Description of the Knowledge, Attitudes and Actions of UKI Medical Faculty Students towards Online Learning during the COVID-19 Pandemic

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ABSTRACT

The COVID-19 pandemic has caused a change in the medical education system throughout the world to an online learning system to reduce the potential spread of the virus that causes COVID-19. Online learning activities have been going on for approximately two years since the government imposed restrictions on face-to-face learning activities. This research aims to describe the knowledge, attitudes and actions of Indonesian Christian University Faculty of Medicine students class 2018 to 2020 towards online learning. This research was conducted on 436 students in January 2022 using a questionnaire as a research instrument. The response rate of this research was 55.5% with a total of 242 students responding. Most of the respondents were women from the class of 2018 to the class of 2020 with an age range of 17-23 years and while participating in online learning lived with their families. The proportion of students with good knowledge was 74.4% (180 respondents). Most students (62.4%) agreed that online learning could be applied at FK UKI and 40.5% of respondents felt that online learning was more comfortable and flexible compared to conventional learning. A total of 101 respondents (41.8%) admitted that they still adhere to the same study schedule as before the pandemic. 96.3% of students took good action by maximizing the use of the internet and digital media for learning activities during the online learning period.

Keywords: online learning, COVID-19, attitudes, actions

INTRODUCTION

COVID-19 is caused by the latest type of Coronavirus called SARS-CoV-2.[1] This virus is spreading rapidly so since the first case in China on December 31 2019, currently COVID-19 has been reported in more than 200 countries in the world.[2] WHO official declared COVID-19 a pandemic on 11 March 2020.[3] The President of the Republic of Indonesia through Presidential Decree Number 12 of 2020 declared COVID-19 a national disaster on 13 April 2020, six weeks after the announcement of the first two cases of COVID-19 in Indonesia, precisely on March 2 2020.[4] SARS-CoV-2 is one of three types of viruses in the Coronoviridae family that can cause severe clinical symptoms. Two other viruses that have similarities to SARS-CoV-2 are SARS-CoV which caused the SARS outbreak in 2002 to 2003 and MERS-CoV

which caused the MERS outbreak in 2012. The same clinical symptoms caused by these three viruses are respiratory syndrome. severe acute. However, among the three, the MERS virus has the highest mortality rate, namely around 36%, while SARS-CoV is 10% and SARS-CoV-2 is 2.3% of the total cases. Common symptoms experienced by COVID-19 sufferers are fever and cough with other symptoms such as sputum production, dyspnea, headache, throat pain/pharyngalgia, and diarrhea.[5]

Epidemiological data states that droplets emitted when talking, coughing or sneezing are the most common way of transmission of the virus that causes COVID-19.[6] The risk of transmission will be higher if you are within[6] feet or 1.8 meters for 15 minutes of a COVID-19 sufferer. Another possible way of transmission is through touching the surface of an object with the virus on it.[7] To reduce the potential for transmission of COVID-19, the government issued an appeal for the public to carry out activities such as working, studying, and worshiping from home. Based on the Circular Letter of the Head of the DKI Jakarta Provincial Education Service No. 27 which was issued on March 14, 2020, teaching and learning activities from home began on March 16 2020, including the process of learning from home for students.[8] The COVID-19 pandemic has disrupted the education system in general. Jowesy et al in 2020 stated that previously there had never been a change in learning methods from face-to-face to online learning as suddenly as now.[9] The success of online learning can be achieved with cooperation between the factors involved in the process such as teachers, learners or students, learning media, and other technical matters. The change in learning methods from face-to-face to online has a big impact on medical students because students cannot carry out activities related to expertise/skills directly.

In accordance with government directions, the Faculty of Medicine at the Indonesian Christian University has implemented an online learning-based learning process from home since March 16 2020. Until now, there has been no publication at FK UKI regarding the picture of the students' situation in the ongoing online learning process. Therefore, the aim of this research is to provide an overview of the knowledge, attitudes and actions of FK UKI medical students regarding online learning during the COVID-19 pandemic. It is hoped that this research can provide an overview of the online learning process that is already underway so that the online learning system in the future can be further improved.

MATERIALS & METHODS
Research Design
This research is a descriptive epidemiological study to describe the knowledge, attitudes and actions of Indonesian Christian University Faculty of Medicine students towards online learning during the COVID-19 pandemic.

Location and Time of Research
Research Location
The research was conducted online

Research Time
The research was conducted in January 2022

Research Population and Sample
Research Population
The population of this study were students from the Faculty of Medicine, Indonesian Christian University class 2018-2020
Research Sample
The sample for this research is all students from the 2018-2020 Faculty of Medicine at the Indonesian Christian University who filled out a questionnaire which will be sent via online messaging media such as WhatsApp or LINE.

Inclusion and Exclusion Criteria
Inclusion Criteria
The inclusion criteria for this study were students at the Faculty of Medicine, Indonesian Christian University, class 2018-2020

Sample

Based on the sample size calculation using the Slovin formula, the required sample is 209 students. The author hopes that the response rate from this research will be at least 70% of the total number of students from the 2018 to 2020 class.

Data Processing, Presentation, and Analysis

Data processing is carried out using the SPSS program through the following stages:

a. Data Editing (Data Checking)
    At this stage, responses/answers are checked by paying attention to the completeness and clarity of the respondent's data and re-confirming whether all the questions in the questionnaire have been filled in by the respondent.

b. Coding Data (Giving Code to Data)
    This stage is the stage of changing data in the form of letters into data in the form of numbers. Coding aims to make it easier for researchers to analyze data and also speed up data entry.

c. Data Entry
    Respondent data and scores were entered into the SPSS program

d. Error Checking
    Re-examine the data that has been entered into the SPSS program to determine whether there are errors in data entry.

e. Tabulation
    In this step, respondents' answers are described by making descriptive statistics on the variables studied.

RESULT

Description of Student Responses to Completing Online Questionnaires Results

The total number of active students at the Indonesian Christian University Faculty of Medicine who were the target of this research was 436 students with the following details: 156 students from the 2018 class, 141 students from the 2019 class, and 436 students from the 2020 class.

After distributing the questionnaire online, using the LINE and Whatsapp applications, 242 respondents were obtained with a response rate of 55.5%. Details of the distribution of the number of active students and students who were respondents to this research questionnaire are as follows:

Table 1. Distribution of Research Respondents

Level	Number of Active Student	Number of Respondents	Percentage of Number of Respondents for Each Generation (%)	Percentage of Respondents to Total Population (%)
2018	156	110	45.5	25.2
2019	141	56	23.1	12.8
2020	139	76	31.4	17.4
Total	436	242	100	55.5

The distribution of questionnaires was carried out for eight days from 20 to 27 January 2022 to FK UKI students from the 2018 to 2020 class. The number of respondents collected was 242 people with a total of 110 respondents from each class, namely the 2018 class (response rate 70.5%), the class of 2019 was 56 people (response rate 39.7%), and the class of 2020 was 76 people (response rate 54.7%). The response rate for this research can be said to be good considering that there are studies that state that the average response rate is less than 20% for survey study-type research.[40] The number of respondents obtained has met the minimum sample size that was previously calculated, namely 209 people. Distributing questionnaires online helps the data collection process so that the number of respondents collected can exceed the minimum number of respondents required.

Demographic Characteristics of Respondents

The demographic characteristics of respondents examined in this research include gender, age and residential background of the respondents while participating in online learning. The description of the demographic characteristics of respondents is written in Table 2, Figure 1 and Figure 2

Table 2. Gender Distribution of Respondents

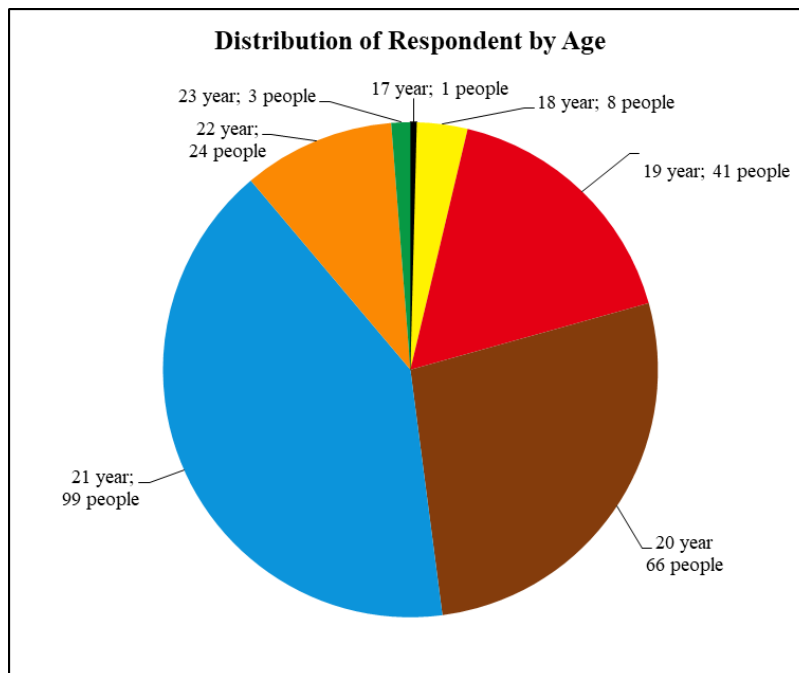|		Level					
		2018		**2019**		**2020**	
		N	**(%)**	**N**	**(%)**	**N**	**(%)**
Gender	**Male**	31	28,2	10	17,9	12	15,8
	Female	79	71,8	46	82,1	64	84,2
Total		110	100,0	56	100,0	76	100,0

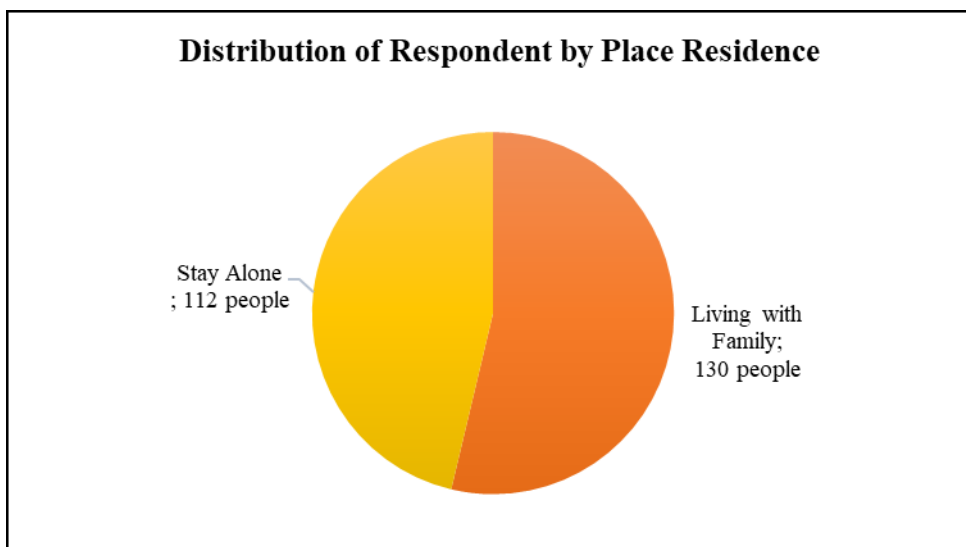**Figure 1. Distribution of Respondents by Age**

Figure 2. Distribution of Respondent by Place Residence

Based on data obtained from respondents, it is known that 78.1% (189 respondents) were female. The largest number of female respondents was from the class of 2018. The ages of the respondents in this study varied quite widely, from 17 years to 23 years. Most respondents were 21 years old (40.9%). While participating in online learning activities, of the 242 respondents it was discovered that 130 people lived with their families and 112 others lived alone, such as in boarding houses, apartments, or rented houses.

Knowledge of Online Learning

The knowledge aspect examined in this research is related to understanding online learning and its benefits. Most respondents already have an idea about online learning based on statements that online learning is very dependent on electronic networks, the online learning system is an interactive learning system, the costs of online learning are similar to conventional learning, the availability of multimedia, the benefits of getting direct feedback, and online learning is learning. long distance.

The analysis continued with quantitative measurements of respondents' answers. This was done to determine the respondent's level of understanding of online learning. The answer "Correct" is given a value of 1 while the value 0 is given for answers "Wrong" and "Don't know" with a maximum total value of 6. The respondent's understanding is said to be good if the respondent's total score is ≥ 5. Among the 242 respondents, 180 people were found (74.7%) with good understanding and 62 people (25.6%) had a poor understanding of online learning. Table 3 describes the number of respondents based on knowledge criteria.

Table 3 Number of Respondents based on Knowledge Criteria

Respondent Knowledge Criteria	Number	Percentage (%)
Good	180	74,4
Not Good	62	25,6
Total	**242**	**100,0**

Attitudes Towards Online Learning

Attitudinal characteristics are measured with questions that focus on the application and usefulness of online learning at FK UKI. The questionnaire for this variable uses a Likert scale with a value of 1 to 5 for each answer: strongly disagree, disagree, neutral, agree, and strongly agree.

Table 4. Number of Respondents Based on Attitude Criteria

Respondent Attitude Criteria	Number	Percentage (%)
Good	214	88,4
Not Good	28	11,6
Total	**242**	**100,0**

After undergoing a period of online learning, 151 respondents (62.4%) agreed that online learning could be implemented at FK UKI and 36.8% of respondents felt that this learning system could replace conventional learning methods as the standard for medical education. Ninety-eight respondents (40.5%) agreed that online learning was felt to be more comfortable and flexible than conventional learning. This may be related to the usefulness of online learning which was agreed by the majority of respondents, such as lecture materials and other medical materials which are easier just to download from the internet (137 respondents; 56.6%), the existence of learning content that allows discussion (134 respondents; 55 .4%), the possibility of private medical guidance (127 respondents; 52.5%) and interaction between students and lecturers (124 respondents; 51.3%).

Actions on Online Learning

Action variables are measured using 10 questions with two answer choices, namely "Yes" and "No". The answer "Yes" is the answer most often chosen by respondents for all questions. The percentage of respondents answering "Yes" was above 95% when asked about participation in online lectures, use of the internet for online learning, use of the internet to share learning materials and study together with friends, use of electronic devices/personal devices, and regular use of the internet in studies.

Respondents' participation in various kinds of online training or seminars related to the medical field was quite high with a percentage of 88% (215 respondents). Although in the previous variable the majority of respondents agreed that downloaded learning materials were better than live broadcast materials, there were 9.9% (24 respondents) who stated that they did not download learning materials regularly. As many as 46 respondents (19%) still chose to buy books physically even though they had to spend more money than buying e-books on the internet. While participating in online learning, 197 respondents (81.4%) purchased electronic devices to be able to participate in learning activities.

In this variable, just like in the knowledge variable, the analysis continues with quantitative measurements of the respondent's answers to determine whether the respondent's actions were good or not. The answer "Yes" is given a value of 1 while the value 0 is given for the answer "No" with a maximum total value of 10. The respondent's actions are said to be good if the respondent's total score is ≥ 8. There were 233 respondents (96.3%) in this study whose actions were categorized as good and only 9 respondents (3.7%) had actions that were categorized as bad during the online learning period.

Table 5 Number of Respondents based on Action Criteria

Respondent Action Criteria	Number	Percentage (%)
Good	233	96,3
Not Good	9	3,7
Total	242	100,0

DISCUSSION

Demographic Characteristics of Respondents

The gender characteristics of the respondents in this study were mostly women (78.1%). Female respondents dominate the gender characteristics of each generation. There were 53 male respondents in this study (21.9%). This can be understood because the population of male students in each class (respondents and non-respondents) is smaller than female students. Based on data from active FK UKI students, there were 42 male students in the class of 2018 (26.9%), the class of 2019 was 40 people (28.4%), and the class of 2020 was 35 people (25.4%). Apart from that, there are studies that suggest that women tend to have a desire to take part in research or voluntary activities.[41]

The age range of respondents in this study started from 17 years to 23 years. This is in line with the age range of undergraduate program students according to higher education statistical data, namely 18 years to 30 years.[42] The characteristic of the majority of respondents being 21 years old can be attributed to the largest number of respondents coming from the class of 2018, where students in this class have an average age of 21 years.

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The final demographic information is the distribution of respondents' residences. Based on the research results, it is known that 130 (53.7%) respondents lived with their families during online learning activities. Restrictions on face-to-face learning activities implemented since the beginning of the COVID-19 pandemic have allowed many migrant students to return to their home areas and take part in online learning from home. The learning environment conditions influence students in carrying out the learning process.[43] When changes in the learning environment occur which then influence the learning process, attitudes and actions will arise from students in responding to changes in the learning process. Therefore, it is very important to know the student's learning environment, especially during the online learning period.

Knowledge of Online Learning

Online learning or e-learning is the latest development of distance learning. The COVID-19 pandemic has triggered technological developments that make it possible for synchronous learning or real-time learning via the internet network which previously could only be done when teachers and students were in the same place.[44] Therefore, it is true to say that online learning is part of distance learning.

In this study, 134 respondents (55.4%) agreed that studying during the pandemic was not cheaper than studying before the pandemic. According to Alvina et al in their research conducted in 2021, during the online learning period there was an increase in the need for internet costs, use of digital money applications and online shopping. Therefore, it is a natural thing for respondents to say that studying during the pandemic is not cheaper than studying before the pandemic.[45] After participating in online learning for almost two years, students' knowledge about online learning has certainly increased. This statement is proven by the high number of respondents who have good knowledge about online learning, namely 74.7%.

Attitudes Towards Online Learning

Respondents in this study had positive feelings towards online learning, the same as in Tashkandi's research, which stated that respondents in their research felt comfortable with this learning system.[46] The creation of easier discussions through the online learning system allows students to understand more deeply the material being explained.

The attitude towards learning held by respondents during online learning is assessed from the respondent's learning compliance. This research revealed that respondents' learning compliance during the pandemic was the same as before the pandemic, although almost the same number of respondents said they did not comply. This is a sign of the respondents' or students' adaptation to the online learning situation that has been occurring for almost two years. One of the weaknesses of online learning is that the implementation of learning depends on the internet conditions of teachers and students. Respondents agreed that internet connections in Indonesia currently do not support the technology used for online learning. Similar conditions also exist in other countries that have conducted previous research.[47,48] Many respondents like learning materials that can be downloaded. This could be an opportunity for universities to provide open-access facilities for journals or learning materials on the internet so that students are more comfortable and flexible in downloading learning materials.

Actions on Online Learning

Restrictions on face-to-face learning since March 2020 did not make respondents stop studying. It is feared that various kinds of challenges in distance lectures could make students stop their education, as happened to the majority of medical students in Libya at the beginning of the pandemic.[49] Students' activeness in seeking additional knowledge outside of lecture hours is one of the things that has been made easier during this pandemic by the presence of various types of training or seminars carried out online. This

research revealed that the majority of students received certificates through their participation in online training or seminars. The university can encourage students to be more active in seeking experience outside of lecture hours so that the knowledge that students have during this pandemic can become wider considering that the opportunities to achieve it are also easier and more open.

The pandemic has pushed almost all aspects of life to become completely digital. The online learning system encourages students to be able to access teaching materials through many online media or digital platforms.[50] This makes students tend to use e-books and online journals compared to using physical books or journals. However, 46 respondents (19%) chose to continue buying books as a source of learning material. The many learning platforms on the internet also make it easier for students to study together and share learning materials with friends even though they are not in the same place.

An interesting thing found in this research was that 197 respondents bought electronic devices to be able to take part in online learning. The need for electronic devices with certain specifications may be one of the triggers for the high consumption of respondents in purchasing electronic devices during the online learning period.

CONCLUSION

Based on the results of research conducted on students at the Faculty of Medicine, Indonesian Christian University class 2018-2020, it can be concluded that:

1. Respondents' knowledge of online learning is good.
2. The respondent's attitude during online learning is good.
3. The respondent's actions were good during online learning.
4. Most of the respondents were women from the 2018 to 2020 class with an age range of 17-23 years and while participating in online learning lived with their families.

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