference of services from each age group, shown in Figure 2, indicated that younger age groups prefer social media platform rather than direct telemedicine. Social media used as the platforms are Instagram and the university’s website, containing case number update, prevention protocols, and university policy regarding the pandemic situation. Team members and volunteers, supervised by appointed health professionals and lecturers, are assigned to regularly update the content.

Telemedicine consultation service can be accessed via telephone and WhatsApp to an assigned general practitioner. A hotline number and private consultation number are provided to every student, university staff, and residents around the university to consult about their COVID-19 risks and health problems. All users are required to fill and submit a self-assessment form in the beginning of any telemedicine consultation. The self-assessment is used to classify the COVID-19 and health risk of every user, separating them into low risk, high risk, and closely monitored groups. The members of the closely monitored group will be further assessed, and if there is an indication will be included in the cluster tracing system. The cluster tracing system was not provided in this poll, because the purpose of this service is to quickly detect close-contacts with confirmed cases based on reports given by each faculty supervisor. Similar with cluster tracing system, direct assistance

was not included in this poll because it is a mandatory service and all units in the University of Jember have been scheduled to get the service.

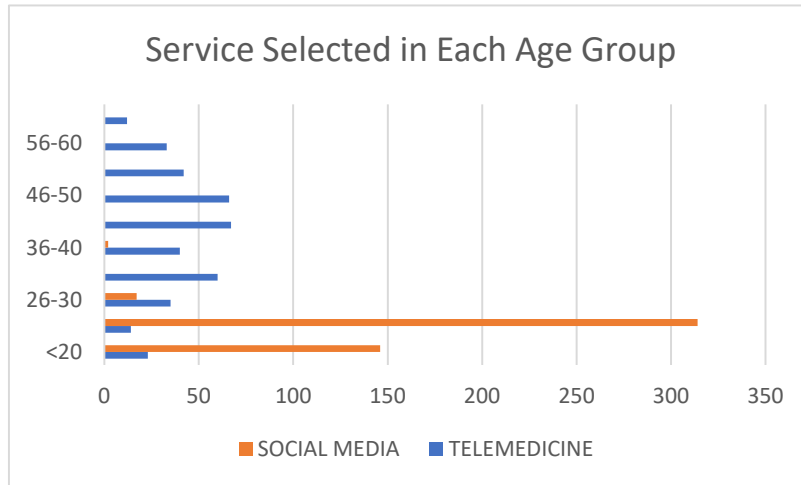


Figure 2: Service preference in each age group.

In the current COVID-19 pandemic, social media has the potential, if responsibly and appropriately used, to provide rapid and effective dissemination routes of key information (Chan et al., 2020). We believe the success of the dissemination was promoted by the existing reputation of the institution, quality of the infographic imagery and content, and the prompt dissemination by social media platforms with professional participants. Free and rapid access to high-quality information from verifiable sources is valuable in optimizing the global medical response to crises, such as the current COVID-19 pandemic (Tangcharoensathien et al., 2020; Cuello-Garcia et al., 2020).

Contrary to the preferences in the younger age bracket, older age groups tend to utilize the telemedicine consultation. Telemedicine should be used to provide evidence-based care, and informational services should be made available for people with limited access to care, such as people in rural areas, the elderly, people with comorbid conditions, and those who are simply stuck at home due to lockdown. This will both reduce the risk of hospital-acquired infections and also reduce the hospital capacity, utilization of resources such as ventilators, and personal protective equipment for doctors (Tasnim et al., 2020).

Based on the question in the survey, this platform is generally accepted. Figure 3 shows that 43% users stated the platform is very useful, 40% stated its useful enough, while a minority stated it was less useful or useless during COVID-19 pandemic era. We asked the respondents to rate the services (social media and telemedicine) from 1 to 4 and whether they would recommend it to others (data not shown). This small survey was only able to grasp the general acceptance towards the online platform, but not each specific service and what factors influenced the acceptance. Another survey is needed to convey a more complete illustration, and how to enhance the platform, so it can be

further tailored to the users' needs. The limited number of respondents willing to fill out the questionnaire might also be unevenly distributed in all age brackets.

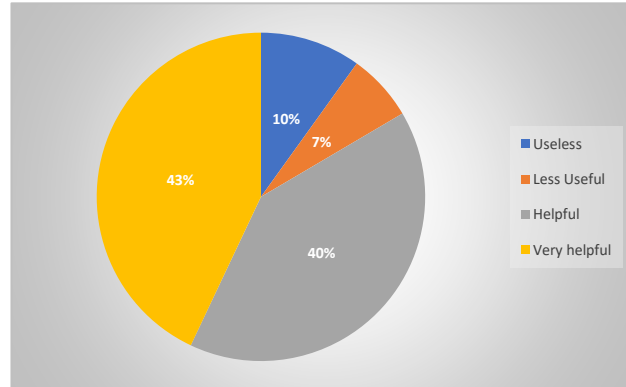


Figure 3: User acceptance toward the University of Jember online platform.

#### 4. Conclusions

The University of Jember has implemented a comprehensive online platform run by general practitioners, which contains COVID-19 early detection and cluster tracing system, telemedicine, direct assistance, and health promotion through social media. This platform has been used by the students, staff, and residents around the university to gain information and know the policies regarding COVID-19 prevention. The platform is generally accepted by its users, but a further study is needed in order to find the factors influencing the acceptance and how to optimize it to all the users' needs.

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