The Extent of Adherence to the Precautionary Measures Among University Students in Palestine During COVID-19 Pandemic

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Abstract: (COVID-19) pandemic has rapidly spread across the globe causing massive disruptions to everyday life. This study aimed to assess the extent of adherence to the Precautionary measures among university students in Palestine during COVID-19 Pandemic. Research design: A cross-sectional sample survey consisted of 2094 male and female university students. Setting: the study was conducted at Modern University College, An-Najah National University, Palestine Polytechnic University, Al-Quds Open University, Ibn Sina College of Health Sciences and Arab American of University /West Bank / Palestine. The data collected was from the participant university students and started in first November 2020 to late November 2020 Subjects: A convenience sample consisted of 2094 female and male students with different Bachelor degree programs. Tools: A self-designed questionnaire was used for data collection and included the following parts. Part I: demographic particulars of the university students, Part II. Knowledge of university students about Coronavirus, knowledge among isolation for patient with COVID-19 at home, also their knowledge regarding following for Precautionary measures outside home, Part III: precaution practices were assessed for university students outside home Part IV: assessed University student attitude toward COVID-19. Results: the current study reveals that 80.2% of the studied sample of students had a satisfactory total knowledge regarding precaution measures outside home, 91% of them had a satisfactory total knowledge regarding COVID-19 disease. There was a statistically highly significant relation between total knowledge and total practices outside home (p-value<0.001), and statistically significant relation between total knowledge and total attitudes (p-value 0.005). Conclusion: based on the current study, students were observed to have substantial knowledge, practices for precautionary measures, and a positive attitude toward COVID-19. Recommendation: continuing Government programs should aim to educate individuals from other sectors of the society to ensure the proper dissemination of knowledge on preventive safety measures, as this will help restrict and control the pandemic.

Keywords: Precautionary Measures, COVID-19 Pandemic, Palestine University Students

1. Introduction

The pandemic coronavirus disease (COVID-19) is a highly infectious disease, the first to be reported in Wuhan city of China and is still swiftly spreading and infecting public all over the world. It is caused by a virus known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) [17]. On December 31st of 2020, WHO declared this outbreak as a Public Health Emergency of International Concern and
provinces of China and other parts of the world, including the places, management of communities, and isolation and care publicized a name for the new coronavirus disease as region, South-East Asia region and African regions are The cases of Western Pacific region, Eastern Mediterranean America with 188,751 cases along with 3,400 casualties. (163,199 cases), followed by Italy, Spain, China, France and Germany. However, the mortality rate is greater in Italy (11.7%), followed by Spain (8.7%), United Kingdom (7.11) and France (6.8%). As a result of traveling, an outbreak occurred in several countries especially the European regions are more affected than the rest of world. [24]. The use of face masks and hand sanitizers, a ban on social events, and working from home, etc., were among the measures that were followed to curb the spread of COVID-19. Taiwanese people panic-bought nearly all available mask and hand sanitizer stocks within 2 weeks of the first case in Taiwan 21 January 2020. Movie theatres, restaurants, and malls had diminishing crowds [21].

The awareness and knowledge of health literacy skills permit patients to manage their own well-being by improving their communication with doctors, and making smart healthcare decisions [16, 19]. Nevertheless, public adherence to control COVID-19 is influenced greatly by their knowledge, attitudes, and practices (KAP). Therefore, the present study was aimed to explore the KAP (knowledge, attitude and practice) adopted by the university students of Madhya Pradesh (India) towards prevention of COVID-19 pandemic [20].

2. Subjects and Methods

Aim: the aim of this study is to assess the extent of adherence to the Precautionary measures among University Students in Palestine during COVID-19 Pandemic.

Research Design: A cross-sectional sample survey consisted of (2094) male and female university students (aged from 18 >20 years) freshman and sophomore. Using online electronic data collection, the survey method was used because the study wanted to assess the knowledge level, attitude, practices and preventive measures of COVID-19 among Palestinian University Students.

Setting: The study was conducted at Modern University College, An-Najah National University, Palestine Polytechnic University, Al-Quds Open University, Ibn Sina College of Health Sciences and Arab American of University /West Bank / Palestine.

Sample: A convenience sample. The study included 2094 participants with different Bachelor degree programs, from six previous mentioned university and divided into 965 from health sciences, 382 financial and administrational sciences, 249 engineering, and 498 participated from social sciences. All participants responded to the online Google form link sent to their WhatsApp groups. The study was conducted between November and December, 2020. University students used a Google form shared through email and mobile messages.

Tools for data collection:

Tool I.: A self-designed questionnaire was used for data collection and included the following parts:

Part I.-: Demographic particulars of the participant. The demographic variables consist of age, gender, specialty, place of residence, family income and number of family.

Part II. Knowledge was assessed for university student
using a 20-item questionnaire adapted from [14] and [15] slightly customized to suit college students. The items were attributed to knowledge about Coronavirus pandemic disease (10 Questions), knowledge among isolation for patient with COVID-19 at home (7 Questions), knowledge regarding following for Precautionary measures outside home (3 Questions). 3-point scale were fixed as complete correct = (3), incomplete correct = (2) and incorrect = (1). The total score was recorded as satisfactory > 85%, unsatisfactory < 85%. All knowledge questions were based on Centers for Disease Control and Prevention (CDC) fact sheets.

Part III: Precautionary measures were assessed for practices university students outside home like hand washing, mask wearing, avoiding crowded places; keeping social distance and avoiding unnecessary travelling etc. The questionnaire was constructed on the basis of the published literature from the WHO (2020) (https://main.icmr.nic.in/) for prevention of SARS-Cov-2 transmission. The responses were fixed as always = (2), occasional = (1), and never = (0) respectively. The total score was recorded as satisfactory > 85%, unsatisfactory < 85%.

Part IV: Assessed the University students’ attitude toward COVID-19: approximately eleven items from a previous survey were used to assess the student’s attitude. The questions were related to agree that successfully controlled in elimination of COVID-19 changed for someone if affected with COVID-19. Do you: ask for consult from responsible authorities in the event of emergency symptoms, think the local authorities will succeed in reducing the spread of disease, think the preventive measures of the government are early, think the preventive measures of the government were enough, think you do not get off the COVID-19, think it is not necessary to take precautionary measures for children and older. Isolation of affected people is an effective way to reduce the spread of the COVID-19, and early treatment is the effective way to control the prevalence of COVID-19 as well. The scoring choice is the option “agree” which added two points, the option “not agree” added one, while zero was added for the “don’t know” option in each behaviour-related question.

Content Validity & reliability:
Content validity was done to identify the degree to which the tools measure what was supposed to be measured. The translated tools were examined by a panel of three experts in the field of community who agreed that it is valid and relevant with the aim of the study. Internal consistency was measured to identify the extent to which the items of the tools measure the same concept and the extent to which the items are correlated with each other. The internal consistency which estimated reliability by Cronbach’s Alpha was 0.862.

Statistical analysis: descriptive statistical measures including frequency, percentage, and mean score were used to report the findings. The chi-square test was used to determine the association between the categories. Statistical analysis was performed using SPSS (IBM SPSS Statistics for Windows, Version 25.0; IBM Corp., Armonk, NY). P-value < 0.001 was considered statistically highly significant.

Ethical consideration: Ethical approval was obtained from the previous six mentioned Universities to conduct the study. All participants provided informed consent before participating in the study by using a Google form shared through email, mobile messages, and in print with students from the previous mentioned setting.

3. Result

Table 1. Distribution of university students according to their demographic characteristics (n= 2094).

| Demographic Characteristics | No  | %        |
|-----------------------------|-----|----------|
| Age (years)                 |     |          |
| 1) 18-<19                   | 420 | 20.1     |
| 2) 19-<20                   | 670 | 32       |
| 3) >20                      | 1004| 47.9     |
| Mean± SD=(19.56±3.069)      |     |          |
| Gender                      |     |          |
| 1) Male                     | 1119| 53.4     |
| 2) Female                   | 975 | 46.6     |
| Place of residence          |     |          |
| 1) City                     | 564 | 26.9     |
| 2) Village                  | 967 | 46.2     |
| 3) Camps                    | 563 | 26.9     |
| Family income               |     |          |
| 1) Enough                   | 1920| 91.7     |
| 2) Not enough               | 174 | 8.3      |
| Number of family            |     |          |
| 1) 2 – 4                    | 743 | 35.5     |
| 2) 5 – 7                    | 1000| 47.8     |
| 3) > 7                      | 351 | 19.7     |
| University                  |     |          |
| Modern University College   | 606 | 28.9     |
| Arab American University    | 331 | 15.8     |
| An-Najah National University| 297 | 14.2     |
| Palestinian Polytechnic University | 308 | 14.7 |
| Ibn-Sina College for Nursing and Midwife | 224 | 10.8 |
| Al-Quds Open University     | 328 | 15.6     |
| Programs                    |     |          |
| Health Sciences             | 965 | 46.1     |
| Financial and Administrative Sciences | 382 | 18.2 |
| Engineering                 | 249 | 11.9     |
| Social Sciences             | 498 | 23.8     |

Table 1: A total of 2094 students completed the online questionnaire. The mean/average age was (20.56±3.069) years and 53.3% were male. 46.1 Health Sciences, 18.2 Financial and Administrative Sciences, 11.9 Engineering, 23.8 Social Sciences. Regarding residence, results show that 46.2% resided in village, while 26.9% in city and campus residents. 47.8% of the students live with their family consisting of 5-7 members. Additionally, 91.7% of the students have enough family income.
Table 2: Distribution of university students according to their knowledge about COVID-19 pandemic (n=2094).

| Items                                                                 | Correct | Incomplete correct | Incorrect |
|-----------------------------------------------------------------------|---------|--------------------|-----------|
| *Meaning of COVID-19                                                   | N=2074  | 99.0               | 20.0      |
| *Causes of COVID-19                                                   | N=2016  | 96.3               | 78.0      |
| *Methods of transmission                                              | N=2094  | 100.0              | 0.0       |
| *Signs & symptoms of disease                                          | N=1858  | 88.7               | 224.0     |
| *How can you protect yourself and others from infection               | N=1787  | 85.3               | 202.0     |
| *Time for repetition tests of abnormal results                        | N=1179  | 56.3               | 242.0     |
| *Medical tests to discover the virus of COVID-19                       | N=1526  | 72.8               | 482.0     |
| *Prophylactic anticoagulation drugs used                              | N=1542  | 73.6               | 368.0     |
| *Time to give anticoagulant to prevent blood Clotting                 | N=1359  | 64.9               | 490.0     |
| *Treatment of COVID-19                                                | N=1963  | 93.7               | 131.0     |

Table 2: shows that the great majority of the studied students (99%, 96% & 93.7) have a correct answer about the meaning of COVID-19, its causes & the treatment respectively. All of them have a correct answer about transmission of COVID-19; also, the majority (88.7 & 85.3) have correct answers regarding signs and symptoms & protection methods from infection respectively. While, 56.3% of them know the time for repetition tests, 11.6% have incomplete answers, and 32.1% did not know the time. Regarding test to discover the virus & anticoagulation drugs 72.8% & 73.6% have correct answers, 27.2% & 17.6% have incomplete answers, and only 4% & 8.8% did not know, respectively. In addition, 64.9 have correct answers, 23.4% have incomplete answers & 11.7% have incorrect answers about timing to give anticoagulation.

Table 3: Distribution of university students according to their knowledge about COVID-19 isolation at home (n=2094).

| Items                                                                 | Correct | Incomplete correct | Incorrect |
|-----------------------------------------------------------------------|---------|--------------------|-----------|
| *What is patient isolation at home                                     | N=1994  | 95.2               | 4.8       |
| *Meaning of self-quarantine                                           | N=2071  | 98.9               | 1.1       |
| *Type of medication during home isolation                             | N=1957  | 93.5               | 5.5       |
| *Information about Precautions measures for patients with COVID-19 isolation | N=1981 | 94.6               | 4.8       |
| *Information to deal with visitors for patients with COVID-19 isolation | N=1954 | 93.3               | 4.8       |
| *Information for environmental cleaning to prevent COVID-19            | N=1883  | 89.9               | 8.4       |
| *Who are the precautionary measures to disinfect and clean upholstery to prevent infection with COVID-19? | N=1647 | 78.7               | 15.0      |

Table 3: reveals that the great majority (95.2%, 98.9%, 93.5 & 94.6%) respectively of studied students have correct answers regarding the determination of the patient who needs isolation at home, meaning self-quarantine, type of medication used during isolation, precaution with visitors, and Precautions measures for patients with COVID-19 isolation. Furthermore, 89.9% & 78.7% respectively have correct answers regarding timing to give anticoagulation drugs to prevent COVID-19 & the precautionary measures to disinfect and clean upholstery to prevent infection with COVID-19. While, limited number of them have incomplete & incorrect answers towards precautionary measures to deal with a patient with COVID-19 at home.

Table 4: Distribution of university students' knowledge regarding followed Precautionary Measures outside home (n=2094).

| Items                                                                 | Correct | Incomplete correct | Incorrect |
|-----------------------------------------------------------------------|---------|--------------------|-----------|
| *The precautionary measures that must be followed to avoid close contact with others | N=1908  | 91.1               | 124.0     |
| *The precautionary measures for respiratory hygiene to protect from COVID-19 | N=1769  | 84.5               | 232.0     |
| *What is personal protective tool used to protect from COVID-19       | N=1750  | 83.6               | 243.0     |

Table 4: clarifies that 91.1% of studied students have correct answers regarding followed the precautionary measures outside home and 4.5% have incorrect answers regarding followed the precautionary measures for respiratory hygiene to protect from COVID-19. Also, 83.6% of them have correct answers regarding using personal protective equipment.

Figure 1: illustrates that 80.2% of the studied students have a satisfactory total knowledge regarding followed the precautionary measures outside home, 91% of them had a satisfactory total knowledge regarding isolation of patient affected with COVID-19 inside home and 95.5% of them have a satisfactory total knowledge regarding COVID-19 disease.
Table 5: Distribution of university students according to their practices for the Precautionary Measures regarding COVID-19 disease outside home (n=2094).

| Items                                      | Always |          | Occasional |          | Never |          |
|--------------------------------------------|--------|----------|------------|----------|-------|----------|
|                                            | N      | %        | N          | %        | N     | %        |
| *Avoiding being in crowded places          | 1788   | 85.4     | 230        | 11.0     | 76    | 3.6      |
| *Wearing the face mask when leaving the house | 1240   | 59.2     | 820        | 39.2     | 34    | 1.6      |
| *Practicing carefully cleaned hands using an antiseptic | 1197   | 57.2     | 710        | 33.9     | 187   | 8.9      |
| *Using tissue papers to cover mouth and nose during sneezing or coughing | 1169   | 55.8     | 806        | 38.5     | 119   | 5.7      |
| *Avoiding unnecessary travel during spread of COVID-19 | 1180   | 56.4     | 632        | 30.2     | 282   | 13.0     |
| *Avoiding visiting relatives during spread of COVID-19 | 1523   | 72.7     | 408        | 19.5     | 163   | 7.8      |
| *Using specialized personalized equipment | 1288   | 61.5     | 806        | 38.5     | 0     | 0.0      |
| *Using the appropriate methods in hand-washing | 1077   | 51.4     | 982        | 46.9     | 35    | 1.7      |
| *Using the appropriate methods in mask-wearing | 1494   | 71.3     | 600        | 28.7     | 0     | 0.0      |

Table 5: this table shows that 85.4% of studied students are always not found in crowded places, 11% occasional while 3.6% are rarely found. 59.2% of them always wear facemasks outside home, 39.2% occasional and 1.6% never wear mask. Furthermore, 57.2% always clean their hands by antiseptic, 33.9 were occasional and only 5.7% never. Also, 55.8% of the studied students always use tissue papers to cover mouth and nose during sneezing or coughing, 38.5% occasional and 5.7% never. 72.7% always don’t visit their relatives during spread of COVID-19, 19.5% occasional and 7.8% ever. In addition, 38.5% of the studied students occasionally use specialized personalized equipment, 46.9% of them occasionally use the appropriate methods in hand washing and 28.7% use the appropriate methods in mask-wearing.

Figure 1. Distribution of studied students according to their total satisfactory knowledge (n=2094).

Figure 2. Distribution of studied university students according to their total satisfactory & unsatisfactory Precautionary Measures (n=2094).
Figure 2: as regards total satisfactory precautionary measures of university students this figure illustrated that 83.7% of the studied students had always, 15.3% of them had occasional and only 1.0% of them never regarding adherence to the precautionary measures regarding COVID-19 disease.

As seen in table 6, 61.5% of the studied students agree that Palestinian governorate successfully controlled the elimination of COVID-19, 28% do not agree and 10.5% do not know, 56.7% agree that social communication platforms are our fears, a higher percentage of students 80.9% would seek assistance from the authorities' responsible if the person or a family member develops symptoms of COVID-19. 68% of students considered that the preventative measures taken by the Palestinian government at the beginning were sufficient and on a timely manner. 53.8% were worried toward COVID-19. 59.2% of them remarkably agree that precautionary measures for children and older are not necessary & thought that COVID-19 preventative measures should be applied by everyone to reduce spread the COVID-19. In addition, 58.3% of the students would seek assistance from the authorities’ responsible if the person or a family member develops symptoms of COVID-19.

Table 6. Distribution of university students according to their attitudes regarding COVID-19 disease (n=2094).

| Items                                                                 | Agree       | Not agree   | Don’t know  |
|---------------------------------------------------------------------|-------------|-------------|-------------|
| N                     | N          | N           | N           |
| Are you sure that the government successfully controlled in elimination of COVID-19? | 1287        | 586         | 280         | 220 | 10.5 |
| Social communication platforms are our fears                         | 1188        | 735         | 35.1        | 171 | 8.2  |
| I'm changed for someone if they are affected with COVID-19           | 1261        | 675         | 32.2        | 158 | 7.5  |
| I will ask for consult from responsible authorities in the event of emergency symptoms | 1694        | 62          | 3.0         | 338 | 16.1 |
| Do you think the local authorities will succeed in reducing the spread of disease | 1237        | 718         | 34.3        | 139 | 6.6  |
| Do you think the preventive measures of the government were early-produced | 1359        | 652         | 31.1        | 83  | 4.0  |
| Do you think the preventive measures of the government were enough | 1442        | 549         | 26.2        | 121 | 5.8  |
| Do you think the COVID-19 will last for a long time                  | 1126        | 826         | 39.4        | 142 | 6.8  |
| Is not necessary to take precautionary measures for children and older | 1240        | 682         | 32.6        | 172 | 8.2  |
| Isolation of affected people is an effective way to reduce the spread of the COVID-19 | 1240        | 592         | 28.2        | 264 | 12.6 |
| Isolation and early treatment are the effective ways to control the prevalence of COVID-19 | 1221        | 676         | 32.3        | 197 | 9.4  |

Table 7: Correlation between total knowledge, precautionary measures and attitudes regarding COVID-19 disease (n=2094).

| Items                                                                 | Satisfactory >60 (n=1890) | Unsatisfactory <60 (n=204) | X² | P  |
|---------------------------------------------------------------------|---------------------------|-----------------------------|----|----|
| N                     | No.         | %             | No.         | %             |    |    |
| Total precautionary measures outside home                          |                           |                            | 63.73 | <0.001** |
| Always 80.2% (n=1680)                                             | 1581                     | 83.7                       | 99  | 48.5 |
| Occasional 15% (n=315)                                            | 290                      | 15.3                       | 25  | 12.3 |
| Never 4.8% (n=99)                                                  | 19                       | 1.0                        | 80  | 39.2 |
| Total attitudes of studied students                                |                           |                            |     |     |
| Positive 78.3% (n=1640)                                           | 1460                     | 77.2                       | 180 | 88.2 |
| Negative 21.7% (n=454)                                            | 430                      | 22.8                       | 24  | 11.8 |

Table 7: there was a statistically highly significant relation between total knowledge and total practices outside home P-value<0.001, and statistically significant relation between total knowledge and total attitudes P-value 0.005.

4. Discussion

University students play an important role in the community. During the COVID-19 pandemic crisis, university students are expected to spread attentiveness of key health and hygiene messages amongst communities. Even staying at home, retaining social distance, wearing face masks, washing hands, etc. are quite a few measures that the governments’ health department propagate. So, it is so important that university students across the country have many knowledge and awareness about all aspects of the disease including prevention strategies [18]. Therefore, the study aimed to assess the extent of adherence to the Precautionary measures among University Students in Palestine during COVID-19 Pandemic. [9]

Regarding socio-demographic characteristics of the studied university students, the results of the current study showed that, near to one third of them were in age group 17 to less than 19 years; with the average age 19.56 ± 3.069 years. This finding was similar with the result of [12] in the study about the impact of the COVID-19 epidemic on mental health of undergraduate students in New Jersey, who reported that average age was 19.18 ± 2.9 years old. The finding of the present study illustrated that more than half of studied students were male students, this finding was unsupported by...
[18], found that more than three quarter of the studied students were female.

In accordance to knowledge of university students about COVID-19, the current study showed that the great majority of the studied students have correct answers about the meaning of COVID-19, its causes & the treatment. All of them have correct answers about transmission of COVID-19; also, the majority of them have correct answers regarding signs and symptoms & protection methods from infection. A similar study conducted on a Chinese population reported an overall knowledge of 90% [26]. The same table also reported 56.3% of students only know the time for repetition tests, more than one-tenth has incomplete answers, and more than one-third did not know the time. Regarding test to discover the virus & anticoagulation drugs showed that more than three-third of university students have correct answers. In addition, more than two-third have correct answers about timing to give anticoagulation. This result agrees with another study conducted on an Egyptian population comprising 559 participants reported the mean and standard deviation of knowledge score as 16.39±2.63, ranging from 7 to 22, which corresponds to approximately 74.5% overall knowledge among participants regarding COVID-19 Ahmed [2].

Concerning to knowledge of university students according isolation the patients with COVID-19 at home this result reveals that the great majority of studied students have correct answers regarding the determination of the patient who needs isolation at home, meaning of home isolation, types of medication used during isolation, precaution for visitors, and precautions measures for patients with COVID-19 isolation. Furthermore, environmental cleaning & with 80.2% of the studied students had a satisfactory total knowledge regarding followed the precaution measures outside home. Our findings may be the current state of public health awareness and to determine the need for proper dissemination of knowledge and awareness. In addition, the easy access to highly recommended mass media, medical articles and journals available at the university's library which is the major source of information about COVID-19 epidemics.

Regarding knowledge of university students followed precautionary measures outside home, the current study found that the majority of students had a correct answer regarding following the precautionary measures outside home and negligible number of them had incorrect answers regarding followed the precautionary measures for respiratory hygiene to protect from COVID-19. Also, great number of them has correct answers regarding using personal protective equipment. This results was confirmed with Hussain [10], who studied knowledge, attitudes and practices towards COVID-19, and found positive and cautious knowledge towards the COVID-19 epidemic were the vast majority of participants knew the precaution measures for respiratory hygiene and using the personal protective equipment, and avoid contact with others during the rapid rise period of the COVID-19.

In accordance to students' practices for precautionary measures regarding COVID-19 disease outside home, the current study denoted that majority of them always are not found in crowded places, two-third always wear the face mask outside home. Furthermore, more than half of them always clean their hands with antiseptic solutions. Also, more than half of the studied students always use tissue papers to cover mouth and nose during sneezing or coughing, near to three quarter of them always do not visit their relatives during spread of COVID-19. In addition, more than one third of the studied students occasionally use specialized personalized equipment. This result agrees with [13] who said in his study, throughout COVID-19 outbreak, results have shown that two-third of participants did not wear face masks when out in public, whereas fifth did not maintain physical distancing. Compliance with the pandemic restrictions is essential and crucial in this phase, and failure to adhere to preventive measures-even if by a minority-would only lead to uncontrolled spreading of the disease. Positive practices towards COVID-19 pandemic were found to be significantly associated with the gender and major of the precipitant. This suggests may be that the students have a slightly positive preventive behaviour and attitude toward COVID-19. [9]

Regarding the attitudes of university students among COVID-19 pandemic disease, the current study showed that more than two third of the sample agree that Palestinian governorate successfully controlled in-elimination of COVID-19, more than quarter did not agree, approximately two third agree that social communication platforms are our fears, a higher percentage of students would seek assistance from the authorities’ responsible if the person or a family member develops symptoms of COVID-19. 68% of students considered that the preventative measures taken by the Palestinian government at the beginning were sufficient and on a timely manner. More than half were worried toward COVID-19 and two third of them remarkably thought that precautionary measures for children and older are not necessary & thought that COVID-19 preventative measures should be applied by everyone to reduce spread the COVID-19. As for the preventive measures applied by the government, showed that approximately two third of the students would seek assistance from the authorities’ responsible if the person or a family member develops symptoms of COVID-19. Concerning the performance of the local authorities, two thirds of participants considered the authorities’ attempts successful in controlling the spread of COVID-19, and around half of them thought that the preventative measures were sufficient. Furthermore, less than a quarter of the participants believed that local authorities have sufficient tools to deal with the suspected cases of COVID-19. These findings disagree with other studies among different communities [26, 17, 3], that might be due to the lack of economic and medical resources and the shortage within the health system compared to developed countries. This indicates the importance of continuous health education that could improve the prevention behaviour toward COVID-19 in society.
5. Conclusion

Based on the current study, the university students have substantial knowledge, practices for precautionary measures, and a positive attitude toward COVID-19. A majority of them also expressed their optimism regarding the control of COVID-19. In addition, there was a statistically highly significant relation between total knowledge and total practices outside home p-value <0.001, and statistically significant relation between total knowledge and total attitudes p-value 0.005.

6. Recommendation

These study findings supported the study research question. Based on the findings of the present study, it was recommended that:

1) The primary action to create awareness among the population can be undertaken through social media, electronic media and other possible means.
2) Continuing Government programs should aim to educate individuals from other sectors of the society to ensure the proper dissemination of knowledge on preventive safety measures, as this will help restrict and control the pandemic.
3) It is the responsibility of the state to take all precautionary measures for the safety of the community and public. There is an urgent need for research to address burden of the COVID-19 pandemic on college students.

Competing Interests

The authors declare no competing interests.

Authors’ Contributions

Each author took part in the design of the study, contributed to data collections, participated in writing the manuscript and the authors agree to accept equal responsibility for the accuracy of this paper. All authors approved the final article.

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