Development of an emergency volunteer-based call center for COVID-19 within the university setting

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ABSTRACT In response to concerns in the general public due to the Coronavirus Disease 2019 (COVID-19) pandemic, Universitas Gadjah Mada established a COVID-19 call center with the aid of volunteers. This study aims to describe the experience of developing and implementing an emergency volunteer-based call center addressing questions on COVID-19 by a higher academic institution along with the frequency and characteristics of the received calls in 2020. This descriptive observational study was conducted using secondary data to describe the implementation of a call center on COVID-19 at Universitas Gadjah Mada (UGM) between March and December 2020. Data were collected from organization documents and the caller response database. The data were analyzed descriptively. The development process included system development, volunteer recruitment, online training, and implementation. The volunteers logged a total of 150 calls during the 10-month study period. The highest frequency of calls was in March 2020 with 35 calls and the lowest was in August 2020 with only 3 calls. The majority of callers were from Yogyakarta and members of the UGM community. The main issues raised by callers were people seeking general information regarding COVID-19, recommendations regarding their health status, government and university policy related concerns, and logistics. Tele-outreach is a beneficial method to address public distress during a global pandemic, which could be managed with the aid of trained volunteers.

1. Introduction

In December 2019, news of an emerging disease spreading in Wuhan, China broke out. Public response toward the novel coronavirus, SARS-CoV-2, varied from panic to underestimation of its extent. Information regarding its transmission, signs and symptoms, and therapy evolved rapidly and often counteracted previous knowledge. As a result, there was confusion among the general public. This was further amplified due to the increasing use of social media in the digital era since numerous false claims were spreading rapidly through multiple platforms.

Current evidence indicates the popularity of misinformation or 'fake news' on the Internet compared to accurate information.[1] The phenomenon grew to become the world's first coined 'infodemic'. In Indonesia, misconceptions also flourished as the government was initially hesitant and underplayed the potential risks of this disease.[2] As feelings of uncertainty grew, members of the general public actively searched for correct up-to-date information from reliable sources.

Indonesia is a country with a fairly high social capital. The concept of gotong royong, or mutual assistance within society is echoed through much of the country's daily life and community support efforts in response to disasters have proven to be beneficial in previous cases of natural disasters.[3] Prior studies have also indicated potential benefits of assembling volunteer groups in response to the Coronavirus Disease 2019 (COVID-19), though most

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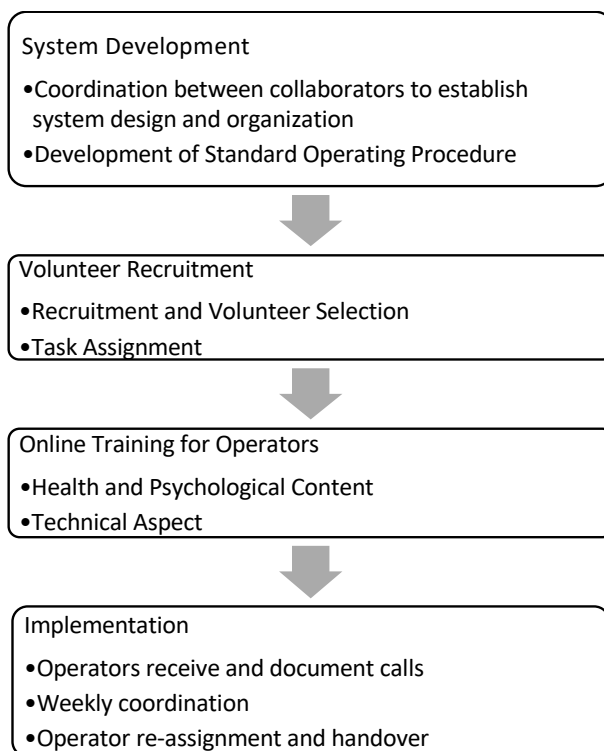
Figure 1. Development and implementation process.

reported student-based initiatives were exclusive to medical or other health-related backgrounds.[4,5] In addition, the infectious nature of COVID-19 poses health concerns to volunteers and the need for safe and physically distanced organization is essential for public safety. Tele-outreach is a favorable option to attempt due to its limited need for physical contact. There is recent evidence for its beneficial use in psychological support and to reduce social isolation during the COVID-19 pandemic.[6,7]

Universitas Gadjah Mada (UGM) is a state-owned university in Indonesia which has declared itself as a Health Promoting University (HPU). HPUs generally commit to protect and improve the state of health and well-being of the university staff and students through various programs.[8] However, not all universities adopt the concept in the same manner.

In early March 2019, simultaneous with the first reported cases of COVID-19 in Indonesia, units in UGM received numerous calls from members of the university and the general public. Due to the novelty of the disease and consequent lack of information, the units were overwhelmed with questions and there was a need for an emergency team to aid in addressing concerns from the university and surrounding community. In alignment with the goals to increase health literacy and create a healthy environment in the university and surrounding community, a call center was developed in UGM to address misconceptions regarding COVID-19 and provide a line of communication for the public with the university. This article describes the experience of developing and implementing an emergency volunteer-based call center addressing questions on COVID-19 by a higher academic institution.

2. Methods

This descriptive observational study aimed to describe a practical example of developing and implementing an emergency call center on COVID-19 at UGM in 2020 during the first ten months of the pandemic. It will also illustrate the characteristics of the callers and the information requested.
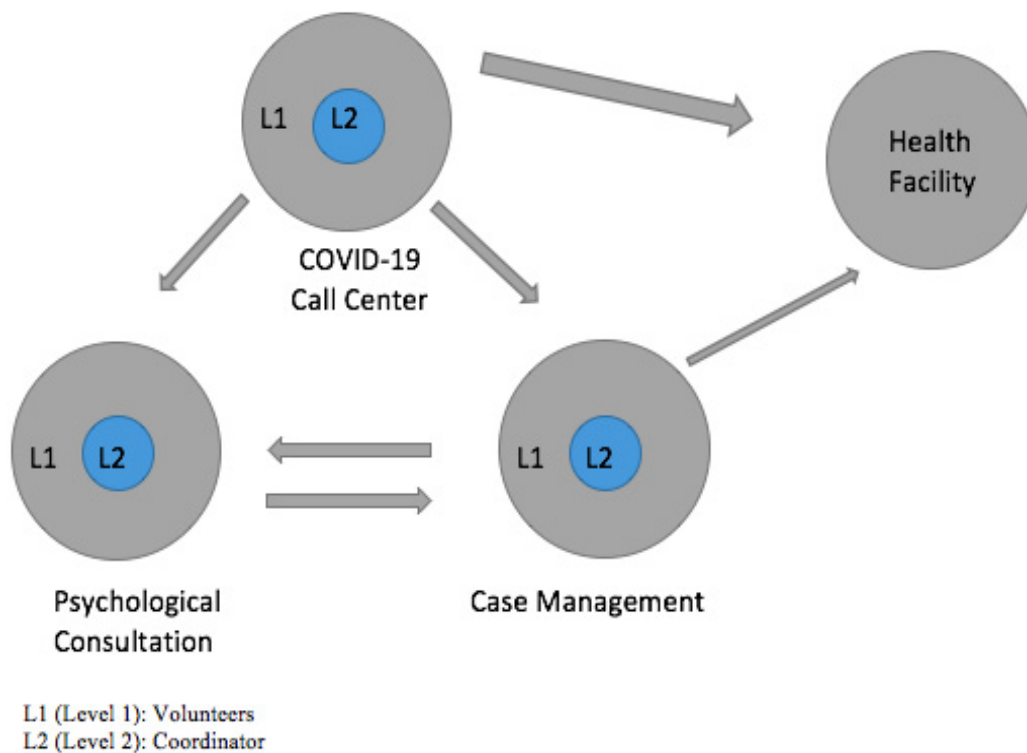
L1 (Level 1): Volunteers
L2 (Level 2): Coordinator

Figure 2. UGM COVID-19 call center referral system.

Secondary data on the development process between March 23th, 2020 and December 31st, 2020 were collected from the call center organizational documents which included meeting notes and digital media. Data on the characteristics of calls were collected from the caller response database which was used to store information on calls from the public. The caller response database details whether callers were members of the UGM community, the caller location, the nature of the calls and the questions, and whether callers needed follow-up. Types of questions were also categorized by operators as general information on COVID-19, screening and case follow-up, relating to policy, and other concerns.

The data were then analyzed descriptively to provide a summary of the process and characteristics of calls. This study received ethical clearance from the Medical and Health Research Ethics Committee, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada.

3. Results

The UGM COVID-19 Call Center as a communication hotline was established in late March 2020. It was developed and organized by a collaboration between the HPU and Public Relations units, members of university faculty and the UGM Academic Hospital with the aim to provide communication and education on COVID-19. The process included system development, volunteer recruitment, volunteer training, and implementation. Figure 1 summarizes the steps in developing of the program. Volunteers from members of university staff, students and alumni were recruited and trained as operators. The operators worked remotely with the use of smartphones in order to maintain physical distancing. Operators received phone calls relating to COVID-19 and documented the questions through an online form.
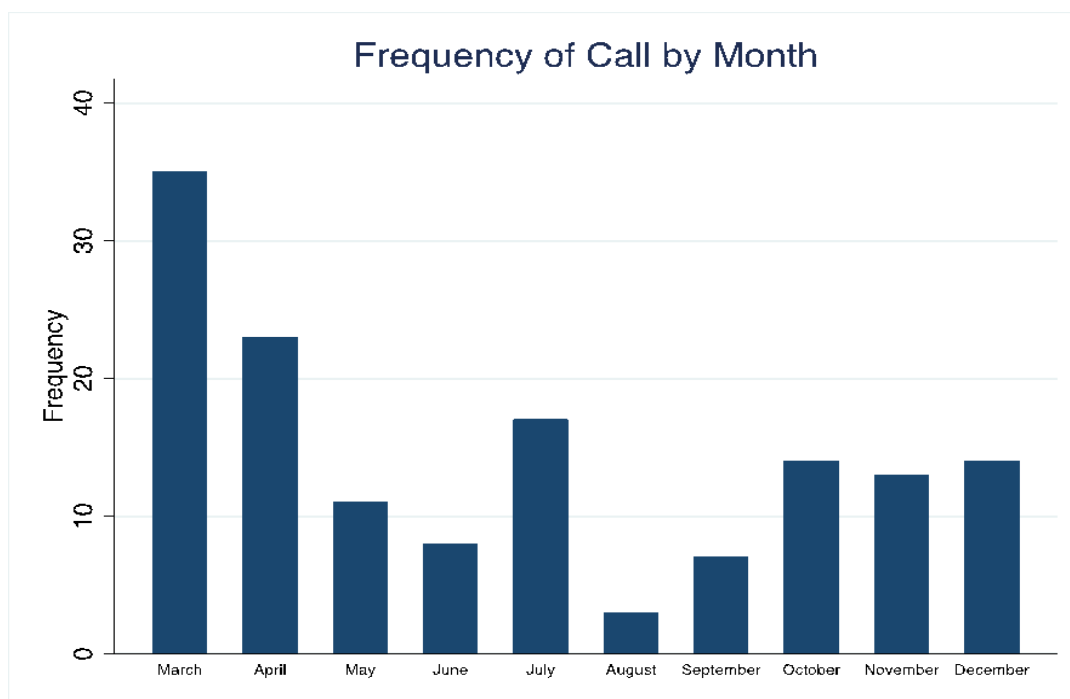
Figure 3. Frequency of calls by month.

3.1 System development

A system was developed through coordination between the HPU and Public Relations units, members of university faculty and the UGM Academic Hospital. The system placed at the call center is based on three levels (Figure 2). The first level consists of volunteers who are tasked with receiving phone calls on a daily basis. On the second level are the coordinators who respond to unanswered questions or refer questions and concerns to higher levels or other services.

The third and highest level consists of policy makers from the university. Since the call center is only one of the divisions addressing COVID-19 in UGM, an external referral system was also developed in the event a caller needs follow-up on COVID-19 symptoms, psychological management or if there are policy-related issues.

A standard operating procedure (SOP) was written by lecturers from the Faculty of Medicine, Public Health and Nursing, UGM and served as a working document which was routinely updated. The SOP served to guide volunteers in answering calls appropriately with adequate information. The document was shared online and volunteers were given access to read it.

3.2 Recruitment

Volunteers were recruited through online open recruitment. Flyers were released through social media groups among university students and alumni and uploaded to the various social media handles owned by UGM. Enrolled volunteers were sorted into different tasks based on their educational background and interest. Volunteers from health-related backgrounds were initially prioritized for the call center due to the expected better understanding of health guidelines. However, due to limited availability of volunteers with health-related backgrounds, volunteers with other backgrounds were also included.

3.3 Training

Volunteers were trained through a series of online training sessions. Lecturers from the Faculty of Medicine, Public Health, and Nursing, UGM taught volunteers in the latest updates about COVID-19

Table 1. Characteristics of callers.

Characteristics	Number of calls answered by volunteers
Location	
Yogyakarta province	119 (80%)
Other provinces	30 (20%)
Background	
UGM student or staff	101 (78%)
General public	48 (32%)

Table 2. Issues raised by callers.

No	Category	Description
1.	General Information	Information regarding COVID-19 symptoms, transmission, prevention, testing facilities, and issues developing in the media
2.	Screening and Case Management	Callers reporting signs and symptoms of COVID-19. This is often accompanied by questions regarding when and where they should get tested and how to access the facilities.
3.	Government policy	Requesting information related to local and national government policy. Many callers inquired about steps they must take when entering or leaving provincial borders.
4.	University Policy	Requesting information related to latest university policies such as availability of testing and isolation facilities for students and staff, safety protocols and considerations for academic procedures.
5.	Logistics	Logistical issues including students and staff in need of help and callers reporting donations by external parties.

and how to answer questions according to the SOP. A session on the basics of psychological first aid was also given by a lecturer from the Faculty of Psychology, UGM in order to provide adequate response to callers under difficult situations. Trainers also held role plays to allow volunteers to practice answering phone calls with different scenarios. In addition, volunteers were trained in operating the smartphones and logging phone call details to the database.

3.4 Implementation

A total of 27 volunteers were recruited as operators during the period between 23 March – 31 December 2020. However, only 10 operators were assigned at a time and equipped with smartphones connected to 1 mutual line. Smartphones were handed out by a member of the university staff, and volunteers worked remotely from their homes. The schedule was divided into 5 shifts throughout the day and 2 operators were posted during each shift.

After answering each call, volunteers would submit call details to the database through an online form. Questions that volunteers were unable to answer were referred to the coordinator to be directed to higher officials. Weekly handovers were done on Mondays for volunteers who could not extend their participation and needed to be replaced. However, volunteers were permitted to end their participation at any time.

3.5 Summary of calls received by the COVID-19 call center

Over the course of 10 months, volunteers logged a total of 150 answered calls from members of UGM and the general public. The number of calls peaked at the first week of opening with 35 calls and decreased over a course of a few months. In July there was a sudden increase with 17 calls, which was followed by a relatively low numbers in August and September with 3 and 7 calls, respectively. Between October and December, the number of calls began to grow steadily (Figure 3). A majority of the callers were located in Yogyakarta (80%) and belonged to the UGM community (78%). Table 1 shows more details concerning the caller characteristics.

Most callers raised concerns regarding

COVID-19 symptoms, testing facilities and health recommendations. All cases with indication of COVID-19 risks among the UGM community were referred to the case-management team. Referral to psychological counselling was also offered to callers and noted in the database. Questions regarding government and university policies were also frequently expressed. A summary of issues raised by callers is displayed in Table 2.

4. Discussion

The COVID-19 pandemic has generated large concern from the general public and there are potential benefits from tele-based information services to address misinformation. This study described how a university has developed an emergency call center operated by volunteers to educate and communicate with the public on COVID-19. The program was developed through collaboration between units in the university. Volunteers from the university staff, students, and alumni were recruited and trained to answer phone calls according to a continuously updated SOP. Between the months of March and December 2020, operators responded to and documented 150 calls.

This call center was initiated by UGM as an HPU to facilitate education and communication regarding COVID-19 for the staff and students along with the general public. A health promoting setting seeks to improve health of the wider community where it stands in addition to integrating health promotion into routine activities and provide a healthy working environment within the institution itself.[8] The Okanagan Charter raised two calls to actions for universities which were to embed health into all aspects of the campus and to lead in health promotion actions in the local and global contexts.[9] This study has shown that the center has managed to reach outside of the university community since approximately 32% of callers were from the general population.

The implementation of such a program highlights the level of social capital in the university community. Social capital is defined by the value attained through social networks and a community with high social capital can be identified by its strong relationships and active participation of its people.[10] In this case, the study found that a network of volunteers consisting of university staff and students rapidly organized themselves to address a common problem.

According to Putnam, the strong presence of civic engagement can result in volunteering and other acts of aiding.[10] Although still heavily debated, many suggest that such mobilization of social capital in communities may lead to improved health status.[11] Additionally, student volunteers in times of disasters have previously shown benefits to the organization and to the student volunteers themselves. Studies have showcased the roles students can play, from tele-outreach to aiding in the health care facilities.[4,12] Student volunteers have also identified direct benefits such as increased self-confidence, professional experience for their portfolio, satisfaction that they have assisted the community, and skills development.[12,13]

The vast spread of misinformation was a major public health issue which needed addressing throughout the early period of the pandemic. This study identified an organized attempt to address questions from the public and the types of information they were seeking in order to educate and increase awareness on COVID-19. Future efforts may benefit from the lessons learned throughout this process.

Several challenges appeared throughout the process of developing and implementing the program. The call center was designed under the premise of an emergency unit to provide temporary assistance for existing divisions and not intended for long-term implementation. It employed a separate phone line from the university system which therefore did not allow operators to directly forward calls to other units in the university.

Referrals and questions were communicated manually by the members of the team and callers would then be contacted by the related services. Without a defined space or line of communication within the current university system, it was unclear as to how long the program should remain viable and how to coordinate effectively and efficiently with other units. This was a vital matter because

much of the information being addressed by callers was related to implementation of policies in different units around the university. As the situation shifted from the pandemic state of emergency toward return to routine activities, discussions began for transition to more established units.

Another prominent challenge was staying current with the rapid development of information, recommendations, and policies related to COVID-19. Updating the SOP and operator knowledge according to each development was key in providing timely information to the public. Da Silva et al reported an approximate number of 23,634 papers published within the first six months of the pandemic.[14] This ultimately led to a similar surge in the number of policies being adopted globally.

The SOP evolved according to the questions logged by operators and related information being released by the HPU unit. Unfortunately, the center did not have a direct line of communication with the government. Specific questions related to national or regional policies had to be retrieved through a long line of communication with higher level university officials. Future programs would benefit from establishing a direct line of communication with government officials since the development phase.

As time progressed, volunteer retention became a new problem. Although the use of smartphones allowed operators to work from their own homes, the program required that operators stayed within close proximity with the university. The turnover rate in the first month of the program was relatively quick as many of the student recruits returned to their hometowns due to their engagement in online learning. The coordinators have made efforts to sustain the active volunteers by holding routine discussions to communicate issues volunteers were facing and making adaptations to the work load accordingly.

The number of callers fluctuated as interest in COVID-19 grew at the beginning of the pandemic, and then decreased in August – September. This trend quite possibly suggests a development from heightened information seeking behavior at the early periods of the pandemic which decreased as the public familiarized themselves with the disease.

By the end of the year, there was a sharp increase in COVID-19 cases in Yogyakarta which coincided with a similar increase in the number of callers.

The majority of issues raised were dominated by screening and management related questions. Most callers consulted about their health and described their symptoms. This was often followed-up by questions on procedures for testing and further management at health care facilities. For the UGM community, these suspected cases would be referred to the case management team and university owned health care facilities for follow-up screening and management by medical professionals. There are several possible explanations behind the large proportion of questions.

Previous studies have cited tendencies for delay in accessing health-care due to fear of contracting COVID-19 at the facilities.[15,16] Non-urgent inpatient visits have also been discouraged in order to decrease the strain on the health care system and allow optimal management for higher risk cases.[17] As a result, there is a possible increase in access to telemedicine and other telecommunication services for health-related consultations.

A large proportion of questions regarding policies also highlights the need for improved communication accompanying changes in university and public policy. Most questions raised by the UGM community were related to protocols for academic procedures. There were also frequent questions by the general public related to requirements for mobility between provinces. Although there have been government and public health efforts to communicate policies and health recommendations through digital platforms, much of the communication was one-directional information dissemination. Physical distancing has also limited the benefits of traditional face-to-face education programs which allow recipients to directly engage and consult with authorities.[18]

The Indonesian government has previously established COVID-19 hotlines in the national and regional levels, which could explain the lower utilization from the general public compared to the university community. Nevertheless, the availability of operators in addressing their questions has played an important role in providing practical advice for

the public to implement and reduce the load of government facilities. A higher use by the university's community suggests the need for improved bi-directional communication regarding their policies.

5. Conclusions

The purpose of this article was to describe the experience of developing a volunteer-based call center within the university setting during a state of emergency. Tele-outreach is a beneficial method to address public distress during a global pandemic, which could be managed with the aid of trained volunteers. The main issues raised were people seeking information on their health status and recommendations for management, followed by questions regarding local and university policies.

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Conflict of interests

The author would like to declare there are no conflicting interests.

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