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Knowledge of Al-Kindy College Students about COVID-19 Disease in Children

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ABSTRACT

Background: Since the beginning of the pandemic, there have only been a few of reports of juvenile cases of coronavirus illness 2019 (COVID-19). Children with COVID-19 have yet to have their clinical features fully recognized by medical students. **Objective**: The aim of the current study was to summarize what medical students know about COVID-19 in children symptoms, severity, and transmission and prevention.

Subjects and methods: A cross sectional study was conducted on a sample of students from Al-Kindy College of Medicine, University of Baghdad. The data were collected from 200 students via the distribution of "Google Form" questionnaires using convenience sampling during the period from January 15, 2021 to May 20, 2021. The answers were analyzed using descriptive statistics. Ethical approval was obtained from Scientific Committee of Al-Kindy College of Medicine, University of Baghdad.

Results: The 6th stage students have much thorough knowledge that is more coinciding with scientific data as compared with other stages. This knowledge could be summarized that children have less risk of getting infection or transmission to/from adults. Moreover, participants express less severe presentation of infection in children, vaccine is helpful in preventing infection, and isolating patients and referring them to hospitals are required as well.

Conclusion: Medical students near gradation (6th stage) are enriched with wide and thorough knowledge of COVID-19, which is an essential fundamental key in management of COVID-19. Moreover, it reflects the success of teaching system of Al-Kindy College of Medicine, University of Baghdad.

Keywords: COVID-19, Knowledge, Viral transmission, Review, Cross sectional study, University of Baghdad.

INTRODUCTION

The Wuhan Municipal Health Commission in China announced, in the month of December 2019, that there had been an outbreak of pneumonia in the Chinese city of Wuhan, and that the reason of the outbreak was unclear [(1)]. On January, 2020, World Health Organization (WHO) attributed the condition to a novel type of coronavirus and named it the 2019 novel coronavirus (COVID-19). The World Health Organization (WHO) announced on January 7, 2020 that the ailment was caused by a new form of coronavirus and designated it as the 2019 novel coronavirus (COVID-19). COVID-19 is a highly contagious illness that may be passed from person to person by the exchange of respiratory droplets, hands, saliva, and other bodily fluids, as well as through skin contact [(2)]. Most of the COVID-19 instances that have been described in the scientific literature have been in adults, and there have only been a few of studies conducted on the condition in children [(3)].

It has been found that most children infected with COVID-19 show no symptoms or have symptoms that are far less severe than those seen in adults. On the other hand, according to some reports, newborns and younger children, particularly those whose immune systems are impaired or who have disorders affecting their lungs, are more prone to have a severe illness course [(4)].

A child's age, in addition to any other medical issues, is regarded to be the single most crucial determinant in establishing the probable severity of their sickness [(5)].

There is a significant percentage of the available literature that is based on data from research conducted in China; yet, there has been documented to be a geographical variance in the pathology of the illness across various groups [(6)]. The aim of the present study was to measure knowledge level among medical students towards possible sources of COVID-19 transmission in children, transmission through placenta or birth canal and breast feeding, and possible risk factors for COVID-19 in children.

SUBJECTS AND METHODS

A cross sectional study was conducted on a sample of students from Al-Kindy College of Medicine, University of Baghdad. The data were collected from 200 students via the distribution of "Google Form" questionnaires using convenience sampling during the period from January 15, 2021 to May 20, 2021.

The questionnaire consists of 13 questions; include questions on the students' demographic information (age and stage). The second part of the questionnaire used Likert scale which included questions about their source of information, likelihood of symptoms and mode of transmissions among children.

<u>The questionnaire included the following items:</u>

1. Gender.
2. Age.
3. Stage.

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4 .Where did you get your information about COVID-19?

Medical search engines
Most of the time Sometimes rarely Never
TV
Most of the time Sometimes rarely Never
Social Media
Most of the time Sometimes rarely Never
Health workers
Most of the time Sometimes rarely Never
Google
Most of the time Sometimes rarely Never
Family and friends
Most of the time Sometimes rarely Never

5. Children are at high risk for COVID-19 *
(Agree, Disagree. Maybe).
6. Do you have an infected child with COVID 19 in your family or your relatives? (Yes, No)
7. Do you think that COVID-19 can cause symptoms in the children?
(Yes, No, I don't know)
8. Do you think that children can transmit the infection to the other people? (Yes, No, I don't know).
9. Do you think the infected mother can transmit the infection to her infant through the placenta?
(Yes, No, I don't know).
10. Do you think COVID-19 can cause complication in children, like hypoxia and acute respiratory distress syndrome?
(Yes, No, I don't know).
11. Is the vaccine useful in children?
(Yes, No, I don't know)
12. COVID-19 is more severe in: (Adult, Children).
13. If you have an infected child with COVID-19 what would you do? Yes, No
Send him to the hospital Yes No
Isolate him from the rest of family Yes No

Ethical Consideration:
This study was ethically approved by the Institutional Review Board of Al-Kindy College of Medicine, University of Baghdad (Number EAC: A14528). This study was executed according to the code of ethics of the World Medical Association (Declaration of Helsinki) for studies on humans.

Statistical Analysis:
The collected data were introduced and statistically analyzed by utilizing the Statistical Package for Social Sciences (SPSS) version 20 for windows. Qualitative data were defined as numbers and percentages. Quantitative data were tested for normality by Kolmogorov-Smirnov test. Quantitative data were described as mean and standard deviation (SD).

RESULTS
A total 200 students submitted the completed online questionnaire survey; 58 % were females and 42% were males (**Figure 1**). The age was approximately normally distributed with a mean of 21.74 years old. All of the students were from Al-Kindy Medical College.

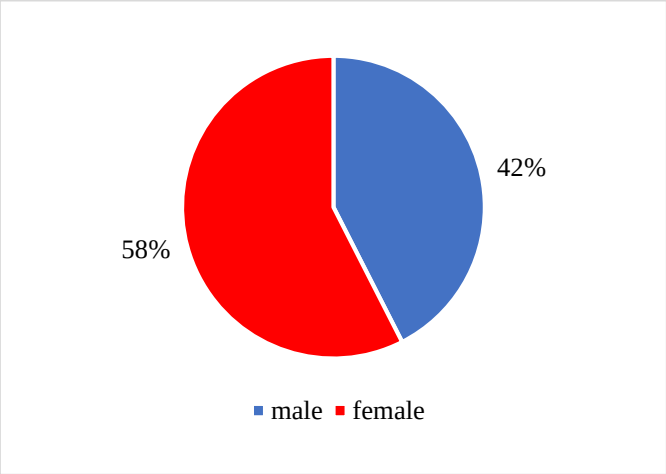

Figure 1: Gender distribution of participants.

Regarding students various sources of information about COVID-19: Social media (51%) was the commonest one, followed by Google (42 %), medical search engine (37 %), TV (36.5%), family and friends (34.5%), and health workers (31.5%) (**Table 1**).

Table 1: Students sources of information about COVID-19.

Where did you get your information about COVID-19	Most of the time	Sometime rarely	Never
Medical search engines	74 (37%)	97 (48.5%)	29 (14.5%)
TV	73 (36.5%)	76 (38 %)	51 (25.5%)
Social media	102 (51%)	70 (35%)	28 (14%)
Health workers	63 (31.5%)	92 (46%)	45 (22.5%)
Google	84 (42%)	78 (39%)	38 (19%)
Family and friends	69 (34.5%)	84 (42%)	47 (23.5%)

Classification of the student according to their stage was summarized in **Figure 2**.

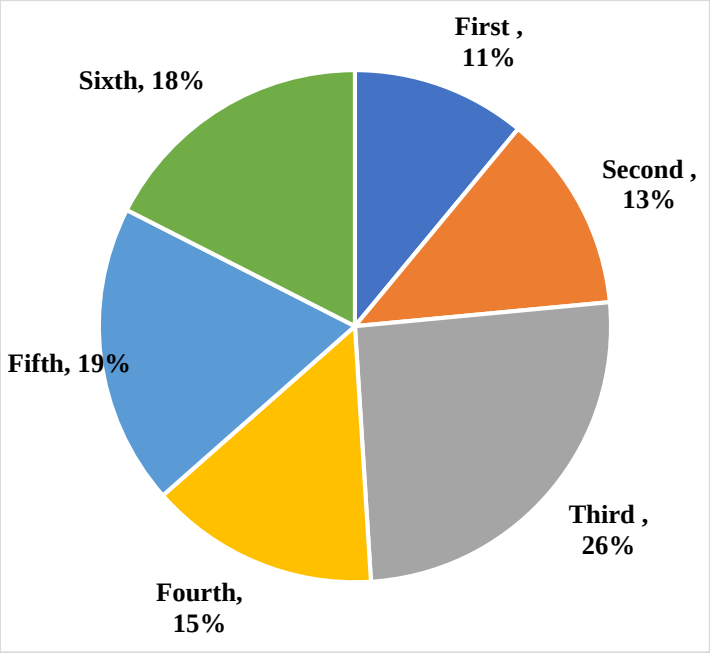

Figure 2: Students stages in Al-Kindy Medical College.

About 17.5% (n. 35) in the 6th stage, 19% (n. 38) in 5th stage, 14.5% (n. 29) in 4th stage, 25.5% (n. 51) in 3rd stage, 12.5% (n. 25) in 2nd stage and 11% (n. 22) in 1st stage.

Our first Question in the second section was "Children are at high risk for COVID-19" (Agree, Disagree, I don't know).

The answers according to stages came as the following:

- From the 35 students of 6th stage Most of them about 30 (85.7%) students Disagree with this Phrase while only 1 (2.9%) student in this stage agree with this phrase, and 4 (11.4%) students answer with I don't know.
- For the 5th stage (38 students) about 33 (86.6%) students of them Disagree, only 2 (5.3%) students agree, and 3 (7.9%) students said " I don't know.
- Nearly two thirds of the stage 4 students, 18 (62.1%) disagree, 7 of them (24.1%) agree, and 4 of them (13.8 %) answer with " I don't know".

The answers of the students from all stages are presented in **Figure 3**.

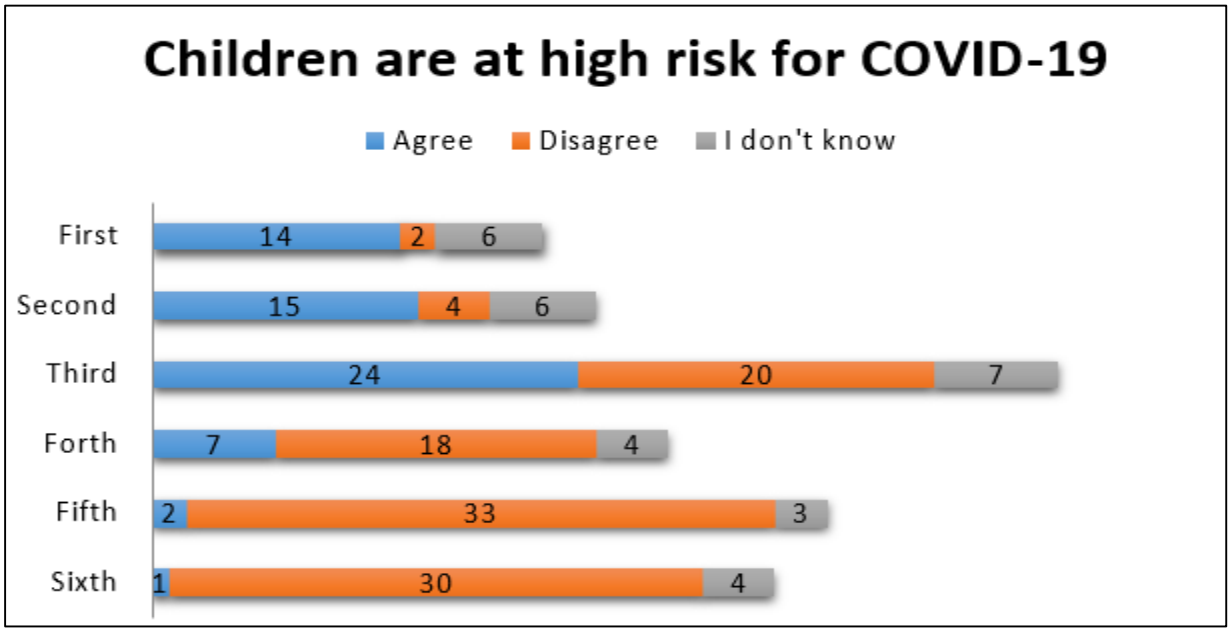

Figure (3): Risk of COVID-19 in children, according to students in Al-Kindy Medical College.

Next question (Question 7) was about the possibility of the virus to cause symptoms or be asymptomatic in children is shown in **Figure 4**.

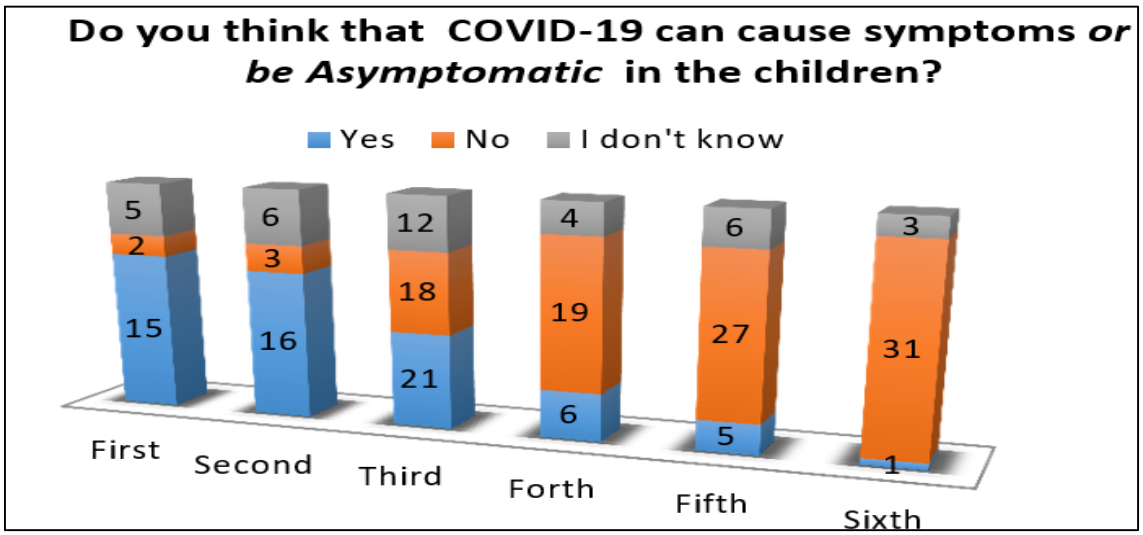

Figure 4: Do you think that COVID-19 can cause symptoms in children.

Question 8 asked if infected children can transmit the infection to other people and the answers are presented in **Figure 5**.

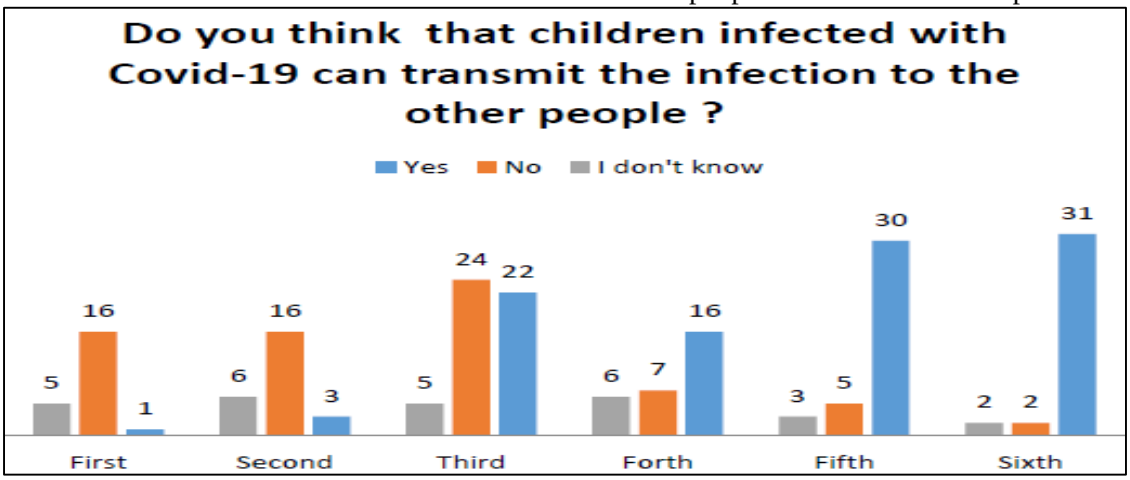

Figure 5: Do you think that children infected with COVID-19 can transmit the infection to the other people?

Next question (Question 9) was about the transmission of the virus across the placenta. The responses, according to stages are summarized in **Figure 6**.

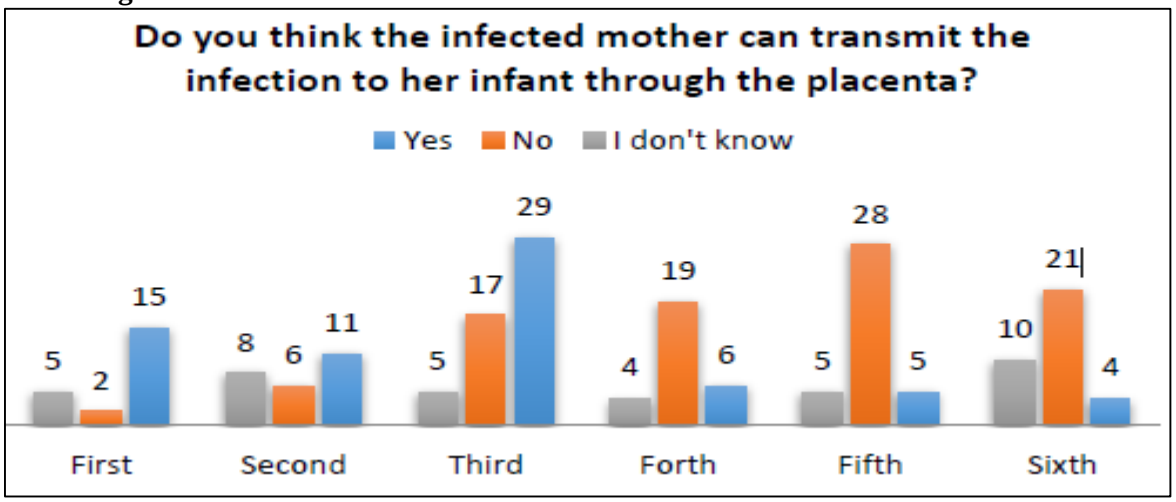

Figure 6: Transmission across placenta, according to students in Al-Kindy Medical College.

Questions 10 asked If COVID-19 can cause complication in children, like hypoxia and acute respiratory distress syndrome. Answers of this question are summarized, according to the stages are presented in **Figure 7**.

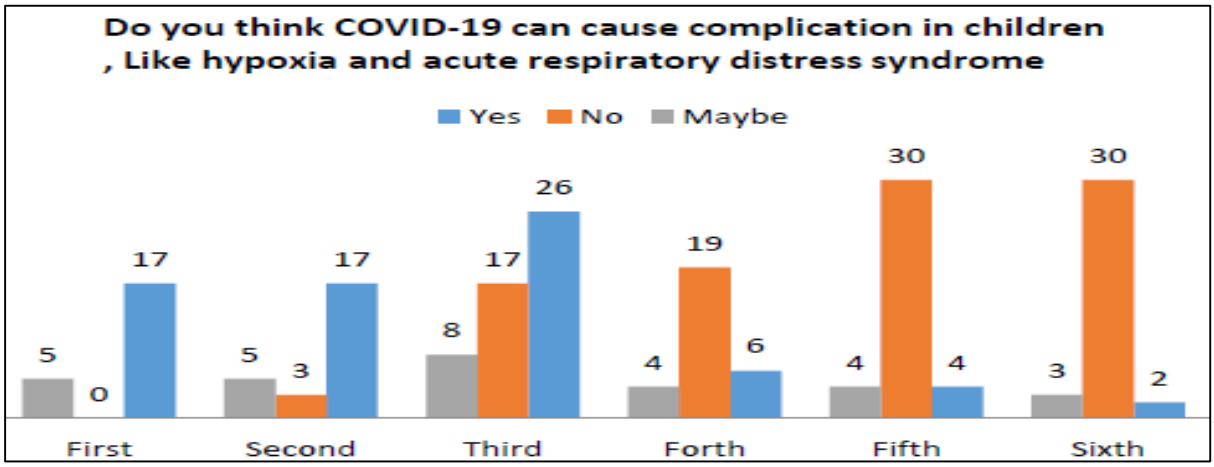

Figure 7: Complication of COVID-19 in children, according to students in Al-Kindy Medical College.

Is the vaccine useful in children? This was the text of question 11 to the students. Responses are summarized in **Figure 8**.

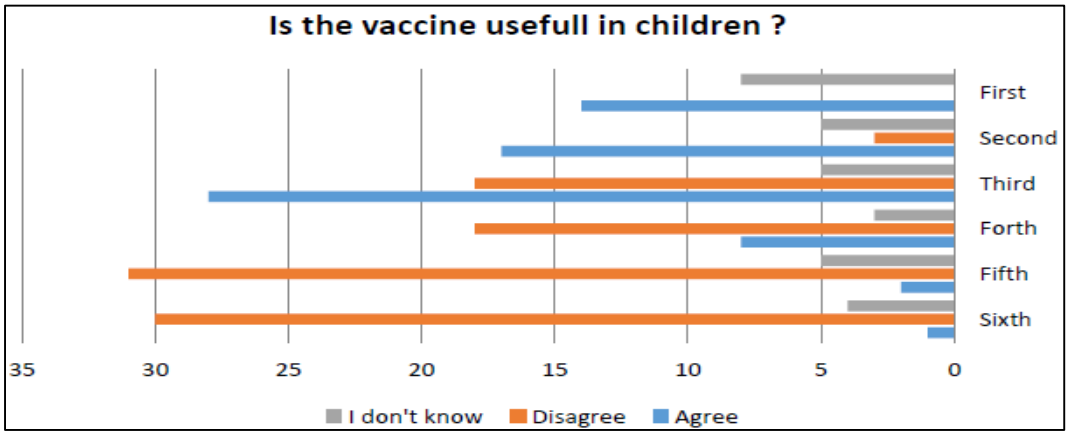

Figure 8: Is the vaccine useful in children? According to students in Al-Kindy Medical College.

Question 12 asked about the highest severity COVID-19 if it is in children or in adults. Responses according to stages of students in Al-Kindy Medical College are summarized in **Figure 9**.

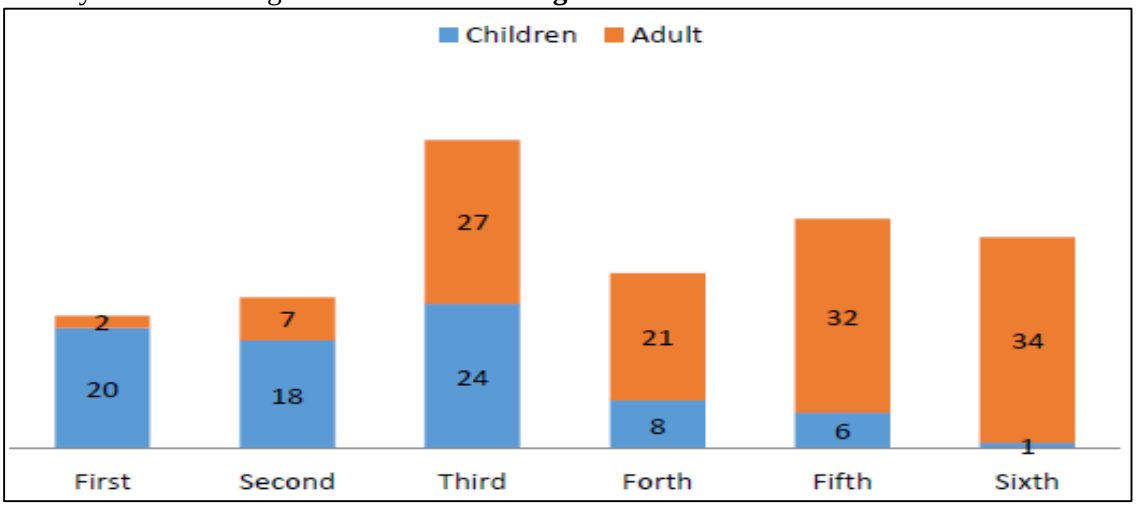

Figure 9: Severity of COVID-19, according to stages of students in Al-Kindy Medical College.

The last question in the online questionnaire was about what the student should do if child from their family or their relatives being infected. For isolating him from rest of family: about 65% said "Yes", 35% said "No" for this choice (**Figure 10**).

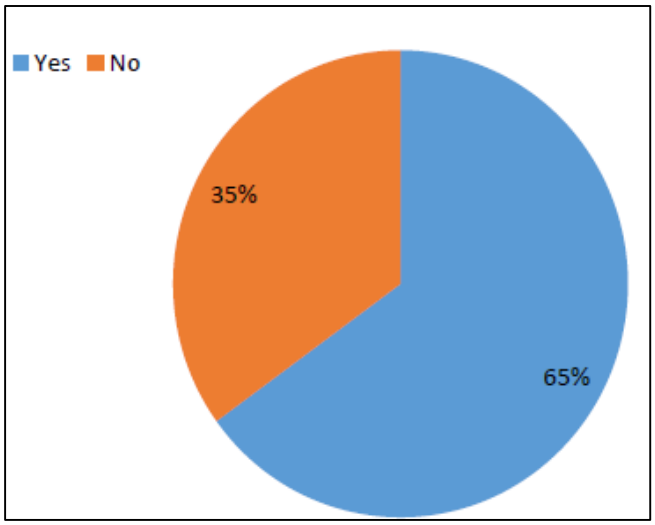

Figure 10: Isolation from rest of family, according to stages of students in Al-Kindy Medical College.

For referring the children to the hospital 62.5% of the students said "Yes", while 37.5% said "No" (**Figure 11**).

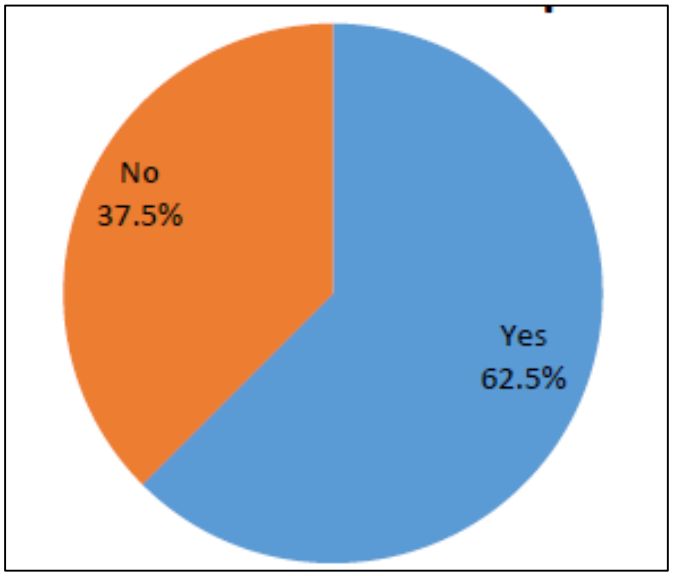

Figure 11: Sending patient to the hospital, according to stages of students in Al-Kindy Medical College.

DISCUSSION

Finding out where medical students' knowledge gaps are allows teachers to create courses tailored to fill them. The present study shows medical students have variable knowledge of covid 19 that is gradually getting more congruent coinciding with the widely acceptable scientific data as we compare stages from 1st to 6th.

Based on our analysis of medical students' research habits, we know that the vast majority of them utilize the internet to study about COVID-19. This is consistent with a study conducted on healthcare students at a Turkish university [(7)]. This is a slight contrast to the findings of studies that examined less covered diseases such as the Zika virus epidemic [(8)]. This should serve as a wake-up call to decision-makers about the significance of social media in the process of spreading information to the general population, particularly in the event of pandemics.

When it came to obtaining information, we discovered that social media and news channels were used more frequently than official websites such as the CDC and PubMed. These official websites and medical search engines should reflect trustworthy sources of information.

Even among a demographic that ought to be more acquainted than the general public with reputable medical websites, our statistics show that there is a need for boosting visibility of reliable sources of information.

A recent investigation into student knowledge, attitudes, and practices regarding the COVID-19 pandemic was carried out by **Alzoubi *et al.*** in Jordanian institution. The study included 323 medical students. This is a small sample compared to number of students included in our study [(9)]. The pre-clinical years were represented by the majority of students who participated in the study (86%) and made up 60.0% of our sample, while the clinical years were represented by 40% of the students who participated.

Taking a similar method as we did, the questionnaire in question was sent to students by way of social media platforms. It was directed toward both medical and non-medical students.

It is interesting to observe that there was not a discernible difference between the two groups.

Our study didn't contain non-medical student controls; however, several clues can be inferred from the comparison of knowledge and attitude of medical students in the first three years and their counterparts who are doing final years under the assumption that they have limited medical knowledge. In addition, the questionnaire that was used in our research contained a larger range of topics pertaining to knowledge, including the source of transmission, risk factors, and preventative actions. On the other hand, a few of the findings had similarities.

A second research from Iran that focused on medical students in their last year featured a similarly modest sample size (240 students), but the questionnaire was less thorough [(10)]. Last but not least, another research that used an online application to solicit participation from medical students alone was effective in enrolling 134 healthcare professionals located in a variety of various geographic areas.

This study failed to demonstrate that participants had a good knowledge of the transmission route and the onset of symptoms, but it did demonstrate that large number of participants relied on social media as a source for their information about covid 19 pandemic [(11)].

STUDY LIMITATIONS

There is a deficiency in the number of readily accessible standardized measures for assessing one's level of knowledge on the prevention and spread of COVID-19. A further shortcoming of the study was that it used the participation of medical students from only a single research institution. The research did not reevaluate students' knowledge in order to determine where students' knowledge was lacking in this area and how educational programs may be modified to help close the gaps that were found.

CONCLUSION

Online learning play vital roles in medical students during COVID-19 pandemic; so, you should develop this curriculum and classroom. Medical education will evolve to include, some sort of training about what we do if this happens again. In general, medical students in Jordan demonstrated levels of knowledge and attitude towards COVID-19 that were consistent with expectations and indicated taking appropriate precautions. To receive medical information, however, one often relies more on social media rather than scientific sources.

This finding is consistent with the majority of findings. Countries who are being affected particularly hard by the pandemic should take measures to establish systems that will keep their medical students up to speed on emerging public health and medical problems.

During these moments, students must to also be steered to appropriate sources of information in the appropriate manner. When it comes down to it, students should also be prepared with medical knowledge, a positive attitude, and adequate preventative measures. In light of the current state of affairs on a global scale, it is imperative that medical schools make greater use of social media to disseminate information. In addition, preparations should be made to put such dissemination into action during the earliest stages of medical and public health crises.

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