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Knowledge, Attitudes and Practices Towards Covid-19 Among Undergraduate Students in University: A Quick Online Cross-Sectional Survey

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Abstract

In Malaysia, the fight against COVID-19 is still going strong. The knowledge, attitude, and practises (KAP) of individuals with regard to COVID-19 may be used to evaluate effective behavioural interventions for containing the epidemic. This study intends to evaluate university students' KAP toward the COVID-19. The demographic data and KAP toward the COVID-19 epidemic were disseminated and discussed in the questionnaire's two portions, which were divided into two categories. An online cross-sectional survey comprising 114 undergraduate students, aged 18 to 36, was carried out from October 2020 to December 2020. Participants conducted an online survey after giving their permission to evaluate socio-demographic factors, perceptions, and KAP towards COVID-19. 83.5 percent of the 114 survey participants were female, and 73 percent were diploma and degree students (26.1 percent). According to the poll, 95% of participants had more frequent behaviours to avoid COVID-19, and 98% had more positive attitudes and information about the disease. Nearly all (97%) participants agreed that the best course of action to take when they saw they were beginning to exhibit COVID-19 symptoms was to visit the hospital as soon as possible. The majority of participants (97.4%) regularly wash their hands with soap and sanitizer. It is essential to raise KAP among pupils during the fast increase phase of a pandemic epidemic like COVID-19. Therefore, it is necessary to create efficient health education programmes that take KAP-modifying variables into account.

Keywords: COVID-19, Knowledge, Attitude, Practice, Outbreak.

Introduction

The COVID-19 pandemic's worldwide breakout, which has affected virtually all nations and territories, and its effects have prompted the world to respond with urgency. A lockdown, a

ban on business activity, and a stay-at-home policy were implemented as speedy countermeasures to the disease's exponential growth (Lee et al., 2021; Pokhrel & Chhetri, 2021). As of 16 December 2020, there were 73.6 million COVID-19 cases globally, 1.64 million of which resulted in fatalities, and 41.7 million recovered cases. In Malaysia, there were 86,618 cases, 71,681 recovered cases, and 422 fatalities (Hatabu et al., 2020). The Malaysian government has taken a number of steps to contain the COVID-19 epidemic in an effort to flatten its epidemiological curve. To slow the spread of the COVID-19 virus, the government swiftly implemented a national Movement Control Order (MCO) on March 18, 2020.

The government imposes strict regulations during the MCO, including restrictions on all foreigners and tourists entering the country, restrictions on all domestic travel by Malaysians, with the exception of those returning from abroad, who must undergo a 14-day self-quarantine, closure of all educational institutions, and closure of all facilities except those used for essential services (including health) (Kamaludin et al., 2020). At the same time, a number of other measures were implemented across the whole nation, including strict indoor quarantine, person-to-person health checks, extensive cleaning, pervasive public health education initiatives, as well as closures of schools and workplaces (Florence et al., 2021; Zubir et al., 2021).

Public preparedness was greatly aided by widespread public health education initiatives, such as internet communications, radio, multimedia reporting, virtual classrooms, e-hospital consultations, and instructional posters. In particular, undergraduate students were a distinct group that was at the ages to gain autonomy and independence of life but with few experiences, and the epidemic placed the whole educational system in unprecedented challenging conditions (Khalil et al., 2021). It was hypothesised that the pandemic had a significant impact on their beliefs and actions, thus this needed to be investigated (Peng et al., 2020). Conversely, competent university students, particularly those who live apart from their family, can assess their environment and act accordingly. Meanwhile, university students participate in active activities like extracurriculars, sports groups, and part-time employment, which gives them additional possibilities to interact with people (Hatabu et al., 2020).

Knowing university students' knowledge, attitudes, and practises (KAP) about COVID-19 and further examining the KAP components may be crucial in formulating and validating countermeasures for the next generation in the COVID-19 prevention (Hatabu et al., 2020). A KAP towards COVID-19 is an appropriate technique to evaluate and discover effective social control measures for COVID-19 outbreak prevention, which needs to be investigated. In order to assess Malaysian undergraduate students' reactions to this epidemic, we performed a cross-sectional survey of knowledge, attitude, and practise (KAP) related to COVID-19 among undergraduates at a local university.

Methodology

Study Design and Participants

The quantitative cross-sectional survey-based study was conducted from 28th October 2020 to 3rd 2020 among university students during the Movement Control Order (MCO). As it was not practicable to conduct a population-based survey during this time, so the best available

method for the authors to collect the data was through a convenience web-based survey. In total 114 participants were from public and private universities with different levels of educational background. A questionnaire was designed on the Google Form with closed-ended questions and the link was shared via WhatsApp group and Telegram. The participates who were university students in Malaysia with the age of 18 years and above were eligibility criteria to participate in this survey. Each of the participants was explained the purpose of the study and required to answer a yes-no question regarding their willingness to voluntarily answer the questionnaire. The questionnaire was written in English language and the participants were needed to spend around 15 minutes to answer all the questions given. The web-based survey relied entirely on voluntary participation from all eligible participants up to 114 valid samples successfully collected during the survey.

Measures

The questionnaire consisted of two parts which were the demographic information and KAP towards the COVID-19 outbreak. Demographic variables; age, gender, ethnicity, religion, relationship status, level of education, and program enrolled. The COVID-19 knowledge, attitudes, and practices questionnaire are made according to the guidelines for clinical and community management of COVID-19 by the World Health Organization. The questionnaire consists of 18 questions (Table 1); 6 questions regarding the knowledge (K1-K6), 6 questions regarding the attitudes (A1-A6), and 6 questions regarding the practices (P1-P6) of COVID-19. In the knowledge section, the questions had to be answered on a yes/no basis with an additional "I don't know" option. In addition, the attitudes and practices section give yes/no answers option respectively.

Table 1
Questionnaire of knowledge, attitudes, and practice towards COVID-19

Questions	Options
Knowledge (correct rate, % of the total sample)	
K1. Modes of transmission of COVID-19 virus (96.0)	Yes, No, I don't know
K2. Clinical symptoms of COVID-19 such as fever, fatigue, dry cough and myalgia (95.0)	Yes, No, I don't know
K3. Incubation period of COVID-19 is between 2-14 days (97.0)	Yes, No, I don't know
K4. Effectiveness of Standard Operating Procedure (SOP) towards COVID-19 (95.0)	Yes, No, I don't know
K5. The official name of COVID-19 is the novel coronavirus (SARS-CoV-2) (85.0)	Yes, No, I don't know
K6. Preventive measure towards COVID-19 infection (99.0)	Yes, No, I don't know
Attitudes (correct rate, % of the total sample)	
A1. Respondents expectations to return to university (98.2)	Yes, No
A2. Respondents study affected due to COVID-19 (91.2)	Yes, No
A3. Respondents cooperation to control the COVID-19 outbreak (98.2)	Yes, No
A4. Daily life affected due to COVID-19 (99.1)	Yes, No
A5. Effectiveness of media coverage towards COVID-19 updates (97.4)	Yes, No
A6. Respondents confidence that COVID-19 can be controlled (93.9)	Yes, No

Practices (correct rate, % of the total sample)	
P1. Respondents apply face mask when leaving home or in the crowded area (100)	Yes, No
P2. Respondents practice proper hand hygiene (95.6)	Yes, No
P3. Respondents avoid travelling during the outbreak (97.4)	Yes, No
P4. Respondents immediately to the hospital if have COVID-19 symptoms (97.4)	Yes, No
P5. Respondents take shower immediately after arriving home (90.4)	Yes, No
P6. Respondents maintain social distance during outbreak. (98.2)	Yes, No

The higher score for the knowledge section of COVID-19 was the preventive measure towards COVID-19 infection with 99.0%. Attitudes towards COVID-19 recorded with the highest score of 99.1% on daily life have been affected due to COVID-19. Lastly, the practices section with the respondents apply face masks when leaving home or in the crowded area question had the highest score with 100%.

Statistical Analysis

Frequency of correct knowledge, various attitudes, and practices of answers have been explained. Demographic information, knowledge, attitudes, and practices were measured and analysed by Microsoft Excel to indicate the samples in form of graphs and percentage data.

Result and Discussion

Socio-demographic

The socio-demographic details of the participants are shown in Table 2 and include eight demographic factors: age, gender, race, religion, relationship status, educational attainment, programme enrollment, and state of residence. A cross-sectional study was carried out on 114 participants, who ranged in age from 20 years (71.1%) to 19 years (8.8%) to 22 years (2.6%) to 18 years (1.8%) to 33 years (1.8%) to 23, 26 and 36 years (0.9%). The participants were allocated as follows: 16.5% men and 83.5% women. The distribution of education levels was 73 percent for diplomas and 26.1 percent for degrees, respectively. Participants in the Environmental Health programme made up the largest share, at 25.4%. Malay respondents made up 97.4% of the sample, followed by Indians (0.9%) and Kadazan Dusun (1.8%) people. Muslims made up 98.3 percent of the respondents, while Hindus and Christians each contributed 0.9 percent. 86.1 percent of people are single, 12.0 percent are in a committed relationship, and 1.70 percent are married. Selangor respondents made up the majority of the sample (24%), followed by Kedah, Kelantan, and Pahang (16%, 12%, and 11%, respectively) (Table 2).

Table 2
Socio-demographic information of participants (N=114).

CHARACTERISTICS	FREQUENCY (N)	PERCENTAGE (%)
AGE:	2	1.8
18		
19	10	8.8
20	82	71.1
21	12	10.5
22	3	2.6
23	1	0.9
26	1	0.9
33	2	1.8
36	1	0.9
GENDER:		
MALE	95	16.5
FEMALE	19	83.5
RACE:		
MALAY	111	97.4
INDIAN	1	0.9
KADAZAN DUSUN	2	1.8
RELIGION:		
ISLAM	112	98.3
CHRISTIAN	1	0.9
HINDU	1	0.9
RELATIONSHIP STATUS:		
SINGLE	98	86.1
TAKEN	14	12.3
MARRIED	2	1.8
LEVEL OF EDUCATION:		
DIPLOMA	84	73
DEGREE	30	26.1
PROGRAM ENROLLED:		
PHARMACY	5	4.4
NURSING	5	4.4
MEDICAL LABORATORY TECHNOLOGY	16	14
ENVIRONMENTAL HEALTH	29	25.4

OCCUPATIONAL THERAPY	13	11.4
PHYSIOTHERAPY	7	6.1
PRE-DIPLOMA	2	1.8
EDUCATION	4	4.4
ENGINEERING	8	7.2
BIOLOGY	6	5.4
CHEMISTRY	2	1.8
FOOD TECHNOLOGY	1	0.9
MEDICAL ASSISTANT	1	0.9
COMPUTER SCIENCE	1	0.9
MEDICINE	1	0.9
MANAGEMENT	2	1.8
COMMUNICATION	1	0.9
HALAL PROGRAM	1	0.9
HUMANITIES	1	0.9
ACCOUNTANCY	1	0.9
TRANSLATION AND INTERPRETATION	1	0.9
LANGUAGE	1	0.9
ART AND DESIGN	1	0.9
HOTEL AND TOURISM	1	0.9
RESIDING STATE:		
KEDAH	18	15.8
PULAU PINANG	10	8.8
PERLIS	1	0.9
PERAK	10	8.8
KELANTAN	14	12.3
TERENGGANU	5	4.4
PAHANG	12	10.5
NEGERI SEMBILAN	1	0.9
SELANGOR	27	23.7
JOHOR	9	7.9
KUALA LUMPUR	4	3.5
SABAH	3	2.6

Knowledge, Attitude, and Practices

The majority of participants (96.55%) were aware of how the COVID-19 virus is spread, and 94.7 percent said that the primary clinical signs of COVID-19 include fever, exhaustion, dry cough, and myalgia. With respect to the information that the COVID-19 incubation period is between 2 and 14 days, 97.4 percent of participants replied "yes," 1.8 percent "no," and 0.9 percent "unsure." The strict adherence to Standard Operating Procedures (SOP) and avoiding crowded areas, as well as using public transportation, might be used to prevent COVID-19

infection. The majority of participants said that they felt that this was a viable strategy for COVID-19 prevention (Table 3).

Table 3
Knowledge of COVID-19 among undergraduate students.

Questions	Responses (N=114)		
	Yes (n,%)	No (n,%)	I don't know (n,%)
COVID-19 virus is transmitted during close contact through respiratory droplets (formed on coughing or sneezing) and by fomites.	110 (96.5)	1 (0.9)	3 (2.6)
The main clinical symptoms of COVID-19 are fever, fatigue, dry cough, and myalgia.	108 (94.7)	4 (3.5)	2 (1.8)
The incubation period for COVID-19 is between 2 - 14 days.	111 (97.4)	2 (1.8)	1 (0.9)
Strict Standard Operating Procedure (SOP) compliance can prevent you from COVID-19.	105 (95.6)	2 (1.8)	3 (2.6)
COVID-19 virus is known as a novel coronavirus (SARS-CoV-2).	97 (85.1)	4 (3.5)	12 (11.4)
To prevent the infection by COVID-19, individuals should avoid going to crowded places and avoid taking public transportations.	113 (99.1)	0	1 (0.9)

Nearly 98.2% of the participants hoped that Covid-19 would end fast so that they could go back to school soon, and 91.2% of them believed that the epidemic had affected their studies. While 8.8% of the participants are unsure of whether they will be affected or not. In order to stop the COVID-19 epidemic, 98 percent of the participants voluntarily worked together as citizens. This relates to the next question, where 99.1% of respondents agreed that the COVID-19 epidemic may influence everyday comfort and just 0.9% disagreed. Concerning 97.4% of respondents said that news about the COVID-19 virus receives a lot of exposure in the media, including newspapers, television, and the internet, while 2.6% disagreed. While 93 percent of participants believed that the epidemic would be effectively managed, 6.1% said they were unsure about the outbreak's outcome (Table 4).

Table 4
Attitude of COVID-19 among undergraduate students.

Questions	Responses (N=114)	
	Yes (n,%)	No (n,%)
Do you hope that Covid-19 will stop quickly, so you can return to university soon?	112 (98.2)	2 (1.8)
Do you think this outbreak has impacted your study?	104 (91.2)	10 (8.8)
COVID-19 outbreak needs my cooperation as a citizen to overcome it.	112 (98.2)	2 (1.8)
COVID-19 outbreak can affect the comfort of daily life.	113 (99.1)	1 (0.9)
Media coverage such as newspaper, television, and online give much exposure to the news about the COVID-19 virus	111 (97.4)	3 (2.6)
Do you agree that COVID-19 can be successfully controlled?	107 (93.9)	7 (6.1)

The best technique to prevent the transmission of COVID-19 is, according to all participants, to use a face mask while leaving the house or in a busy area. 95.6 percent of respondents regularly wash their hands with soap and use hand sanitizer, whereas 4.4 percent do not, as is considered to be good hand hygiene. 97.4% of participants refrain from needless travel and outings during the epidemic, whereas 2.6% do not do it. About 97 percent of participants said that going to the hospital as soon as possible is the best course of action when they realised they had started to experience COVID-19 symptoms. The findings reveal that, despite 90.4% of participants taking a shower as soon as they got home, 9.6% of them did not follow this preventative measure. Last but not least, 98.2 percent of people kept their distance from one another throughout the epidemic, although just 1.8 percent did not (Table 5).

Table 5
Practices of COVID-19 among undergraduate students.

Questions	Responses (N=114)	
	Yes (n,%)	No (n,%)
Do you wear a face mask when leaving the home or in a crowded place?	114 (100)	0
Do you practice proper hand hygiene by frequently washing your hands with soap and using hand sanitizer?	109 (95.6)	5 (4.4)
Did you avoid unnecessary travel or outing during the outbreak?	111 (97.4)	3 (2.6)
If you have noticed that you have symptoms of COVID-19, do you have to go to the hospital as soon as possible?	111 (97.4)	3 (2.6)
Take a shower immediately after arriving home	103(90.4)	11 (9.6)
Did you maintain social distance during the outbreak?	112 (98.2)	2 (1.8)

Discussion

In the middle and early phases of the COVID-19 epidemic, this cross-sectional research sought to evaluate the degree of awareness, attitude, and behaviours about COVID-19 among Malaysian university students. The majority of the participants had strong knowledge, a positive attitude, and practice according to the findings.

In this study's survey of students, 99 percent showed that they knew enough about COVID-19. Establishing preventative beliefs, developing good attitudes, and encouraging positive behaviour all depend on knowledge, and to some degree, an individual's cognition and attitude about sickness influences the efficacy of their coping mechanisms and actions (Zhang et al., 2020). It is important to note that the children had appropriate COVID-19 knowledge scores, a good attitude, and sufficient practise. Given that the current study only examined a small number of demographic characteristics, it is advised that future research incorporate additional demographic variables. This finding is similar to that of the research by Maheshwari et al (2020), which indicated that gender significantly influenced mean practise scores but that there was no significant difference in mean knowledge across all demographic factors (Maheshwari et al., 2020).

The current research also revealed that 97.4% of respondents agreed that the COVID-19 incubation time ranges from 2 to 14 days. The research conducted by also found that knowledge of the incubation time was successful and similar (91.3 percent) (Ferdous & Islam, 2020). In the study by Zhong et al (2020), the majority of participants (96.4 %) had not recently visited a busy area. This is consistent with our results, according to which people should avoid congested areas and refrain from using public transit in order to prevent COVID-19 infection (Zhong et al., 2020).

Additionally, between 70.1 and 88.9% of Chinese citizens felt that SARS could be effectively managed during the SARS pandemic, and between 94.7 and 100% believed that China could win the fight against SARS. These numbers match those from our research on the likelihood of success and confidence in victory in the fight against COVID-19. According to Zhong et al. (2020) research, 97.1 percent of respondents had confidence in their ability to defeat the COVID-19 pandemic, which is considerably congruent with our results that 98.2 percent of respondents were ready to work together as citizens to do so. According to our study, 93 percent of respondents feel that COVID-19 can be effectively handled, which is in contrast to Rahman A's research's assertion that the situation would remain under control (Zhong et al., 2020).

According to Peng et al (2020), during the rapid rise period of the COVID-19 outbreak, nearly all Chinese residents avoided crowded areas (96.4%) and nearly all wore masks when leaving the house (98.0%), which is similar to our findings, which show that 100% of participants wear a face mask when leaving the house or in a crowded area (Peng et al., 2020). The majority of earlier research by Rahman & Sathi (2020), which found that 91.4 percent of the samples maintained safe separation with people at least 3 feet while at outdoors, are in line with our results of KAP toward COVID-19, which is 98.2 percent of the responder practise social distancing (Rahman & Sathi, 2020). Similar to our study, where 95.6 percent of respondents regularly wash their hands with soap and sanitizer, the Jordan study on health and non-health students found that students demonstrated positive practises toward COVID-19 prevention, such as hand-washing, refraining from shaking hands, and adhering to the etiquette of coughing and sneezing (Puspitasari et al., 2020).

The main drawback of the current research is that the sample sizes are constrained, making it impossible to extrapolate the findings to the whole population of Malaysia, even if they may undoubtedly aid the state and nation in raising public awareness of KAP. Due to the fact that participants self-completed the questionnaire, there is a significant potential that information may be inaccurate or misrepresented. Less demographic variation is another drawback. In light of this, more research should be done soon to examine the KAP of COVID-19 at diverse states and nations.

Conclusion

The World Health Organization (WHO) and the Ministry of Health Malaysia (MOH) have put strict SOP in place to prevent the spread of COVID-19. These SOP include washing hands with soap and water or cleaning them with hand sanitizer, avoiding touching the face area, adhering to proper coughing and sneezing protocol, and practicing physical distance by avoiding unnecessary travel and avoiding crowds of people. The government, on the other hand, suggested following the 3Cs and 3Ws, which are to wear face masks in public or when symptomatic, wash hands often with water and soap, and warn oneself and others to avoid shaking hands or contacting others. The knowledge, attitude, and behaviors individuals have concerning COVID-19 are an appropriate approach to evaluate and discover effective social behavior-control measures, which required to be investigated. The findings of this research may be used to develop public health policies that specifically target populations with low KAP and work to raise it via well-thought-out, sensible, and targeted tactics. As a consequence, health promotion initiatives are essential for enhancing KAP toward COVID-19, and utilizing the findings of this research, interventional investigations are advised. Positively, with the help of all Malaysian citizens and Malaysian governments, Malaysia will soon be able to combat COVID-19.

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