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Research Article

Knowledge, Attitudes, and Anxiety towards Covid-19 among Female Postgraduate and Undergraduate University Students in Riyadh

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Introduction

Despite the relentlessness of the novel Coronavirus, majority of the individuals globally worldwide have continued to be unconscious about it. They are not informed on the ways in which the virus is spread, its signs and symptoms, or the steps they need to put in consideration to avoid being infected. The main contributing factor of the high rate of spread of Coronavirus is public unawareness. To help its people from being infected with the virus, Saudi Arabia as a country has opted for rigorous and strict measures. The move is characterized by exceptional criteria with the objective of taking control of Coronavirus and prevent people from being infected. COVID-19 is the disease caused by the Coronavirus, a virus that has been identified for the first time, and it is also referred to as SARS-Co-2 [1].

A number of surveys have been carried out by scholars with the aim of determining the amount of knowledge the public in Saudi Arabia has on Coronavirus. According to the research carried out by a group of researchers in the western area of Saudi Arabia has revealed that a large number of individuals are aware of the virus. The findings were that the public has a knowledge score of 17.96 with a standard deviation of 2.24 and the range being in between 3 to 22 [2]. What can be derived from this is that the level of awareness is at acceptable levels, implying that efforts that have been put in place to ensure individuals are not infected with the virus are bearing fruits. The study also revealed that men are more ignorant compared to women, and they are cynical on the same. Women were identified to follow the recommended behaviour better than men towards the virus. Moreover, young people were found to require suitable practices and information concerning Coronavirus.

From the perspective of another study in Saudi Arabia, found out that students are informed about the disease and the virus in the area of medical concerns and clinical awareness. It has been found out that Saudi Arabia has a high number of MERS-CoV cases, and since the year 2012, a total of 1,844 cases have been recorded [3]. The study suggested that the assessment of the levels of awareness and attitudes of the health care students in the region can assist in coming up with efficient strategies to help in preventing MERS-CoV [3]. The study found out that the profession individuals pursue, determines the awareness knowledge of the virus. To reinforce the existing level of awareness, attitudes, knowledge, professional regular awareness campaigns plays a significant role. Up to date, Saudi Arabia ministry of health is trying to educate people by a different type of media to increase the level of knowledge and attitude that will lead to prevention of the disease. By June 6, 2020, Coronavirus Cases in Saudi Arabia were 98,869, 676 deaths, and 71,791 recoveries.

From the previous literature incorporated in the study, it is worth noting that awareness creation concerning the virus in

Saudi Arabia citizens is essential. The plan should have the aim of reaching out individuals who need knowledge about the disease because they are the most vulnerable and prone to infections of Coronavirus. The collaboration and perception of the public are playing a pivotal role in guiding the government strategies aimed at preventing the spread of the virus.

Aim of the Study

The drive of this study is to explore the level of knowledge, attitudes and anxiety towards the Coronavirus (COVI-19) outbreak across various undergraduate and postgraduate students in Riyadh, Saudi Arabia. Thus, anticipating the number of information students have regarding the disease and how they are dealing with the pandemic.

Hypothesis

The null Hypothesis H0=

1. There is poor knowledge in both groups, with no knowledge difference.
2. There is poor attitude in both groups, with no attitude difference.
3. There is high anxiety to contract covid19 in both groups, with no anxiety difference.

Methodology

Study design

1. Observational cross-sectional design.
2. During March 2020 (knowledge about COVID-19 was limited)

Setting

1. A structured, self-administered, close-ended anonymous internet dismissed questionnaire to university students in Riyadh, Saudi Arabia
2. Participants entered the study based on their acceptance of the questionnaire. The questionnaire includes nominal, interval and ratio levels of measurements.

Inclusion criteria

1. Female University students.
2. Residents or a national of Saudi Arabia.

Data collection

1. The 15-question survey was divided into four parts: demographic data, seven questions to assess the knowledge, 6 to evaluate the attitude, and 1 to evaluate the anxiety.

Data Analysis

1. The data gathered was taken through to statistical analysis using SPSS.
2. Chi-square test was used to probe the level of relationship midst variables at the significance level of P ($P<0.05$).
3. Crosstabulation was used to analyze the relationship between different groups and knowledge, attitude and anxiety.
4. T-test was used to find a difference between the means of both groups (Hypothesis Testing).

Ethical approval

1. This study has been reviewed and approved by the institutional review board IRB at REU, IRB approval number is FRP/2020/230/155/1 50.

Results

The number of participants with completed responses out of 691 involved in both the postgraduate and undergraduate groups is 620, whose ages ranged from 18 to 30 years, with a mean age of 23.5 years. All the participants were females. Out of 620 participants, 120 were postgraduate students while 500 were undergraduate students. Cross-tabulation of correct answers to both groups shows that the general knowledge is 68.1% and 67.8% of undergraduate and postgraduate students respectively which shows no statistical significance, ($P>0.05$). The only statistical significance was present between the two groups concerning the mode of transmission (Table 1).

Level of Knowledge

From the statistics in (Table 1), it is evident that both groups well know knowledge on the incubation period of Coronavirus as they have scored the highest; postgraduate with 94.2 percent and undergraduate with 95.2 percent. On the other hand, knowledge on whether COVID-19 affects oral health scored lowest as postgraduate had 25.8 percent while undergraduate scored 18.4 percent.

Attitude

Cross-tabulation of correct answers of both groups showed a change in attitude when facing critical situations, which showed no statistical difference table, two postgraduate, table two undergraduate students (Table 2).

From (Table 2,3) indicates that postgraduate students agreed with most remedy approaches on Coronavirus as the number of respondents who agreed is much higher compared to those who disagreed. Concerning the attitude level for undergraduate, the same case applies, implying that most of them agreed that appropriate actions using proper medical interventions (Table 3).

Table 1: Level of knowledge for both postgraduate and undergraduate students.

Question	Post-grad (Total Correct and %)	Undergrad (Total Correct And %)
1) What is the high-risk age group affected by COVID-19?	76	320
	64%	64%

2) What is the mode of transmission of COVID-19?	83	283
	69.20%	56.60%
3) What is the incubation period of COVID-19?	113	476
	94.20%	95.20%
4) What is the first line of treatment of COVID-19?	69	294
	57.50%	58.80%
5) Does COVID-19 affect oral health?	31	92
	25.80%	18.40%
6) Which system does COVID-19 mainly affect?	120	492
	100%	-.40%
7) What are the sign & symptoms of COVID-19?	66.40%	64.76%

Table 2: Attitude level in Postgraduate students.

1) If a patient were presented to a clinic with fever and wants to do a routine dental check-up, the appropriate action would be to refer the patient to a physician.	81.67%	18.3%
2) If a patient were presented to a clinic with fever and wants to do a routine ophthalmic exam, the appropriate action would be to refer the patient to a physician.	80%	20%
3) If your patient/friend/relative were out of the country within the past 14 days, the appropriate action would be to have them self-quarantine for 14 days.	100%	0%
4) There is an increase in your compliance with hand hygiene.	99.20%	0.80%
5) There is an increase in your compliance with universal precautions	89.70%	10.30%
6) There is a decrease in your use of public facilities (for example toilet)	94.40%	5.60%

Table 3: Attitude level in undergraduate students.

Question	Agree	Disagree
1) If a patient were presented to a clinic with fever and wants to do a routine dental check-up, the appropriate action would be to refer the patient to a physician.	82.60%	17.40%
2) If a patient were presented to a clinic with fever and wants to do a routine ophthalmic exam, the appropriate action would be to refer the patient to a physician.	80.40%	-19.60%
3) If your patient/friend/relative were out of the country within the past 14 days, the appropriate action would be to have them self-quarantine for 14 days.	98%	-2%
4) There is an increase in your compliance with hand hygiene.	94.60%	5.40%
5) There is an increase in your compliance with universal precautions	88%	12%
6) There is a decrease in your use of public facilities (for example, a toilet)	94.80%	5.20%

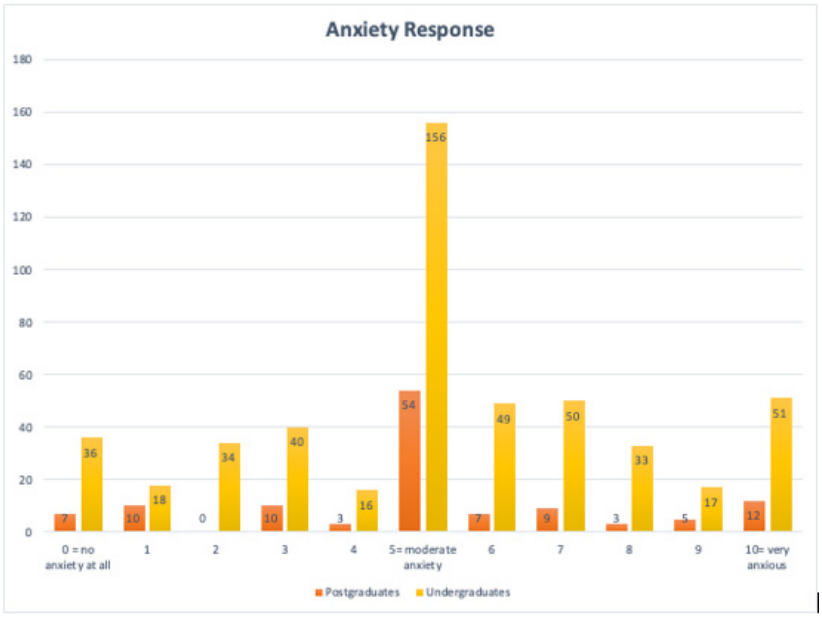

Figure 1: Anxiety response of postgraduate and undergraduate students towards Covid-19.

Anxiety

There is a general perception that most of the participants are aware of the various concepts concerning the virus. (Table 3) shows that most of the participants agreed that they have information on measures that need to be taken to prevent the spread of the deadly virus.

1. In respect to perceived anxiety of contracting Coronavirus, both groups of students are anxious to contract Coronavirus with answers laying mostly five and above. (71% of bachelor's degree students scored five and above, and 75% of postgraduate students scored five and above.) There are no statistical differences between the groups (Figure 1).

Discussion

The study is a cross-sectional, internet disseminated questionnaire regarding Coronavirus (COVID-19) was conducted. Using the internet disseminated questionnaire is a rapidly improving platform for information gathering. Contribution in this study was entirely deliberate, which makes the statistical data legal and dependable. One might determine from this study that COVID-19 awareness is mostly reasonable among undergraduate and postgraduate students in Riyadh city in Saudi Arabia.

Female students were only included in this study because of ease for access. Postgraduate students were generally more knowledgeable about the disease Concerning the mode of transmission postgraduate students were more knowledgeable than undergraduate, and there was a significant difference between them, this could be related to age difference as postgraduate students as they are older. Moreover, very high protective measures were taken against the disease in both groups such as compliance with hand hygiene, universal protections and decrease in the use of public services with no significant difference between them. Higher anxiety was noted in the undergraduate degree students. This is all because the disease is not common, and the general lack of information and treatments that are posted in the media about the condition. After the outbreak of Coronavirus COVID-19, we did not have a lot of studies to compare therefore we compared the level of knowledge with the Middle East respiratory syndrome Coronavirus (MERS-CoV2) level of knowledge and awareness; consequently, we have made the assessment with two studies concerning the information of Coronavirus among Saudi public [4,5].

Our study demonstrated that university students knowledge was in agreement with the results of Al Moharej study [4], and this is because the Al Moharej study group were >70% university students and postgraduate students. Also, the level of education at Al Mohrej study did not affect the level of knowledge.

The study measures were taken against the virus were the same in both groups also the level of education did not affect the level of knowledge in postgraduate and undergraduate students groups in 6 out of 7 items studied, only one item was a statistically significant difference in the knowledge of the mode of transmission. Also, our study knowledge level was in agreement with recently published paper from western Saudi Arabia [2]. However, our study was in disagreement with Al-Mohaissen [5] study which found that the level of knowledge regarding Coronavirus was very poor mainly because the participant was different educational level, however among his data there was health college students and their level of knowledge was acceptable and in agreement with our study.

Comparing the findings of the study with awareness as presented in other communities such as French and Australian pilgrims [7,8] our results showed a higher-level knowledge. Nearly 65 percent of the French and only 35% of the Australian travellers were aware of the MERS prevalence in Saudi Arabia. However, the study findings are in agreement with the two in the protective measures taken. The good thing about an increased level of awareness, help people to act in protective ways and encouraging with the possibility of being infected to seek assistance from healthcare centres [8].

Study Limitations

There are a couple of limitations to this study, including the idea that only Saudi Arabian postgraduate and undergraduate females were used as respondents. Another limitation is that the data was collected between March 19 and April 1st, 2020 period when media updates about the disease were done every day, raising the level of knowledge in public. The study did not make use of mixed data collection strategy as it used an only quantitative approach; hence in-depth insights were not collected. The interview could have been used to collect such insights from the respondents.

Conclusion

Based on the results, we reject the null hypothesis (here is poor knowledge attitude in both postgraduate and undergraduate with no difference and high anxiety to contract the virus in both groups) as they suggest the need for a multitargeted educational intervention to correct misconceptions among university students that will in turn eventually decrease their anxiety and ensure proper precautions will be taken against COVID-19. For future study, both female and males from different age groups should be used in determining the reality concerning Coronavirus in Saudi Arabia. By doing so, better results will be obtained. Moreover, a more extended period of the study also needs to be utilized. The review is essential as it helps in deciding the strategies that can be taken top protection people of Saudi Arabia from infections of the Coronavirus.

Acknowledgement

None.

Conflict of Interest

No conflict of interest.

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