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ORIGINAL ARTICLE

Promoting Community Health During Covid-19: A Service-Learning Experience in Selangor

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ABSTRACT

Introduction: Given the prolonged movement restrictions that have led to sudden lifestyle changes and rising mental health concerns, innovative health promotion approaches are inevitable. 'Health Fest UiTM' was a virtual health promotion program conducted to address some of the overarching issues facing our communities during the COVID-19 pandemic. This paper aims to describe the implementation of 'Health Fest UiTM' as a public health service-learning tool with a community-based teaching and learning approach **Methods:** The 'Health Fest UiTM' project was organized by the Department of Public Health Medicine from the end of July to early August 2021. Four key themes were identified based on a community health needs assessment. They included: i) COVID-19 immunization, ii) mental health awareness, iii) physical activity and healthy diet during the pandemic, and iv) domestic violence awareness. Various activities were conducted using different social networking sites (SNSs) and anonymity was ensured to encourage greater participation and minimize stigmatization **Results:** In total, 214 fourth-year undergraduate medical students were involved in this service-learning program. Five virtual live events displayed favorable SNSs engagement metrics that ranged from 200 to 1000 participants and the total number of views and shares for the educational materials posted on SNSs exceeded 35,000. **Conclusion:** The COVID-19 pandemic has accelerated the integration of digital technology into the performance and delivery of service-learning in providing access to health information and education as well as facilitating community engagement through virtual platforms.

INTRODUCTION

Since March 2020, Malaysia has undergone various phases of Movement Control Orders (MCOs) containing different stringency degrees of Standard Operating Procedures (SOPs) that restrict citizens' movement [1]. Beginning on 1 June 2021, the massive surge of cases has prompted the Malaysian government to implement a nationwide MCO 3.0, which thereafter ensued a complete lockdown with greater stringent restrictions [2]. The unpredictable dynamic of COVID-19 spread has also raised concerns over a possible exponential wave of non-communicable diseases due to the physical inactivity and mental health effects of prolonged lockdowns [3].

Apart from disruptions of healthy lifestyles (e.g., physical activity, recreation, etc), prolonged lockdowns preclude the ability to carry out traditional, face-to-face health promotion activities, which poses a challenge for public health practitioners. To tackle this within the context of medical education, we used an online Community Service Learning (CSL) approach. Service-learning is a well-established educational approach that has been integrated into the curriculum for more than five decades, especially in developed countries. It integrates classroom instruction with community service activities [4] and can be defined as "a form of experiential learning that takes place through a life cycle of action and reflection when a student applies what they have learned to fulfill the real needs of a community" [5]. The advantages of incorporating service learning into medical curricula include developing future doctors' knowledge, abilities, and competencies in their field to solve community problems and serving as a platform to increase students' teamwork and professionalism [6].

Under the aegis of the Malaysian Education Blueprint 2015-2025, Universiti Teknologi MARA has been actively involved in the Service-Learning Malaysia-University for Society (SULAM) initiative and implemented service learning in the medical curriculums. In a recent public health rotation, UiTM fourth-year undergraduate medical students were scheduled to have their community service-learning (CSL) from 5 July to 8 August 2021. Collaboration with the district municipality was affected due to the movement restrictions in most of Selangor and Kuala Lumpur between 3 and 16 July 2021 [7]. This was the first time the enhanced MCO (EMCO) was enforced so widely in both states since the pandemic struck in March 2020, and residents were not allowed to leave their homes except for emergencies or buying necessities within 10km from their residences [7]. The unprecedented situation posed difficulties for the students to carry out CSL, hence the decision to conduct a virtual health promotion program was made following a series of discussions with community leaders and local authorities.

This paper aims to describe the implementation of the 'Health Fest UiTM' program, a virtual health promotion event, as a public health service-learning tool with a community-based teaching and learning approach. The health promotion program is intended to offer the community useful information on a variety of health concerns that are relevant to the local community. Numerous health teaching methods, such as online demonstrations, role-playing, and competitions connected to the themes, were incorporated into the program in order to reach its primary audience, which comprised of populations residing in metropolitan areas. It also examines the potential of a virtual health promotion program among a technology-literate population in Malaysia.

MATERIALS AND METHODS

This was a descriptive study to outline the activities conducted in the 'Health Fest UiTM' virtual health promotion program.

Study Population

The program was a collaborative partnership between Universiti Teknologi MARA and the Shah Alam City Council (Majlis Bandaraya Shah Alam, MBSA). Shah Alam, with a total area of 290.3km^2, is the state capital of Selangor and consists of 24 zones in total [8]. The communities from four zones in Central Shah Alam (Zone 5, 6, 8, and 22) were selected by MBSA as the primary study population. The Central Shah Alam has an urban layout comprising state administrative building and agencies, housing areas, and commercial centers. However, given that we used SNSs as the main platform, this event reached a wider audience, beyond the initially targeted community.

Community health needs assessment (CHNA)

Two hundred and fourteen students were randomly assigned to one of four groups and were monitored by a public health lecturer. Each group was required to perform a community needs assessment with key informants and community leaders in accordance with the predetermined zones. A community health needs

assessment was conducted to collect background information, determine community needs, and examine the health status and risks of illness in the target population [9]. In view of the MCO restrictions, CHNA was conducted once prior to initiating the health promotion program to understand the community's needs and develop relevant themes for the program. A semi-structured interview was conducted through online platforms (*Google Meet* and *WhatsApp*) with key informants from the local communities. A few pre-determined questions were asked, e.g., "*What are the main disease/health issues in this community? What is/are the main reasons for hospitalization among the communities?*" followed by unplanned or open-ended questions for further clarification.

Key informants involved were representatives from the local municipality, neighborhood community leaders, and several volunteers among residents who have first-hand knowledge about the target community. A 'desktop' walk-through survey was also carried out to obtain a deeper understanding of existing environmental issues, whereby researchers explored the potential health and safety hazards in the selected four zones in Central Shah Alam through satellite imagery in Google Earth. Four themes were finally identified through a process of brainstorming, screening, and shortlisting: i) COVID-19 immunization; ii) mental health awareness; iii) physical activity and healthy diet during the pandemic, and iv) domestic violence awareness.

Community engagement activities

Community engagement is a core component of the health promotion program. Each group was tasked with developing and creating health education materials related to their assigned themes, as well as conducting interactive activities to increase community participation and engagement. Table 1 summarizes the key concepts covered in health promotion and health education activities and their applications.

Table 1 Key concepts of health education materials and health promotion activities

Key concepts	Application to health education (community actions)
1. COVID-19 vaccine safety basics	- Improving knowledge regarding COVID-19 and vaccination awareness
2. COVID-19 vaccine acceptance and hesitancy	- Overcoming barriers to increase vaccine confidence and uptake
3. Building better mental health	- Improving mental health literacy by increasing awareness, knowledge, and beliefs about mental disorders
4. Removing the stigma around mental health	- Increasing positive perceptions to reduce prejudicial attitudes and improve social acceptance of people with mental illness
5. Types of physical activities during the pandemic	- Increase awareness and choose the most appropriate type of physical activity for their level of fitness, health, and age.
6. Age-specific information about nutrition	-Provide better nutrition knowledge and encourage smart eating habits among the community members
7. Warning signs of domestic violence and abuse	-Educate community members about the prevalence of abuse, subtle warning signs, and development of abusive behaviors
8. Empowering victims of domestic violence	-Encourage the community to take actions to promote social change and alert survivors of the options and resources that are available to them.

Measures

Feedback forms were distributed to all of the participants who had actively participated in the various health promotion activities. The forms did not contain personal identifiers, and feedback was given on a voluntary basis. The first page of the feedback forms contained the purpose of obtaining the information for analysis/evaluation, and only those ticking 'consented' would proceed with filling up the form. Feedback analysis was conducted to assess the immediate short-term effects of the health promotion programs. Appropriate measures included the participants' awareness, knowledge, and attitudes and were classified according to the four major themes of the health promotion program as displayed in Table 2. Data analysis was performed using descriptive statistics in the form of frequencies and percentages.

Throughout the campaign, SNS engagement analytics consisting of several key performance indicators were collected and tracked from SNSs (e.g., number of likes, shares, followers, and comments). Media metrics are useful in indicating the success of the programs by providing information on the number of users who see it, who respond to it, and who subsequently share that message with their friends or followers.

The study obtained ethical approval from the UiTM Research Ethics Committee, REC/05/2021 (MR/356).

Table 2 Example of measures for the feedback analysis according to the four major themes

Key themes	Measures
i) COVID-19 immunization	I am aware of the importance of vaccination as one of the primary prevention strategies to reduce the risk of COVID-19.
	Achieving herd immunity is critical to protect the population from COVID-19.
ii) Mental health awareness	This health promotion program has improved my knowledge about mental health and mental disorders.
	This program has helped me to understand where to seek help and emotional support as well as the various types of treatments options available.
iii) Physical activity and healthy diet during the pandemic	This program has provided me with credible health information on physical activity and a healthy diet during the COVID-19 pandemic.
	Available online health education materials on physical activity and healthy diet during the pandemic were informative and easy to read.
iv) Domestic violence awareness	This program has raised my awareness and attitudes towards domestic violence.
	This program has provided me with an increased level of knowledge on the different dynamics of abusive behavior.

RESULTS

Health Fest UiTM incorporates the basic characteristics of health promotion in enabling people to take control over and take responsibility for, their health as an important component in everyday life by providing them the information and skills that they need to make healthy choices. Various activities were conducted on different SNS platforms, with anonymity ensured to encourage uninhibited participation and minimize stigmatization. Health education materials were developed for each theme and released in a specific order.

Figure 1 illustrates the four different themes selected to address the health-related needs of the target population. The first theme, "Imunisasi Vaksin COVID-19: Imun Bersama", aimed to inculcate awareness of the importance of COVID-19 immunization and encouraged individuals to register for the national immunization program. The key event was an online forum with a public health specialist and infectious disease physician broadcast live through Facebook and YouTube. The second theme, "Depression and anxiety: It's okay not to be okay", was designed to address mental health needs, particularly depression, and anxiety, and promote positive coping mechanisms to optimize their online learning experiences. The key event for this theme was an online forum involving psychologists and psychiatrists, which was supplemented by an SNS campaign entailing educational posters, a "self-love" video challenge, and videos on relaxation techniques for anxiety and simple self-care strategies for depression.

Figure 1 Four key themes were contained in the Health Fest UiTM

The third theme, "FIT4LIFE", sought to convey the importance of leading a healthy lifestyle (focusing on physical activity and healthy dietary habits) during the stay-at-home periods. Various physical exercises with different intensities that were tailored to all age groups were introduced. Educational materials also included stress-free and practical tips for healthy eating. The fourth theme, "Monsters behind walls", aimed to enhance the audience's awareness and understanding of domestic violence and ways to seek help, and promote the practice of healthy family dynamics.

From the 448 feedback forms received, most of the participants of the Health Fest UiTM (75.2%) were young adults (ages 18-35 years), 17.5% were from the middle-aged groups (ages 35 – 55 years), and 2.2% were older adults. It was also found the majority were females (73.0%), 94.2% were Malays, and 35.0% were Selangor residents. Meanwhile, 25% were from Kedah, 10% from Kelantan, and 5% were from Johor and other states. In total, 214 fourth-year undergraduate medical students were involved in this service-learning program.

Figure 2 illustrates the posters announcing five key events that were broadcast live during the Health Fest UiTM program. The local community participated enthusiastically in five major events prepared in accordance with pertinent themes. The first event on depression and anxiety attracted 247 attendees, while the second and third events, a health talk and discussion on domestic violence, attracted 185 and 135 participants, respectively. The fourth event on active living and healthy nutrition drew 150 attendees, and the fifth event on COVID-19 vaccine awareness gathered 200 people, with encouraging SNSs analytics for each event. As health education tools, 40 digital posters and two videos were created for each of the four themes, and the total number of views and shares on these resources exceeded 35,000. Apart from that, evaluation forms were distributed at the end of each live event, and 70-80% of participants agreed that the programs' objectives were achieved, and their understanding/awareness of the health themes had significantly increased. These promising results demonstrated the feasibility of virtual platforms for health promotion activities.

Figure 2 Five key events broadcasted live in the Health Fest UiTM

DISCUSSION

Health promotion is defined as 'the process of enabling people to increase control over and improve their health' [10]. In the context of a global pandemic or a national crisis where mobility is restricted and on-site health promotion and education are not possible, the role of digital technology and virtual platforms needs to be capitalized on. The use of SNSs as a tool to build community partnerships has been increasing in the field of public health as they can address the physical challenges of accessing health information when needed [11, 12].

Our data showed that most of the community members engaged are from the younger age groups (20-35 years). While having attendants from this group can be an advantage, it could also reflect the phenomenon of the 'digital divide'. The digital divide is reported to be the mythical propagator of health education, and the true propagator was the myriad of societal divides (e.g., income, education, and literacy inequities) [13, 14]. However, technology-mediated health intervention is an innovative approach to reach those in remote areas who otherwise were not able to travel or be physically present in health programs, and the use of e-health interventions has been propounded more than a decade ago [14].

Virtual CSL might not provide as much 'human interaction' compared to face-to-face health promotion programs, nonetheless, the virtual platform could boost students' confidence by gaining invaluable community education experience in the midst of an ongoing pandemic situation [12, 15].
On top of that, several reports have revealed the importance of meaningful community engagement (regardless of the delivery method), the valuable experiences students learned, and how designing virtual CSL helps to understand health promotion whilst enhancing their professional development, e.g., innovative skills, teamwork, and media literacy [12, 15, 16].

In this era of digitalization, medical education, and medical schools should be at the forefront of exploring and promoting health through digital technology. This is because digital learners are quite different from previous generations and medical education must therefore adapt to different healthcare contexts, including digitalized healthcare systems and a digital generation of students in a hyperconnected world [17]. In addition to educational programs on SNSs, technologies such as podcasts and videos with flipped classrooms, mobile devices with apps, video games, simulations (part-time trainers, integrated simulators, virtual reality), and wearable devices (Google Glass) are some of the techniques available to address the changing educational environment [18]. In a recent report, an expert panel convened by the Centers for Disease Control and Prevention (CDC), the United States of America recommended that public health professionals should develop the idea of virtual community health promotion in promoting community health [19].

There are of course limitations when using digital technologies in health promotion. "Zoom fatigue", the phenomenon that follows video conference meetings, is reported to be due to nonverbal mechanisms including mirror anxiety, physical immobility, and cognitive load from producing and interpreting nonverbal cues [20, 21]. As many as 47% and 20% of nursing students learning via Zoom video conferencing reported high and very high levels of video conference fatigue respectively [22]. In addition, while SNS-based health promotion programs encourage broad uptake and dissemination and are able to evaluate potential reach and engagement, by not tightly controlling access to the intervention/ health promotion programs, the rigor of the evaluation effectiveness (i.e., impact on health and behavior change) is diminished given the presence of other factors that can stand in between the health intervention and its outcome/impact [23].

Nevertheless, despite the limited time we had in planning the Health Fest UiTM (abrupt transition to virtual engagement amidst the COVID-19 pandemic), feedback from both the community partners and students demonstrated promising results. The limitation of the short period of advertisement and technology resources might restrict the outreach capacity. However, the occurrence of the COVID-19 pandemic is unplanned and instead provided an opportunity for educators to explore virtual engagement within the medical curriculums. Educators planning for subsequent virtual CSL should plan well ahead of time to ensure adequate preparation for marketing and advertisement, in order to reach more potential participants. Of equal importance is to develop a sustainability plan and evaluate the long-term impact of the program (e.g., three months or six months post-intervention).

This program lays a basis for CSL with a comprehensive process evaluation plan to assess the long-term improvement from the aspects of health literacy and practice of a healthy lifestyle. Future research can complement our findings by including qualitative data and exploration, for example, using interviews and focus group discussions among participants to share their experiences of virtual engagement [15]. Future studies should also adopt process evaluation as a key component within the field of health promotion in measuring the success or failure of SNSs as part of an intervention or standalone tool.

CONCLUSION

The availability of SNSs as a new avenue for healthcare communication has generated opportunities for the public, patients, and healthcare professionals to share and exchange health information and knowledge to diversify ways of promoting health behavior change and improving health outcomes.

CONFLICT OF INTEREST

The authors agree that this research was conducted in the absence of any self-benefits, commercial or financial conflicts and declare the absence of conflicting interests.

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AUTHORS' CONTRIBUTIONS

CXW and ANMR conceptualized and researched the topic. CXW, ANMR, RMY and EZS were involved in the planning and acquisition of data. CXW, ANMR, RMY, and EZS wrote the manuscript, including analysis and interpretations. All authors critically revised the manuscript for intellectual content. All authors read and approved the final version of the manuscript.

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