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Knowledge, Attitude and Practice Towards Covid-19 Among Under- Graduate Students of Medical Department in Emirates University

A research submitted to the department of community medicine, faculty of medicine and health sciences, Emirates university, in partial fulfillment for the degree of MBBH in general medicine and surgery.

RESEARCHERS

Esra Al-Gubani
Yusra Adnan Swileh
Hayat Alkuhlani
Mohammed Modhesh
Hezam Mohammed Al Qadhi
Mohammed Al-Khamar
Alia`a Qarqer
Abbas Al-Qadhi
Saleem Al-Waseli
Hosam Al-Qadhi

SUPERVISION:

Dr. Moamer Badi

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DEDICATION

We dedicate our research to our parents whom did for us more than we can Did for ourselves. Our family members whom believed in us more than we believed in ourselves.

To everyone have prayed for us and wished to see us the best doctors ever. To our first love Yemen.

ACKNOWLEDGE

We give our fist thanks to Allah for every thing he gives us. Many things that we cannot eventhank.

Than we thank all very kind people who helped us in our research:

To dear Dr. Moamer Badi who gave us more than we expected, we thanks his for his hugesupport, teaching and great patience.

to per dear doctors… to our dear college:

** Words are scattered in ink and love, on the sheets of paper, to everyone who taught us and to those who removed the cloud of ignorance in which we walked with the good winds of knowledge, and to everyone who redraws our features and corrects our mistakes .. we send a greeting of thanks and gratitude.

The Researchers

ABSTRACT

Background: The coronavirus disease (COVID-19) is a highly transmittable and pathogenic viral infection caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), which emerges in December 2019 in Wuhan, China and spreads around the world at the beginning of 2020.The World Health Organization declared COVID-19 as a pandemic on the 11th of March 2020.

Objective: The aim of this study was to assess COVID-19-related knowledge, attitudes, and practices among students of Medical and health sciences departments in Emirate International university.

Methods: cross-sectional study was conducted among the medical and health sciences departments of Emirate International University; simple structured self-administered questionnaire was used to collect the data then the data was analyzed using SPSS.

Results: A total of 376 students included in the study from different Medical and health sciences departments of Emirate International University. Majority of the participants were males (n=248; 66%). The participants from medicine department were the highest 37.5% of all contributed students. The first level students represented the highest proportion among other levels in this study. The level of high knowledge and the good practice was 66.2%, and 18.1% respectively. Females reported high knowledge and practice levels and the dental students showed highest level of knowledge. In response to the attitude good number of student nearly 99.7% believed that the Recklessness of disease and not applying of early isolation for cases was the main cause for wide spread of COVID-19 around the world and most of respondents though

the fearing from infection (63.8%) and poor immunity (52.1%) were the causes of high mortality of COVID- 19.

Conclusions: The results show that the participants had high levels of knowledge, good attitudes, and poor practices towards the COVID-19 pandemic. Nevertheless, they were worried about constrain for COVID-19 control and the ability of Yemenis to covid19 control. Dentistry students were more knowledgeable about COVID-19 and we thought that more can be done to mitigate the COVID-19 situation.

نبذة مختصرة

معلومات أساسية: إن مرض فيروس كورونا (COVID-19) هو عدوى فيروسية شديدة العدوى وممرضة تسببها متلازمة الالتهاب التنفسي الحاد الوخيم 2 (SARS-CoV-2) ، والتي ظهرت في ديسمبر 2019 في ووهان ، الصين وتنتشر في جميع أنحاء العالم في بداية عام 2020 أعلنت منظمة الصحة العالمية أن كوفيد -19 جائحة عالمي في 11 مارس 2020

الهدف: كان الهدف من هذه الدراسة هو تقييم المعرفة والمواقف والممارسات المتعلقة بـ COVID-19بين طلاب أقسام العلوم الطبية والصحية في جامعة الإمارات الدولية.

المنهجية: أجريت دراسة مقطعية على أقسام العلوم الطبية والصحية في جامعة الإمارات الدولية. تم استخدام استبيان منظم ذاتيًا بسيطًا لجمع البيانات ثم تم تحليل البيانات باستخدام برنامج SPSS.

النتائج: إجمالي 376 طالباً مشمولين بالدراسة من مختلف أقسام العلوم الطبية والصحية في جامعة الإمارات الدولية. كانت غالبية المشاركين من الذكور (ن = 248 ؛ 66٪). كان المشاركون من قسم الطب الأعلى بنسبة 37.5٪ من مجموع الطلاب المساهمين. يمثل طلاب المستوى الأول أعلى نسبة بين المستويات الأخرى في هذه الدراسة. وبلغ مستوى المعرفة العالية والممارسة الجيدة 66.2٪ و 18.1٪ على التوالي. أبلغت الإناث عن مستويات عالية من المعرفة والممارسة وأظهر طلاب طب الأسنان أعلى مستوى من المعرفة. استجابةً للموقف ، اعتقد عدد كبير من الطلاب ما يقرب من 99.7 ٪ أن تهور المرض وعدم تطبيق العزل المبكر للحالات كان السبب الرئيسي لانتشار COVID-19 على نطاق واسع حول العالم ومعظم المستجيبين على الرغم من الخوف من الإصابة (63.8٪) وضعف المناعة (52.1٪) هما السببان في ارتفاع معدل وفياتCOVID- 19

الاستنتاجات: أظهرت النتائج أن المشاركين لديهم مستويات عالية من المعرفة والمواقف الجيدة والممارسات السيئة تجاه جائحة COVID-19. ومع ذلك ، كانوا قلقين بشأن تقييد السيطرة على COVID- 19 وقدرة اليمنيين على السيطرة على Covid19. كان طلاب طب الأسنان أكثر دراية بـ COVID-19 واعتقدنا أنه يمكن فعل المزيد للتخفيف من حالة COVID-19.

LIST OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATION

Abbreviations	Full name
KAP	Knowledge , attitude, practice
SARS-COV-2	Sever acute respiratory syndrome coronavirus 2
WHO	World health organization
MERS	Middle east respiratory syndrome

CHAPTER 1:
INTRODUCTION

INTRODUCTION

Background

The novel coronavirus-2019 (COVID-19) is a newly discovered infectious disease that can cause severe illness in humans. In late December 2019, a cluster of patients with an outbreak of pneumonia of unknown cause was reported in Wuhan, China [1]. By January 7, a novel coronavirus, severe acute respiratory syndrome coronavirus 2 (SARSCoV-2), was identified asthe cause to the coronavirus disease 2019 (COVID-19) [2]. Virus quickly spread in other re- gions in China as well as other countries; human-to-human transmission was proved [3]. WorldHealth Organization (WHO) declared COVID-19 a Public Health Emergency of International Concern on January 30, 2020 [4]. As of July 21, there were totally 14,562,550 confirmed cases and 607,781deaths in the world [5].

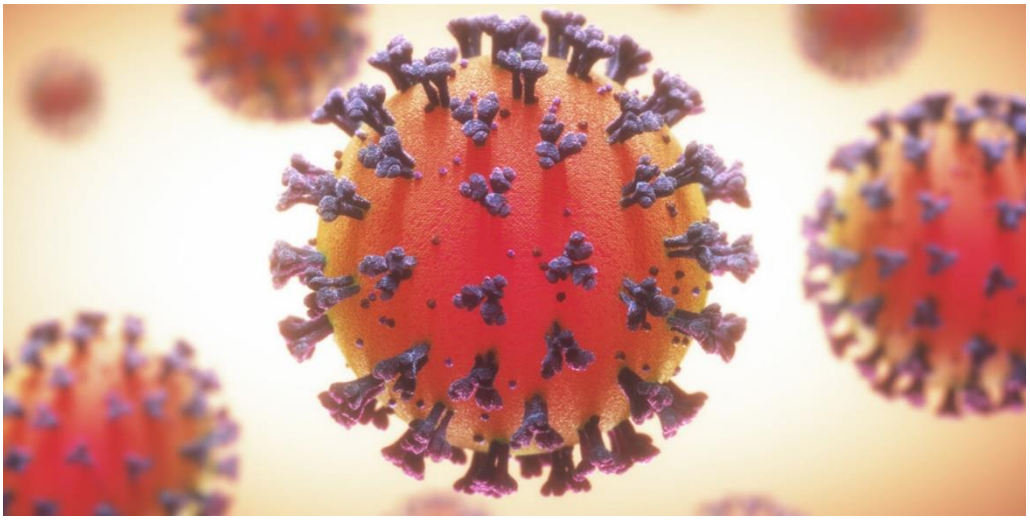

Figure 1 the microscopical picture of virus Covid-19.

In Yemen, the fight against COVID-19 began on 10th April 2020 resulting from the initial caseconfirmed in AshShihr, the Hadhramaut province, southern Yemen. On 29th April 2020, fivemore cases of

COVID-19 were confirmed and registered in Aden city, the temporary capital ofYemen. After that, the cases started to increase in other cities daily. Since 12th September 2020,2011 cases of COVID-19 have been reported in the Republic of Yemen, of which 1211 cases have since recovered, resulting in 583 deaths. However, the number of COVID-19 cases is anticipated to be much higher than these figures, particularly given the transparency and the inability to effectively track and control the spread and number of cases reported in North Yemen [6]. The virus is spread by small droplets discharged from cases during coughing, sneezing, and talking. It is also transmittable by contaminating the nose and mouth with contaminatedhands contaminated surfaces containing the virus. The virus has an incubation period that mayrange from 2 to 14 days with the main clinical manifestations of fever, cough, and shortness ofbreath. In severe cases, it could lead to pneumonia, respiratory failure, cardiac arrest and death[7,8].

Morality. However, it is estimated that 30% and up to 70% of patients in some studies could have the virus without showing symptoms of the disease [9].

Mainly patients with pre-existing illnesses (such as hypertension, diabetes, lung disease, cancer, and cardiac disease) and old age have been identified as potential risk determinants for severe disease and Impactingon the control of the pandemic.

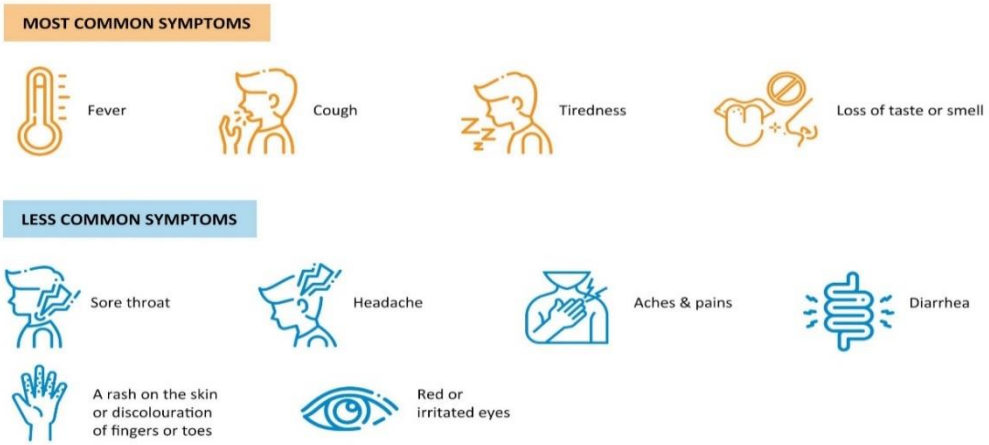

Figure 2 shows most common symptoms of covid19.

Currently, preventive measures including social distancing, regular hand sanitization, regularly wiping surfaces, quarantining and the wearing face masks are the most effective methods to reducing the spread of the virus and its subsequent morbidityand mortality [10].

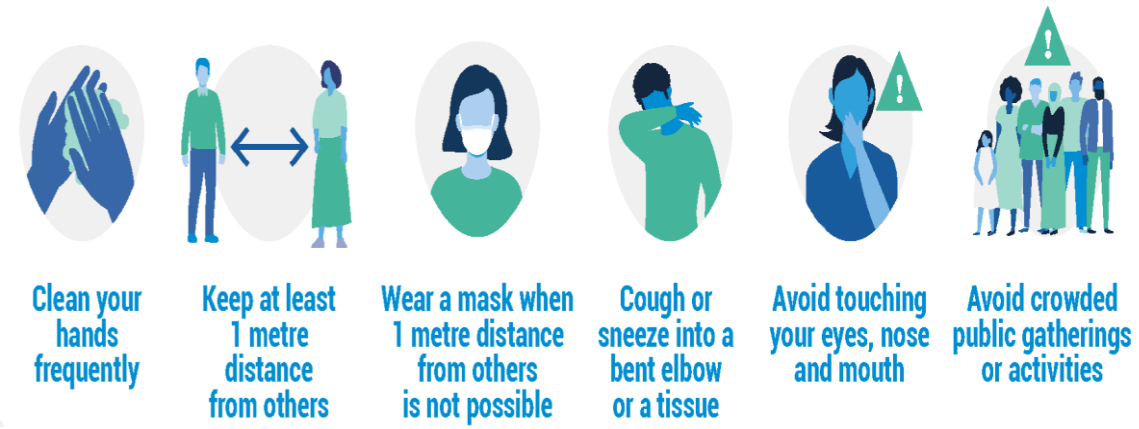

Figure 3 shows prophylaxis Methods aginst Covid19.

Justification of study

Knowledge, attitude, and practices (KAP) are important in controlling the spread of the disease. Knowing the cause of the disease, signs/symptoms, and the possible methods of prevention can facilitate the proactive application of preventive measures.

The student is at risk, and the existence of a single case can transmit the disease among students easily. And applying essential preventive measures to reduce such risk in this group is important. We noticed that many students have questions about COVID-19 some were anxious other careless, also there was no clear picture about the knowledge and attitudes of the students toward COVID-19 as there is a limitation on the published studies among this groups in Yemen. So this study was designed to assess the Knowledge, attitude, and practices among the students toward COVID-19, and the result of this study will make clear picture about the Knowledge, attitude, and practices of the university students toward COVID-19.

Hypothesis

The awareness level toward COVID-19 among students is good and there is no deference in the awareness level toward COVID-19 between the different medical college departments.

CHAPTER 2:
LITERATURE REVIEW

LITERATURE REVIEW

1. Study conducted in Saudi Arabia 2021 to study Public Knowledge, Attitudes, and Practice towards COVID-19 Pandemic and the result of this study showed that of the 4305 participants,94.9% were Saudis, 60% females, and 45.4% were in the age group of 20–34 years, 61.7% married, and 49.3% from the Eastern Province of Saudi Arabia Most of the participant's demonstrated good KAP levels (89.6%, 87.2%, and 87.2%) towards the COVID-19 pandemic, respectively. In addition, most of the participants (85.8%) used the internet and social media as a source for COVID-19 information and this study concluded that The finding showed that most of the participants demonstrated good knowledge of COVID-19, positive attitudes, and demonstrated good practices for preventing the spread of disease infection. [11]

2. Study conducted in Saudi Arabia 2021 to study Knowledge, Attitudes, and Practice about corona virus disease (COVID-19) pandemic and it's psychological impact on students and their studies, cross-sectional study among pharmacy students in Saudi Arabia, and the result of this study showed that A total of 232 out of 460 students took part in the study, giving a response rate of 50.43%. The mean total knowledge score was 9.87 ± 2.04 (maximum attainable score, 12). The majority of the participants (n=163; 70.3%) believed COVID-19 is a health threat to their community in the early months of the pandemic. Moreover, the majority (93%) also believed that the lockdown at the beginning of the pandemic was necessary to contain the pandemic. Encouragingly, 86.6% reported that they did not go to any crowded places during the pandemic with more female students avoiding crowded places compared to male students (91.6% versus

78.7%, respectively, P = 0.005). The majority (91%) also reported that they were following the strategies recommended by the authorities to prevent the spread of the virus. Encouragingly, 54.3% reported that the pandemic either had no effect or just a limited effect on their studies. However, 38.5% reported that they always felt or frequently felt nervous or anxious during the pandemic and this study concluded that The study showed that pharmacy students had good knowledge as well as positive attitudes and good practices towards COVID-19 and the preventive measures. However, during the early months, the pandemic did have a negative psychological impact on a number of students. Consequently, proactive psychological and social support services to the students should be considered during the current and future pandemics. In addition, it is important to consider and proactively address key issues that could cause stress and anxiety among students when shifting to distance learning and assessments. [12]

3. Study conducted in Saudi Arabia 2021 to study Public Knowledge, Attitudes, and Practice towards COVID-19 Pandemic and the result of this study showed that The majority of the study participants were knowledgeable about COVID-19. The mean COVID-19 knowledge score was 17.96 (SD = 2.24, range: 3–22), indicating a high level of knowledge. The mean score for attitude was 28.23 (SD = 2.76, range: 6–30), indicating optimistic attitudes. The mean score for practices was 4.34 (SD = 0.87, range: 0–5), indicating good practices. However, the results showed that men have less knowledge, less optimistic attitudes, and less good practice toward COVID-19, than women. We also found that older adults are likely to have better knowledge and practices, than younger people and this study concluded that This is the first study to

investigate KAP for the COVID-19 outbreak, among the general population of Saudi Arabia. Our findings suggest that Saudi residents, especially women, have good knowledge, positive attitudes, and good practices toward COVID-19. Knowledge of the disease is considered the first stepping stone to any health education activity that is implemented. Knowing the causes and transmission sources of a disease, increases the likelihood that people will become more aware of the spread of communicable diseases, and of the preventive measures to slow transmission. The results of this study suggest that more emphasis should be placed on less educated, lower income, and men. The findings may help policymakers identify the target populations, for COVID-19 prevention and health education. [13]

4. Study conducted in United Arab Emirates 2021 to study Knowledge, Attitudes, and Practices Toward COVID-19 and the result of this study showed that, students were aged 20–25 years, with an overall knowledge score of 72.4%, and the main source of their information was the Internet and social media (85.2%). Those in HR majors had a higher knowledge score (76%) than those in NHR students (69%). Regarding attitudes, both HR and NHR students demon- started comparable and positive attitudes to curb the spread. With respect to practices, more NHR students used masks (92.3%), almost all the time than HR students (88.4%). HR students (99.4%) avoided crowded places and practiced social distancing more than NHR students (99.4% versus 97.4% and 97.7% versus 93.2%, respectively). and this study concluded that, UOS students demonstrated adequate knowledge, and possessed good attitudes and low-risk practices toward prevention of COVID-19. It is recommended that universities including UOS

continue to use digital university communication platforms to regularly disseminate vital information in such emergencies. [14]

5. Study conducted in United Arab Emirates 2020 to studyCOVID-19 knowledge, attitudes, and practice of medical and health sciences students: A cross sectional study and the result of this study showed that socio-demographic characteristics, and KAP towards COVID-19. 712 responses to the questionnaire were collected. 90% of respondents (n = 695) were undergraduate students, while 10% (n = 81) were postgraduates. The majority (87%, n = 647) stated that they obtained COVID-19 information from multiple reliable sources. They were highly knowledge- able about the COVID-19 pandemic, but 76% (n = 539) did not recognize its routes of trans- mission. Medical students were significantly more knowledgeable compared with allied health students (P<0.0001, Mann Whitney U test) but there was no difference in knowledge between undergraduate and postgraduate students (P = 0.14, Mann Whitney U test). Medical students thought that more could be done to mitigate the COVID-19 situation compared with the allied health students (66.2% compared with 51.6%, p = 0.002 Fisher's Exact test). 63% (n = 431) were worried about get- ting COVID-19 infection, while 92% (n = 633)) were worried that a family member could be infected with the virus. 97% (n = 655) took precautions when accepting home deliveries, 94% (n = 637) had been washing their hands more frequently, and 95% (n= 643) had been wearing face masks and this study concluded that medical and health sciences students in the UAE showed high levels of knowledge and good attitudes and practices towards the COVID-19 pandemic. Nevertheless, they were worried about themselves or their family

members becoming infected. Medical students had more knowledge about COVID-19 pan- demic which was reflected in their opinion that more can be done to mitigate its effects. Study conducted in china to study Knowledge, attitudes, and practices (KAP)toward COVID-19 and the result of this study showed that A total of 872 subjects (female, 534; male, 338) were en- rolled with ages from 17 to 25 years old. This cohort included 430 medical and 442 non-medical students, 580 freshmen and 292 higher school year students. There were 453 from public schools and 442 from private school, residing in 28 regions and provinces at the time of study. Results showed that appropriate knowledge was acquired by 82.34% subjects; the levels were significantly higher in undergraduates from public universities. [15]

6. Study conducted in China 2020 to study Knowledge, Attitude and Practice Associated with COVID-19 among University Students: a Cross-Sectional Survey and the result of this study showed that appropriate knowledge was acquired by 82.34% subjects, but the level was significantly higher students from public universities and medical programs than in their counterparts ($P < 0.05$). 73.81% subjects reported positive attitude, with level significantly higher in females ($P < 0.01$). Proactive practice was found in 87.94% subjects. Taken together, the score of KAP was 4.12±0.749, 8.54±1.201, and 8.91±1.431 respectively, suggesting a positive correlation between attitude and practice ($r=0.319$, $P < 0.01$). Total KAP score was 21.57±2.291, apparently correlated with gender ($r=0.096$, $P=0.005$) and major ($r=-0.081$, P=0.that and this study concluded that Most Chinese university students were informed of basic information, possessed positive attitude and proactive practice towards COVID-19,

indicating the efficacy of present public health campaign. However, results also revealed that gender, major and school type should be taken into consideration when health and education authorities formulate tailored public health trainings and improve their preventative measures against the epidemic. [16]

7. Study conducted in china to study Knowledge, attitudes, and practices (KAP)toward COVID-19 and the result of this study showed that A total of 872 subjects (female, 534; male, 338) wereenrolled with ages from 17 to 25 years old. This cohort included 430 medical and 442 non- medical students, 580 freshmen and 292 higher school year students. There were 453 from public schools and 442 from private school, residing in 28 regions and provinces at the time ofstudy. Results showed that appropriate knowledge was acquired by 82.34% subjects; the levelswere significantly higher in undergraduates from public universities and medical majors than those from private schools and non-medical majors ($p<0.05$). 73.81% subjects reported positive attitudes; females showed significantly higher levels of positive attitudes than males ($p<0.05$).Proactive practice was found in 87.94% subjects. Using a common scoring method, the overallscores for Knowledge, Attitude and Practice were 4.12 ± 0.749 (range: $0 \sim 5$), 8.54 ± 1.201 (range: $0 \sim 10$), and 8.91 ± 1.431 (range: $0 \sim 10$), respectively. There was a positive correlationbetween attitude and practice ($r = 0.319$, $p < 0.05$) in the whole study group. Total KAP score was 21.57 ± 2.291 (range: $0 \sim 25$), which was significantly different between gender groups andmajor groups and this study concluded that Most Chinese undergraduate students understood the basic information, possessed positive attitude and presented proactive

practice towards theoutbreak of COVID-19, indicating the efficacy and success of present public health campaigns. However, results also revealed that gender, major and school types should be taken into consideration when health and education authorities. [17]

8. Study conducted in south korea 2021 to study Knowledge, attitudes, and practices (KAP) toward COVID-19 and the result of this study showed that Knowledge directly affected both attitudes (e.g., perceived risk and efficacy belief) and practices (e.g., personal hygiene practices and social distancing). Among the influencing factors of COVID-19 preventive behaviors, efficacy belief was the most influential and significant practice factor. It mediated the relationship between knowledge and all three preventive behaviors (wearing facial masks, practicing hand hygiene, and avoiding crowded places). The level of knowledge varied by socio demographic characteristics. Females ($\beta = 0.06$, $p < 0.05$) and individuals with higher levels of education ($\beta = 0.06$, $p < 0.05$) demonstrated higher levels of knowledge. and this study concluded that To increase precautionary behaviors among the public, health officials and policymakers must pro- mote knowledge and efficacy belief. Future interventions and policies should also be developed in a 'person-centered' approach, targeting vulnerable subgroups, embracing them, and closing the gap of KAP toward COVID-19.[18]

9. Study conducted in Japan 2020 to study Knowledge, attitudes, and practices toward 9 COVID-19 among university students and associated factors: An online cross- sectional survey and the result of this study showed that Among the eligible respondents (n = 362),

52.8% were female, 79.0% were undergraduate students, 32.9% were students whose major university sub- jects were biology-related, 35.4% were from the capital region, and 83.7% were Japanese. The overall KAP of university students in Japan was high. All respondents (100%) showed they possessed knowledge on avoiding enclosed spaces, crowded areas, and close situations. Most respondents showed a moderate or higher frequency of washing their hands or wearing masks (both at 96.4%). In addition, 68.5% of respondents showed a positive attitude toward early drug administration. In the logistic regressions, gender, major subjects, education level, nationality, residence, and psychological factors (private self- consciousness and extroversion) were asso- ciated with knowledge or attitudes toward COVD-19 ($p < 0.05$). In the logistic and multiple linear regressions, capital regions, high basic knowledge, high information acquisition, correct information explanations contributed positively to preventative action ($p < 0.05$). Non-capital regions, male gender, non-bio-back-grounds, high public self-consciousness, high advanced knowledge, incorrect information explanations, and high extroversion contributed negatively to self-restraint ($p < 0.05$). More- over, self-restraint was decreasing over time. These findings clarify the Japanese university students' KAP and the related factors in the early period of the COVID-19 pandemic, and they may help university managers, experts, and policymakers control the future spread of COVID-19 and other emerging infection and this study concluded that Japanese university students have been inclined toward safety and good health preservation during the COVID-19 crisis. Gender, major subjects, education levels, nationality, residence, private self-consciousness, and extroversion have all been associated with knowledge and attitudes toward COVID-

19. Capital regions, high levels of basic knowledge, high information acquisition, and correct information explanations have all contributed positively to preventative action. Non-capital regions, male gender, non-bio-backgrounds, high public self-conscious- ness, high levels of advanced knowledge, incorrect information explanations, and high extroversion have all contributed negatively to self-restraint. Moreover, self-restraint has decreased with time. The understanding of these factors and trends may help university man- agers, experts, and policymakers in planning countermeasures that would control the future spread of COVID-19 among university students and Japanese society. [19]

10. Study conducted in Ethiopia 2021 to study Knowledge, Attitudes, and Practices towards COVID-19 Pandemic and the result of this study showed that The study participants were primarily males (70%) and mean age 30.5 (SD=11) years. The mean knowledge score was 8.73 (SD=2.64), with less than half 42.9% (95% CI: 37.5–48%) of the study participants were knowledgeable. Regarding the attitude questions, three-fourths of the participants believed that Ethiopia will control and win the battle against the COVID-19 pandemic. Nearly one-third of the participants replied that the Ethiopian government is handling this pandemic health crisis well. About half of the study participants reported that they had gone to crowded places in recent days, did not wear face mask when leaving home, and practiced preventive measures given by local health authorities. Knowledge score was statistically significantly associated with gender, age, and educational status of the study participants, whereas attitude and practices were significantly associated with educational status and knowledge of

participants. and this study concluded that A substantial number of the participants lacked knowledge and poorly adhered to practices related to COVID-19 prevention methods. Approximately 3/4th of the participants agreed that Ethiopia would win the battle against the pandemic, and it will finally be con- trolled. But only 1/3rd felt that the government is hand- ling the pandemic well. Gender, age, and educational status were significant predictors of knowledge score. Educational status and knowledge scores were significantly associated with attitudes and practices towards COVID-19. The study revealed the presence of sub- optimal knowledge of COVID-19 among guaranteed people underscoring the knowledge gap in the community is worse. Attitude and practice towards COVID-19 were also sub-optimal. Thus, interventions that improve the com- munity's knowledge, attitude, and practice towards COVID-19 prevention are needed. Re- searchers around the world might also consider their investment in COVID-19, especially on innovation for new treatments and diagnostics that can be affordable for developing countries. Epidemiological investigations of possible risk factors to COVID-19, and clinical trials for evidence-based practices are also recommended.[20]

11. Study conducted in Ethiopia 2020 to study knowledge, Attitudes and Practices Toward Covid-19 and Associated Factors Among University Students in Mizan Tepi University and theresult of this study showed that In this study, 47%, 54%, and 42.8% of the students had good knowledge, positive attitude, and good practice towards Covid-19, respectively. Being from health sciences (AOR= 2.983, 95% CI (1.869, 4.763)) was significantly associated with good knowledge.

Being from health sciences (AOR= 1.86, 95% CI (1.169, 2.970)), female sex (AOR=0.628, 95% CI (0.405,0.975)), at least one parent having diploma or degree (AOR= 0.455, 95% CI (0.236, 0.878)), and 1000–1500 ETB monthly income (AOR= 0.403, 95% CI (0.189, 0.856)) were significantly associated with students' attitude. Being rural residence (AOR = 1.740, 95% CI (1.136, 2.663)), positive knowledge (AOR=1.893, 95% CI (1.2322.909)), and positive attitude ((AOR=2.676, 95% CI (1.745, 4.105)) were positively as-sociated with the students practice. and this study concluded that The KAP of the students to- wards the Covid-19 was low. Being a health sciences student was an explanatory variable for better knowledge. Sex, being a health science college student, parents' educational status, and monthly income were predictors of students' attitude. Residency, knowledge, and attitude were independent predictors of practice. Awareness creation on preventive behaviors among the stu-dents is highly recommended.[21]

12. Study conducted in Bangladesh 2020 to study Knowledge, attitudes, anxiety, and preventive behaviors towards COVID-19 among students and the result of this study showed that majority of the participated students experienced high impact (61.48%) on their study. They were also exceedingly concerned with their mental health (47.84%) due to this pandemic. Large number of students attended online classes (69.62%). Students living in the capital city Dhaka, reported more unsafe current places than the students living outside Dhaka. Furthermore, universities supported their students through multiple financial and mental assistance initiative Participated students reported moderate knowledge, attitude, and high practice

scores. They were also observed moderate total KAP score in this study. Female students demonstrated good knowledge and practice scores than the male and this study concluded that Our findings indicate that after the immediate lockdown and during the rapid rise period of the COVID-19 outbreak, internet users in Bangladesh displayed substantial differences in KAP regarding the pandemic. Our findings suggest the need for effective and tailored health education programs aimed at improving COVID-19 knowledge, thereby leading to more favorable attitudes and to implementation and maintenance of safe practices. [22]

13. Study conducted in. India 2021 to study Knowledge, attitude and practices towards COVID- 19 among higher education students: a cross sectional study and the result of this study showed that The majority, that is, 65.5% of students possess a high level of knowledge about the dis- ease. It was noteworthy that 71.0% of them had a positive attitude towards COVID-19 and 66.7% of them exhibited desirable practices to mitigate COVID-19. Furthermore, the results showed a significant association between KAP and some of the socio-demographic variables studied. Social media emerged as a vital source of information regarding COVID-19 for the majority (81.0%) of students. Also, a strong significant positive correlation was observed be- tween KAP variables. and this study concluded that A need has arisen to enhance the KAP among students to successfully mitigate COVD-19. Accurate information regarding COVID- 19 is essential to reduce the rapid spread, even a moderate level of knowledge would not be sufficient as sometimes it will be precarious. Most of the higher educational institutions (HEI) in India have uploaded protocols about

COVID-19 on their websites. The concerned HEI should make sure that the information scrolled in their website are authentic and instruct their students to regularly check for the same. Also, standards of best practices to alleviate COVID-19 can be formulated by the HEI and oriented among the students to follow them. After reopening, the higher educational institutions can positively reinforce the students following the protocols to prevent COVID-19 by observation. This would also motivate other students. In addition, students' involvement in health education intervention programmes would go a long way to inculcate confidence in them. The findings related to the association of KAP with the demo- graphic characteristics of higher education students suggest the administrators, health workers and the academicians of higher educational institutions prioritize the student population while giving health intervention programmes to combat COVID-19. Also, the obtained results showed that there was a strong positive relationship between the three variables studied that again make sense of integrating these three components while organizing any professional learning activity regarding COVID-19. This ensures students to gain professional knowledge and skills to challenge COVID-19 and be organized for any other infectious disease in the future. [23]

14. Study conducted in Afghanistan2020 to study Knowledge, Attitudes, and Practices of Medical Students Regarding COVID-19 in Afghanistan: A Cross-Sectional Study and the result of this study showed that A total of 1,169 medical students completed the survey. More than half were female (54.6%), a majority (95%) aged ≥20 years, and more than half (56.2%) lived in the city of Kabul. Overall,

students had acceptable KAP regarding COVID-19, except for a few undesirable responses with regard to the risks of close contact with COVID-19 patients, incubation periods, and groups vulnerable to COVID that and this study concluded that The current global pandemic requires substantial awareness about causative agents, clinical aspects, trans- mission, treatment, and preventive measures. It also tests the integrity of various platforms, particularly in a socially active and reliable population like medical students. In this study, all students showed good KAP regarding prevention of COVID-19. Knowledge about the risk of close contact, information about the incubation period, and identification of high-risk groups are areas that need more focus in awareness campaigns for medical students. Various means, eg, posters, seminars, information through social channels, and TV advertisements, can be used to fill these gaps and improve the KAP of medical students and society at larg . [24]

15. Study conducted in Pakistan2020 to study Knowledge, attitudes, and practices against the growing threat of COVID-19 among medical students of Pakistan and the result of this study showed that Of the 1474 medical students in the study, 576(39.1%) were males, and 898(60.1%) were females. Two-thirds of the participants 1057(71.7%) had adequate knowledge, and almost all the students had positive attitudes (1363(92.5%), and good practices 1406(95.4%) to COVID-19. Two-thirds of the medical students 1023(69%) believed that the COVID-19 out- break had affected their social, mental, and psychological well-being. One-quarter of the medical students 391(26%) become more religious, 597(40%) realized the importance of life, and 1140(77%) became careless because of the pandemic. The

female medical students were 2.545 times ($p < .001$) and 4.414 times ($p < .001$) more likely to have positive attitudes and good practices toward COVID-19 as compared to males. and this study concluded that Medical students, especially females and senior year scholars, were well-versed with desired levels of knowledge, attitudes, and preventive measures toward COVID-19. Most of them recognized COVID 19, is shaping their social, mental, and psychological well-being and encroaching on the healthcare system and economy. The information acquired by the KAP study may help to devise effective preventive strategies for future events. [25]

Objective

General objective

To assess the awareness of Covid19 among students of medical departments in Emirates International University

Specifics objective

1. To evaluate the knowledge of students in medical departments about covid19 in EIU
2. To evaluate the attitudes of students toward covid19 in medical departments in EIU
3. To evaluate the practices of students toward covid19 in medical departments in EIU

CHAPTER 3:
Methodology

METHODOLOGY

Study Design:

A cross-sectional study has conducted among undergraduate students of the medical college departments of Emirates International University.

Sampling

Sample Size Estimation

The selected key indicator for sampling was the '(percentage of students who are aware about Covid-19). We use the result of previous study conducted in Ethiopia which showed that the prevalence of students who have a good knowledge about Covid-19 was around 42.9%.

The sample size was calculated using the formula for estimating single proportion;

$$N = (Z^2 * P * Q) / D^2$$

Where;

N: Sample Size Required,

Z: Is The Critical Value for A Given Confidence Interval (1.96),

P: Is expected proportion of the event to be studied (estimated based on findings of previous studies). 42.9%

Q =1−P (proportion of the population represented with the sample),

D: Is margin of error or degree of accuracy desired (0.05). 95% CI and 5% of margin of error = 1.96.

$$\boldsymbol{N} = [(\mathbf{1.96})^2 * (\mathbf{0.429}) * (\mathbf{0.571})] / (\mathbf{0.05})^{\mathbf{2}}$$

$$= \mathbf{376}$$

Sampling technique

- Total of students in the first three levels in all medical departments

are (1099) distributed on four departments (see the following table).

- To select 376 students, we divided the students to clusters depending to their departments (4 clusters).
- We use the proportion size of cluster to calculate the sample size in each cluster as its clear in the fowling table.
- Within each cluster we calculate the sample size by the level and the gender depending on the size of the level and the gender in the cluster.
- Then we use the systematic random sampling to select the names of the sample under study.

Table 1: Sampling Technique

Department	Level	No. OF Students			Sample Selected For Study		
		M	F	Total	M	F	Total
Medicine	Level 1	124	40	164	42	14	56
Medicine	Level 2	103	36	139	36	12	48
Medicine	Level 3	67	39	106	23	13	36
Medicine		294	115	409	101	39	140
Dentistry	Level 1	93	53	146	32	18	50
Dentistry	Level 2	42	31	73	14	11	25
Dentistry	Level 3	31	34	65	10	12	22
Dentistry		166	118	284	57	40	97
Pharmacy	Level 1	100	28	128	34	10	44
Pharmacy	Level 2	59	20	79	20	7	27
Pharmacy	Level 3	54	18	72	18	6	25
Pharmacy		213	66	279	73	22	95
Medical lab	Level 1	29	34	63	10	12	21
Medical lab	Level 2	18	25	43	6	8	15
Medical lab	Level 3	6	15	21	2	5	7
Medical lab		53	74	127	18	25	43
		726	373	1099	248	128	376

Data collection method

A data collection tool has developed from previous studies [10, 14] and WHO course material on emerging respiratory viruses, including COVID-19 [15]. The questionnaire consisted of two parts: socio-demographics and KAP. Socio-demographic variables included age, sex, residence, year of study, and source of information. The second

part of the survey was designed to assess student knowledge about COVID-19, which included the symptoms of COVID-19-affected patients, transmission routes, precautions, and risk prevention. Participantshave given three options per question: “Yes”, “No”, and “I don’t know”. Correct responses have given one point while incorrect responses or “I do not know” have given zero points. In this study, “good knowledge” regarding COVID-19 was assigned to the participant’s score above the mean score on knowledge questions points. Conversely, “poor knowledge” was assigned to students who scored below the mean score on knowledge questions.

Attitudes towards COVID-19 have measured by four questions. These questions use a five- point Likert-type response scale: strongly agree (5 point), agree (4 point), neutral (3 point), disagree (2 point), and strongly disagree (1 point). Subscale scores have calculated for each participant. Higher scores have indicated a “favorable” attitude about COVID-19.
Participant practices have assessed by questions on five specific behaviors.
The questionnaire included multiple-choice questions intended to assess the participants’

- Sociodemographic characteristics,
- Knowledge,
- Attitudes, and
- Practices.

The knowledge section included questions about the cause of the COVID-19, mode of trans- mission, common symptoms, complications, and the available treatment of the disease. The

"attitudes" part included questions related to the seriousness of the disease and whether the student worries about suffering from or is at risk of COVID-19 infection, hence, disturbing thedaily life. Moreover, some of the included questions explored the interest of students in know-ing the methods of prevention, if the available information about COVID-19 was adequate andif the adoption of isolation measures and awareness could prevent or reduce the infection. The questions in the "practices" part were related to covering of the mouth and nose while sneezing, disposing of used tissues in the bin, and handwashing practices. Furthermore, this section in- quired about the use of disinfectant and face mask, social distancing, contact with a person with COVID-19 and those with flu symptoms, touching or shaking hands, and seeking medical ad- vice in case of any COVID-19 symptoms. The total scores of these items were then converted to percentages (0–100%). The scores of ≤ 60% were classified as poor knowledge, negative attitude, or high-risk practices; the scores of 60.1–80% were moderate knowledge, moderate attitude, or moder-ate-risk practices; and the scores of ≥ 80.1% were good knowledge, positive attitude, or low- risk practices.

Inclusion and exclusion criteria

- Inclusion criteria : sample was collected from all undergraduate medical students of Emirates International University, "medical collage" from first year to third year , including both genders.
- Exclusion criteria : fourth and fifth levels, interns , and other faculties were excluded.

Data analyses

The row data have interred to computer to be ready for analyses, data cleaning has done before the analyses process. Then the data have analyzed using the SPSS version 21.

To measure the Knowledge level among the participants, the knowledge about eight items was used and each correct answer took one point. Then the participant's knowledge was divided into 4 categories based on total answer scores of each participant,

poorlevel (0-4 scores),

average level (5-6),

good level (7-9scores)

and high level of Knowledge (8-12 scores).

To measure the practice level among the participants of the practice on five items was used and only each good practice took one point. Then the participants were divided into 2 categories based on total good practice of each participant,

Bad practice (0-3 scores),

Good practice (4-5 scores)

Ethical consideration:

The study's purpose, procedure, potential risks and benefits were explained to medical students; participants were informed of the details and aims of the study before consenting to participation.

CHAPTER 4:
Result

RESULT

Demographic Characteristics of the Participants

A total of 376 students included in the study from Emirate International University, The mean age of the participants was 21.3 ± 1.70, and the majority of the participants were males (n=248;66%). The participants from medicine department were the highest 37.5% of all contributed students. The first level students represented the highest proportion among other levels in this study. Details of the demographics of the participants are given in Table 2.

Table 2: Demographic characteristics of participants

variable	item	Frequency	Percentage
sex	male	248	66
	female	128	34
department	medicine	141	37.5
	dental	97	25.8
	pharmacy	95	25.3
	laboratory	43	11.4
level	first	172	45.7
	second	115	30.6
	third	89	23.7
Age	18-20	158	42
	21-23	193	51.3
	>=24	25	6.6
	mean	21.3	
	standard deviation	1.7	

General knowledge of the Participants:

The vast majority of participants (98.7%, 98.4%) reported coronavirus is meaning of COVID19 and is a contagious virus, respectively. Almost all participants reported China was the origin of COVID19, while only

61.9% of participants reported 2019 in which the first case has been reported.

Table 3 general knowledge of Participants

variable	item	Frequency	Percentage
Meaning of COVID19	coronavirus	371	98.7
	cholera	2	0.5
	liver disease	3	0.8
Causative agent of COVID19	bacteria	5	1.4
	parasite	1	0.3
	virus	359	98.4
First case detected	Yemen	2	0.5
	China	373	99.5
	USA	0	0
Date of reported first case	2020	136	37.1
	2019	227	61.9
	2021	4	1.1

Information sources of participants regarding COVID19:

Social media 70.5% was the main source of information regarding COVID19 followed by television that reported by participants.

Table 4: Information sources of participant

item	Frequency	Percentage
newspaper	29	7.7
radio	28	7.4
T.V.	254	67.6
social media	265	70.5
friends	53	14.1

Route of transmission of COVID 19 infection by participant's responses:

Patient shake hands and respiratory droplets (84.3%,76.1%) were the highest answers regarding by virus transmission among participants, respectively.

Table 5: Route of transmission:

item	Frequency	Percentage
Blood transfusion	22	5.9
urine	7	1.9
respiratory droplets	286	76.1
Touching contaminated surface	262	69.7
patient shaking hands	317	84.3
Contact of patient's fluid	164	43.6

Participant common symptoms and signs response related COVID 19:

The majority of participant answered that loss of taste and smell, fever and dry cough were themost common symptoms of disease (87.5%, .86.2%, 79.5%) respectively. While only 52.1% of participants answered that cases could have the virus without showing symptoms of the disease.

Table 6: Common symptoms of COVID 19

item	Frequency	Percentage
fever	324	86.2
joint pain	169	44.9
muscle pain	98	26.1
fatigue	128	34
dry cough	299	79.5
asymptomatic	196	52.1

rhinorrhea	121	32.2
headache	199	52.9
skin rash	7	1.9
diarrhea	41	10.9
loss of taste and smell	329	87.5

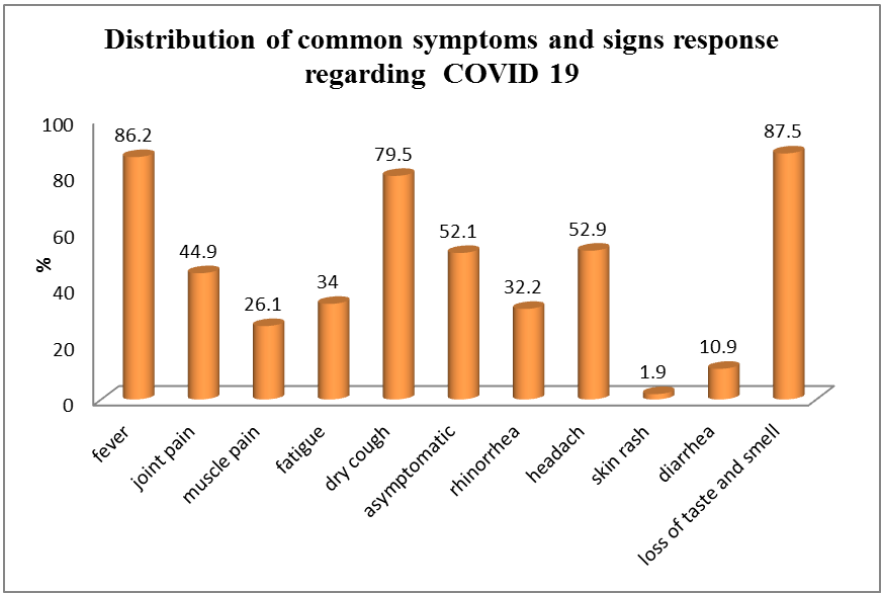

Figure 4 shows that loss of taste and smell, fever and dry cough were the most selected responses while skin rash diarrhea were least regarding of common symptoms and signs of COVID-19 among participants.

Severe case symptoms regarding COVID-19 among respondents:

The most severe symptoms reported among the participants were difficult breathing (88%) andhigh temperature > 38ºC (73.4%).

Table 7: Symptoms of severe cases

item	Frequency	Percentage
dry cough	203	54
cough with sputum	49	13
anorexia	130	34.6
difficult breathing	331	88
confusion	30	8
continuous chest pain	198	52.7

high temperature > 38^{0}C	276	73.4
joint pain	94	25
loss of taste and smell	255	67.8
fainting	61	16.2

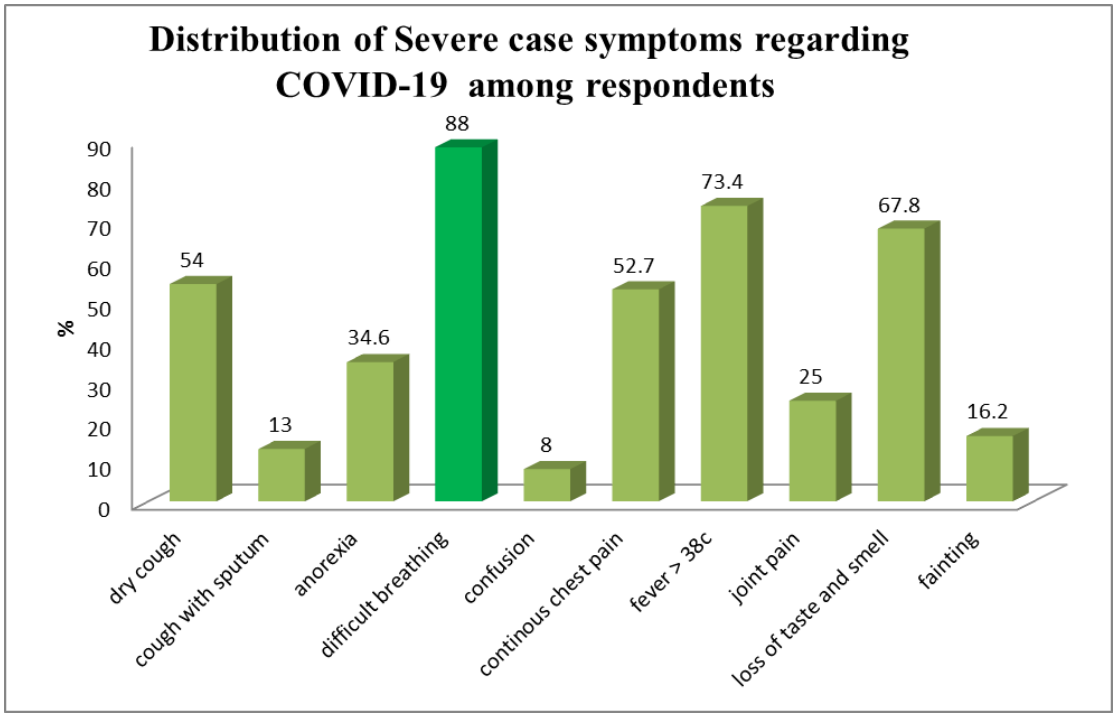

Figure 5 shows that difficult breathing and fever more than 38C were the most selected severesymptoms while confusion and cough with sputum the less selected among respondents.

Complication of COVID-19 by respondents:

Most of participants reported death (77.1%) and respiratory failure the most Complication ofdisease.

Table 8: complication of COVID-19

item	Frequency	Percentage
respiratory failure	269	71.5
cardiac failure	31	8.2
renal failure	60	16
coma	51	13.6
death	290	77.1

COVID- 19 case management among participates:

Most of respondents about mild and moderate case management of COVID-19 focused on isolation and vitamins followed by increasing uptake fluids. the participants answer about severecase management focused on oxygen support and antibiotics in addition to isolation and vitamins. On the other hand, there was negligence for anticoagulant and cortisol.

Table 9: Mild, moderate and severe COVID- 19

Item	Mild case management		Moderate case management		severe case management	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
isolation	313	83.2	313	83.2	333	88.6
increasing uptake fluids	222	59	205	54.5	176	46.8
vitamins	275	73.1	263	69.9	227	60.4
balanced food	169	44.9	174	46.3	142	37.8
antibiotics	136	36.2	175	46.5	194	51.6
anticoagulant	38	10.1	53	14.1	122	32.4
oxygen sup-port	158	42	197	52.4	309	82.2
cortisol	41	10.9	52	13.8	130	34.6

Knowledge about COVID-19 among participants:

The mean total knowledge score was 8.55 ± 2.64 out of the maximum attainable score of 12. Consequently, the overall rate of correct answers for the knowledge statements was 3216/ 4512(71.2%). The details are presented in Table 10.

Table 10: Knowledge about COVID-19 among participants

Questions:	Yes n (%)	No n (%)	Do not know n (%)
Cold symptoms (stuffy nose, runny nose, and sneezing) are less common in COVID-19	**183 (48.7)***	126 (33.5)	67 (17.8)
Early symptomatic and supportive treatment can help to recover from infection	**287 (76.3)***	37(9.8)	52 (13.8)
Not all persons will develop severe cases, elderly who had chronic disease and who are obese aremore likely to be develop severe case	**246 (65.4)***	83(22.1)	47 (12.5)
Eating or contacting wild animals would result in infection	141 (37.5)	**96 (25.5)***	139 (37)
Person cannot spread the virus to other when the symptoms like fever are not present	38 (10.1)	**279 (74.2)***	59 (15.7)
Virus spreading via respiratory droplets of infected persons	**316 (84)***	25 (6.6)	35 (9.3)
Virus spreading via droplet nuclei in air (airborne) of infected persons	**242 (64.4*)**	65 (17.3)	69 (18.4)
Wearing mask can prevent the infection	**305 (81.1)***	35 (9.3)	36 (9.6)
Not necessary for children and adolescent to take measures to prevent the infection	33 (8.8)	**303 (80.6)***	40 (10.5)
Should avoid going to crowded places and avoid gathering to prevent the infection	**321 (85.4)***	25 (6.6)	30 (8)
Test, trace and isolation for patient are effective ways to reduce the spread of infection	**320 (85.1)***	15 (4)	41 (10.9)
Person who had contact with other infected should be immediately quarantined in proper place.	**318 (84.6)***	21 (5.6)	9.8)
***Correct answers are presented in bold.**			

Knowledge was divided into 4 categories based on total answer scores of each participant, poorlevel (0-4 scores), average level (5-6), good

level (7-9scores) and high level of Knowledge (8-12 scores). Most of participant 66.2% showed high level of knowledge toward COVID-19 infection.

Table 11: Knowledge levels among participants

level	Frequency	Percentage
average	25	6.6
good	67	17.8
high	249	66.2
poor	35	9.3

An analysis was performed to examine whether there were any statistically significant differences in the participants' knowledge score in terms of their demographic characteristics, gender, age and department (Table 12 - Table 14).

Depending on the sex of the participants, those who showed high level of knowledge regarding COVID-19 were as the following , among females (68 %) and among males (65.3%). But there was no any statistically significant difference found between the two groups.

Table 12: the knowledge level among the sex groups

Sex		knowledge levels				X^2	*P value*
		average	good	high	poor		
male	Count	19	40	162	27	4.330	0.228
	% within sex	7.7%	16.1%	65.3%	10.9%		
female	Count	6	27	87	8		
	% within sex	4.70%	21.1%	68 %	6.3%		
Total	Count	25	67	249	35		
	% within sex	6.6%	17.8%	66.2%	9.3%		

Depending on the age groups of the participants, those who showed high level of knowledge regarding COVID-19 were as the following, among age group >=24 (72 %), among age group 18-20 years (65.2%) and (66.3%) among age group 21-23. But there was no any statistically significant difference found between the age groups.

Table 13: the knowledge level among the age groups

age category		knowledge levels			Total	X^2	*P value*
		good	high	poor			
>=24	Count	7	18	0	25	10.2	0.116
	% within age category	28 %	72 %	0.0%	100%		
18-20	Count	22	103	19	158		
	% within age category	13.9%	65.2 %	12.0%	100.%		
21-23	Count	38	128	16	193		
	% within age category	19.7%	66.3 %	8.3%	100 %		
Total	Count	67	249	35	376		
	% within age category	17.8%	66.2 %	9.3%	100 %		

Regarding to the department of the participants, those who showed high level of knowledge regarding COVID-19 were as the following, (75.3 %) among dental students, 67.4% among pharmacy students, 62.4% among medicine students and 55.8% among lap students. But there was no any statistically significant difference found between the departments groups.

Table 14: the knowledge level among the department groups

department		knowledge levels				Total	X^2	*P value*
		average	good	high	poor			
medicine	Count	11	26	88	16	141	10.3	0.325
	% within department	7.8%	18.4%	62.4%	11.3%	100. %		
dental	Count	4	14	73	6	97		
	% within department	4.1%	14.4%	75.3%	6.2%	100 %		
phramacy	Count	8	17	64	6	95		
	% within department	8.4%	17.9%	67.4%	6.30%	100 %		
laboratory	Count	2	10	24	7	43		
	% within department	4.7%	23.3%	55.8%	16.3%	100 %		
total	Count	25	67	249	35	376		
	% within department	6.6%	17.8%	66.2%	9.30%	100%		

No statistically significant differences were noted ($P > 0.05$). Consequently, as the univariate analysis showed no statistically significant associations, multivariate regression analysis was not conducted.

Practice regard to COVID- 19 prevention and control among participants.

The mean total practice score was 1.94 ± 1.53 out of the maximum attainable score of 5. Consequently, the overall rate of correct answers for the practice statements was 728/ 1880 (38.7%). The details are presented in Table.

In regards of practice, most of respondent 53% reported avoided the shake hands. Approximately third of participants reported worn the

face mask and maintained on the physical distancing, while 40% of respondents reported, they washed their hands regularly for 30 sec before touching their face and reported they avoided gone to any crowded place in the previous period.

Table 15: Practice for COVID- 19 prevention and control

	Yes n(%)	No n(%)	Sometimes n(%)
have you worn a mask when leaving home?	106(28.3)	107(28.5)	162(43.2)
have you avoided gone to any crowded place?	150(40)	108(28.8)	117(31.2)
have you maintained on the safe physical distancing > or = meter from other peoples	128(34.2)	120(32.1)	126(33.7)
have you avoided the shaking hands	197(53)	99(26.6)	76(20.4)
have you washed your hands regularly for 30 sec be- fore touching your face	147(39.3)	116(31)	111(29.7)

Practice was divided into 2 categories based on total answer scores of each participant, poor level (0-3 scores), good level (4-5 scores). Only 18.1% of participant showed good level of practice towards COVID-19 prevention and control.

Table 16: practice score of participants about COVID- 19 prevention and control

score	Frequency	Percentage
0	84	22.3
1	84	22.3
2	72	19.1
3	68	18.1
4	44	11.7
5	24	6.4
Total	376	100

An analysis was performed to examine whether there were any statistically significant differences in the participants' Practice score in terms of their demographic characteristics, ie gender, age and department (Table 16-18).

Among male and female, 17.7% and 18.8% respectively showed good level of practice regarding COVID-19 but no any statistically significant differences.

Table 17: practice level by sex groups

Sex		practice level		Total	X^2	*P value*
		bad	good			
male	Count	204	44	248	0.058	0.81
	% within sex	82.3%	17.7%	100 %		
female	Count	104	24	128		
	% within sex	81.3%	18.8%	100 %		
total	Count	308	68	376		
	% within sex	81.9%	18.1%	100 %		

Depending on the age groups of the participants, those who showed good level of practice regarding COVID-19 were as the following, among age group >=24 (16 %), among age group 18-20 years (17.7%) and (18.7%) among age group 21-23. But there was no any statistically significant difference found between the age groups.

Table 18: practice level by age groups

age category		practice level		Total	X^2	*P value*
		bad	good			
>=24	Count	21	4	25		
	% within age category	84 %	16 %	100%		

18-20	Count	130	28	158	.129a	0.937
	% within age category	82.3%	17.7%	100 %		
21-23	Count	157	36	193		
	% within age category	81.3%	18.7%	100%		
total	Count	308	68	376		
	% within age category	81.9%	18.1%	100%		

Regarding to the department of the participants, those who showed good level of practice regarding COVID-19 were as the following, (17.5%) among dental students, 18.9% among pharmacy students, 17.7% among medicine students and 18.6% among lap students. But there was no any statistically significant difference found between the departments groups.

Table 19: practice level by department groups

department		practice level		Total	X^2	*P value*
		bad	good			
medicine	Count	116	25	141	0.088	0.993
	% within department	82.3%	17.7%	100 %		
dental	Count	80	17	97		
	% within department	82.5%	17.5%	100 %		
pharmacy	Count	77	18	95		
	% within department	81.1%	18.9%	100 %		
laboratory	Count	35	8	43		
	% within department	81.4%	18.6%	100 %		
Total	Count	308	68	376		
	% within department	81.9%	18.10%	100%		

No statistically significant differences were noted ($P > 0.05$). Consequently, as the univariate analysis showed no statistically

significant associations, multivariate regression analysis was not conducted.

Attitude about COVID- 19 among participants:

Perception towards causes of spread COVID- 19 around the world.

Almost all respondents believe the recklessness of disease and not applying of early isolation for cases was the main cause for of wide spread of COVID-19 around the world while one believe the less experience for dealing with pandemics is the cause.

Table 20: Believe about causes of wide spread of COVID- 19 around the world

	Frequency	Percentage
Recklessness of disease and not applying of early isolation for cases	372	99.7
Less experience for dealing with pandemics	1	0.3

Perception of participants towards causes of high mortality of COVID- 19:

Most of respondents though the fearing from infection (63.8%) and poor immunity were the causes of high mortality of COVID- 19 (52.1%) among communities.

Table 21: Thinking about causes of high mortality of COVID- 19

	Frequency	Percentage
Do you think that no effective treatment	175	46.5
Do you think that fearing from infection	240	63.8
Do you think that poor immunity	196	52.1
other cause	22	5.9

Perception towards ability and routs of COVID- 19 control

Majority of respondents (79.9%) agreed that globally COVID- 19 will finally be successfully controlled, while 20.1% disagreed. Almost half

of participants thought the discover effective treatment is the best route for infection control, while 39.9% reported using COVID- 19 vaccine.

Table 22: Perception of participants towards ability and routs of COVID-19 control

	Frequency	Percentage
Do you agree that COVID- 19 will finally be successfully con-trolled?	298	79.9
Do you think the routes of COVID- 19 control		
by vaccination	150	39.9
by herb immunity	59	15.7
by discover effective treatment	169	44.9
by other route	17	4.5

Perception of participants about constrain for COVID-19 control:

Low proportion of participants (10.9%) reported that no effective treatment is globally constrainin the way of COVID-19 control.

Table 23: believe about constrain for COVID- 19 control

	Frequency	Percentage
no effective treatment	41	10.9
less experience	29	7.7
world wide spreading	27	7.2
Other constrain	2	0.5

In regards of the ability of Yemenis to control covid19, 70(18.5%) perceived yes, 147 (39.1%) no, while 159 (42.3%) when the resources and capacity to be available.

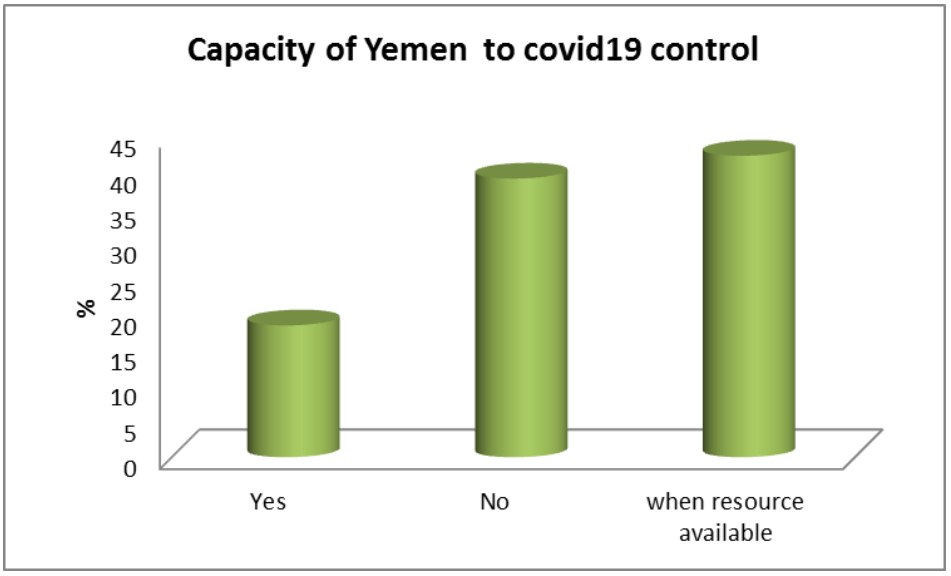

Figure 6 shows that most participant reported that the Yemen has not capacity to control infection unless the resource are in hand.

CHAPTER 5:
Discussion

DISCUSSION

This chapter discuss in detail the major findings and the implications of them. The results put in the context of the previous and recent research in form of comparing our finding with other researchers finding (where applicable) and comparing our findings based on the background variables. The main topics are: knowledge about COVID-19, students' attitude and the paratactical knowledge of the students about COVID-19.

Characteristics of sample under study

In the present study meals were more than females, among all the sample under study (376) meals represent less than two third of the sample 248 (66%), while females represent more than third of the sample 128 (34%). This result coherent with other researcher results which showed males more than females in the sample (12,10)

General Knowledge about COVID-19

The result of the current study showed that, knowledge about COVID-19 was high and more than half of the sample 249 (66.2%) had high knowledge about COVID-19 in general, while those who had good knowledge were 67 (17.8%), who had average knowledge were 25 (6.6%), and who had poor knowledge were 35 (9.3%). This result relatively similar to many other studies (5,14,15). The high level of knowledge about COVID-19 among medical students in the EIU may be attributed to their access to multiple reliable medical platforms, healthcare professionals and social media. These sources may have increased the existing knowledge of these students. It may also be related to the training many of them had received as volunteers in the healthcare

Depending to the sex of the students, there was no important difference in the general knowledge about COVID-19 among the two groups, those who have high knowledge among females and male were (68% and 65.3% respectively), while those who have poor knowledge among meals and females were (10.9% and 6.3% respectively). The difference between meals and females was very small and was not statistically significant (P value = 0.228) This result relatively similar to many other studies (5,15)

Depending to students' study department, the general knowledge about COVID-19 among the different study department was as the following: those who had high knowledge were higher in the dental department than the other three departments' (pharmacy, medicine and laboratory), in the other hand those who had poor knowledge were lower in the dental than the other three departments' (pharmacy, medicine and laboratory). There was small difference in the general knowledge about COVID-19 among the different study departments

Students' attitudes about COVID-19

Perception towards causes of spread COVID- 19 around the world.

Almost all respondents believe the Recklessness of disease and not applying of early isolation for cases was the main cause for of wide spread of COVID- 19 around the world while one believes the less experience for dealing with pandemics is the cause.

Perception of participants towards causes of high mortality of COVID-19:

Most of respondents though the fearing from infection (63.8%) and poor immunity were the causes of high mortality of COVID- 19 (52.1%) among communities.

Perception towards ability of and routs COVID- 19 control

Majority of respondents (79.9%) agreed that globally COVID- 19 will finally be successfully controlled, while 20.1% disagreed. Almost half of participants thought the discover effective treatment is the best route for infection control, while 39.9% reported using COVID- 19 vaccine.

Perception of participants about constrain for COVID- 19 control:

Low proportion of participants (10.9%) reported that no effective treatment is globally constrain in the way of COVID- 19 control

Practice regard to COVID-19 prevention and control among participants.

The current showed that, more than two third of the sample 308 (81.1%) had poor knowledge about practical process of the covid-19, while those who had high or good knowledge about practical process were only 68 (18.1%). This result relatively similar to many other studies (-), but in the other side the current study result not in agreement with other researcher (5,14,15) The poor level of practice about COVID-19 among medical students in the EIU may be attributed to that our questionnaire was done after the lockdown period also there maybe was misunderstanding from participants whether to give answers for their practice in lockdown period or after and May be attributed to No strict lockdown from our country.

Depending to the sex of the students the current study found that, there was no important difference in the Practice regard to COVID-19 prevention and control among the two groups, those who have good level of practice among meals and females were (17.7% and 18.8% respectively), while those who have bad level of practice among meals and females were (82.3% and 81.3 % respectively). The difference

between meals and females was very small and was not statistically significant (P value = 0.81).

Depending to students' study department the current study showed that, Practice regard to COVID-19 prevention and control among the different study departments was good in the pharmacy department than the others departments (laboratory, medicine and dental), in the other hand those who had bad practice were lower in the pharmacy department than the others departments (laboratory, medicine and dental). There was clear difference in the general Practice regard to COVID-19 prevention among the different study department.

CHAPTER 6:
Conclusion & Recommendation

CONCLUSION& RECOMMENDATION

Conclusion

We concluded the followings:

- Knowledge about COVID-19 was high among the total sample with no significant difference among the two sex groups.
- Knowledge about COVID-19 was high among dental students at all levels comparing to the other students in the other departments, clinical medicine, pharmacy and laboratory
- There was a good positive attitude among all the sample in general
- The practical process of the COVID-19 was poor among all sample in general
- There was no significant difference in the practical process of COVID-19 among the, sex, age and department subgroups.

Recommendations

- Faculty of Medicine in Emirates International University needed to develop education tools which focus on how to deal with COVID 19 infected people, and follow precautionary measures recommended to enhance the positive practice related COVID-19 among all students of the different collages of the university.
- Ministry of health and population requested to provide reliable information's with easy access to students specifically Medical students regarding how to deal with Covid-19 case.
- Awareness programs in TV, Radio & social Media can play an important role in correcting all misconceptions related to the disease, treatment and vaccines.

الخلاصة والتوصية

خاتمة

خلصنا إلى ما يلي:

- كانت المعرفة حول COVID-19 عالية بين العينة الإجمالية مع عدم وجود فرق كبير بين المجموعتين الجنسيتين.
- كانت المعرفة حول COVID-19 عالية بين طلاب طب الأسنان على جميع المستويات مقارنة بالطلاب الآخرين في الأقسام الأخرى والطب السريري والصيدلة والمختبر
- كان هناك موقف إيجابي جيد بين جميع أفراد العينة بشكل عام
- كانت العملية العملية لـ COVID-19 ضعيفة بين جميع العينات بشكل عام
- لم يكن هناك فرق كبير في العملية العملية لـ COVID-19 بين المجموعات الفرعية والجنس والعمر والقسم.

التوصيات

- احتاجت كلية الطب بجامعة الإمارات الدولية إلى تطوير أدوات تعليمية تركز على كيفية التعامل مع المصابين بفيروس كوفيد 19 ، واتباع الإجراءات الاحترازية الموصى بها لتعزيز الممارسة الإيجابية المتعلقة بـ COVID-19 بين جميع طلاب الكليات المختلفة بالجامعة.
- طلبت وزارة الصحة والسكان تقديم معلومات موثوقة مع سهولة الوصول إلى الطلاب وخاصة طلاب الطب فيما يتعلق بكيفية التعامل مع حالات Covid-19.
- يمكن أن تلعب برامج التوعية في التلفزيون والإذاعة ووسائل التواصل الاجتماعي دورًا مهمًا في تصحيح جميع المفاهيم الخاطئة المتعلقة بالمرض والعلاج واللقاحات.

Difficulties & Strength points

limitation

1. Lack of the previous study about covid -19
2. Difficulty of shortness time

Strength Point

1. lack of previous studies about awareness of Covid-19 in Yemen, so the result of this research will be important source for the other researchers in the same subject in the country.

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استبيان - قياس نسبة الوعي لدى طلاب الجامعة الإماراتية (الأقسام الطبية) بفيروس COVID-19 المستجد

من نحن:

نحن مجموعة من طلاب قسم الطب البشري – كلية الطب والعلوم الصحية – الجامعة الإماراتية.

الغرض من الأستبيان:

ندعوك/ي للمشاركة ببحث علمي الغرض منه دراسة مدى وعي طلاب الجامعة الإماراتية بفيروس كوفيد - 19 (كورونا) وسلوكهم اتجاه المرض.

سيتم من خلال هذا الأستبيان عرض عدة اسئلة نستطيع من خلالها معرفة مدى معرفتك بهذا المرض.

عزيزي الطالب:

ان المشاركة في الأجابة على هذا الأستبيان طوعية

ان الإجابة عن هذه الاستبيان تعني موافقتك على المشاركة في هذه الدراسة وانك ستكون مصدر المعلومات لبحثنا

نرجو منك الاجابة عن جميع الاسئلة المطروحة.

ستستغرق الأجابة على اسألة الاستبيان 5 دقائق من وقتكم.

شكراً جزيلاً لكم

اولاً: البيانات الشخصية:

الجنس	التخصص:	المستوى الدراسي
☐ ذكر	☐ طب بشري	☐ الأول
☐ انثى	☐ طب اسنان	☐ الثاني
	☐ صيدلة	☐ الثالث
العمر:	☐ مختبرات	☐ الرابع
☐	☐ اخرى	☐ الخامس

ثانياً: معلومات عامة عن (COVID-19):

ما معنى (COVID-19)؟	مرض (COVID-19) عبارة عن:
☐ مرض فيروس كورونا المستجد	☐ بكتيريا
☐ مرض الكوليرا	☐ طفيل
☐ مرض الكبد	☐ فيروس
☐ اخرى	

أين سجلت اول حالة لل ((COVID-19؟	ما هو تاريخ اول حالة سجلتها منظمة الصحة العالمية بـ (COVID-19)؟
☐ اليمن	☐ 2020
☐ امريكا	☐ 2019
☐ الصين	☐ 2021

ما هو المصدر الذي حصلت منه على المعلومة بخصوص مرض كورونا؟ "يمكنك اختيار اكثر من خيار"

- ☐ الصحف الورقية
- ☐ الراديو
- ☐ التلفاز
- ☐ الواتس اب
- ☐ الفيس بوك
- ☐ توتير
- ☐ احد الاصدقاء

ما هي طرق العدوى ب (COVID-19)؟ "يمكنك اختيار اكثر من خيار"

- ☐ الدم
- ☐ البول
- ☐ الرذاذ المتطاير

- ☐ ملامسة الأسطح
- ☐ مصافحة شخص مصاب
- ☐ ملامسة سوائل الشخص المصاب

اعراض مرض (COVID-19) الأكثر شيوعا : "يمكنك اختيار اكثر من خيار"

- ☐ الحمى
- ☐ ألم في المفاصل
- ☐ ألم في العضلات
- ☐ الإجهاد
- ☐ سعال جاف
- ☐ قد يكون الشخص مصاب بدون ظهور اي عرض
- ☐ سيلان من الأنف
- ☐ صداع
- ☐ طفح جلدي
- ☐ اسهال
- ☐ فقدان لشم والتذوق

من اعراض الحالات المتقدمة للمصابين ب (COVID-19): "يمكنك اختيار اكثر من خيار"

- ☐ السعال الجاف
- ☐ السعال مع بلغم
- ☐ انعدام الشهية
- ☐ ضيق التنفس
- ☐ التشوش او التخليط
- ☐ الالم الصدر المستمر
- ☐ ارتفاع درجة حرارة الجسم اعلى من (38 Cº)
- ☐ ألم في المفاصل
- ☐ فقدان حاسة التذوق والشم
- ☐ الإغماء

من مضاعفات الأصابة ب (COVID-19): "يمكنك اختيار اكثر من خيار"

- ☐ الفشل الرئوي
- ☐ الفشل القلبي
- ☐ الفشل الكلوي
- ☐ فقدان الوعي
- ☐ الموت

أجب بصح او خطأ او لا أعلم؟

نعم	لا	لا اعلم	
☐	☐	☐	على عكس نزلات البرد ، فإن انسداد الأنف وسيلان الأنف والعطس أقل شيوًعا لدى الأشخاص المصابين بفيروس COVID-19.
☐	☐	☐	لا يوجد علاج حالي وفعال لـ COVID-19 ، لكن الأعراض المبكرة والعلاج الداعم يمكن أن يساعد معظم المرضى.على التعافي من العدوى
☐	☐	☐	لن يصاب جميع الأشخاص المصابين بـ COVID-19 بحالات خطيرة. فقط كبار السن الذين يعانون من أمراض.مزمنة والسمنة هم أكثر عرضة للإصابة بالحالات الشديدة
☐	☐	☐	قد يؤدي تناول الحيوانات البرية أو الاتصال بها إلى الإصابة بفيروس COVID-19.
☐	☐	☐	لا يمكن للشخص المصاب بـ COVID-19 أن ينقل الفيروس للآخرين في حالة عدم وجود حمى
☐	☐	☐	ينتشر فيروس COVID-19 عبر الرذاذ التنفسي للأفراد المصابين
☐	☐	☐	ينتقل فيروس COVID-19 جوًا
☐	☐	☐	يمكن ارتداء أقنعة لمنع الإصابة بفيروس COVID-19
☐	☐	☐	لا يحتاج الأطفال والشباب إلى اتخاذ تدابير لمنع الإصابة بفيروس COVID-19
☐	☐	☐	يجب على الفرد تجنب الذهاب إلى الأماكن المزدحمة لمنع الإصابة بفيروس

COVID-19

يعد عزل وعلاج الأشخاص المصابين بفيروس COVID-19 من الطرق الفعالة للحد من انتشار الفيروس	☐	☐	☐
يجب عزل الأشخاص الذين يتعاملون مع شخص مصاب بفيروس COVID-19 على الفور في مكان مناسب	☐	☐	☐

كيفية العلاج مع مرض (COVID-19) الحالات العادية (mild): "يمكنك اختيار اكثر من خيار"

- ☐ العزل
- ☐ شرب السوائل
- ☐ الفيتامينات
- ☐ غذاء متوازن
- ☐ مضادات حيوية
- ☐ مضادات تخثر
- ☐ اوكسجين
- ☐ كورتيزول

كيفية العلاج مع مرض (COVID-19) الحالات المتوسطة (moderate): "يمكنك اختيار اكثر من خيار"

- ☐ العزل
- ☐ شرب السوائل
- ☐ الفيتامينات
- ☐ غذاء متوازن
- ☐ مضادات حيوية
- ☐ مضادات تخثر
- ☐ اوكسجين
- ☐ كورتيزول

كيفية العلاج مع مرض (COVID-19) الحالات المتقدمة (Sever): "يمكنك اختيار اكثر من خيار"

- ☐ العزل
- ☐ شرب السوائل
- ☐ الفيتامينات
- ☐ غذاء متوازن
- ☐ مضادات حيوية
- ☐ مضادات تخثر
- ☐ اوكسجين
- ☐ كورتيزول

ثالثاً: الاعتقادات والممارسات الشخصية

باعتقادك كيف يمكن ان نحمي انفسنا من الاصابه ب COVID19: "يمكنك اختيار اكثر من خيار"

- ☐ ارتداء الكمامة عند الخروج
- ☐ تجنب الأماكن المزدحمة
- ☐ استخدام معقمات الايدي و الاسطح
- ☐ اخرى:

هل تقوم بأرتداء الكمامة عند الخروج من المنزل؟

- ☐ نعم
- ☐ لا
- ☐ احياناً
- ☐ اخرى .....

هل تتجنب الأماكن المزدحمة؟

- ☐ نعم
- ☐ لا
- ☐ احياناً
- ☐ اخرى .....

إذا اضطررت للتواجد في أماكن مزدحمة هل تحافظ على اخذ مسافة متر الى مترين بينك وبين الآخرين؟

- ☐ نعم
- ☐ لا
- ☐ احياناً
- ☐ اخرى .....

هل تتجنب مصافحة الاخرين خلال انتشار الجائحة؟

- ☐ نعم
- ☐ لا
- ☐ احياناً
- ☐ اخرى .....

هل تقوم بغسل يدك بشكل دوري لمدة ثلاثين ثانية قبل ملامسة وجهك؟

- ☐ نعم
- ☐ لا
- ☐ احياناً
- ☐ اخرى .....

باعتقادك ما هو السبب الذي جعل مرض كرونا ينتشر في العالم كاملا بهذه السرعة:

- ☐ الأستهتار بالمرض وعدم العزل المبكر للحالات
- ☐ قلة الخبرة لدى الدول المتقدمة
- ☐ التنقل السريع بين الدول
- ☐ اخرى .....

باعتقادك ما هي اسباب ارتفاع عدد الوفيات من هذا المرض:

- ☐ عدم وجود علاج نهائي للمرض
- ☐ الهلع والفزع الشديد
- ☐ ضعف المناعة
- ☐ اخرى .....

باعتقادك هل سيتم السيطرة على المرض قريبا:

- ☐ نعم
- ☐ لا

في حالة الاجابة بنعم ماهي الطرق التي تعتقد تسهل من السيطرة عليه :

- ☐ اللقاحات المتوفرة
- ☐ مناعة القطيع

في حالة الاجابه بلا باعتقادك ما هي المعوقات:

- ☐ عدم وجود علاج فعال الى الان
- ☐ قلة الخبرة لد العالم بالتعامل مع هذا النوع من الفيروس

☐ اكتشاف علاج فعال ☐ الانتشار السريع للمرض

☐ اخرى ..... ☐ اخرى .....

هل تعتقد أن بلدنا قادرة على مواجهة المرض؟

☐ نعم

☐ لا

☐ نعم إذا توفرت الوسائل والمعايير المطلوبة

☐ اخرى .....

باعتقادك ماهي الوصفات الشعبيه التي ممكن تساعد في معالجة Covid19:

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في وجهة نظرك ماهي الطريقة الامثل لمكافحة انتشار COVID19؟

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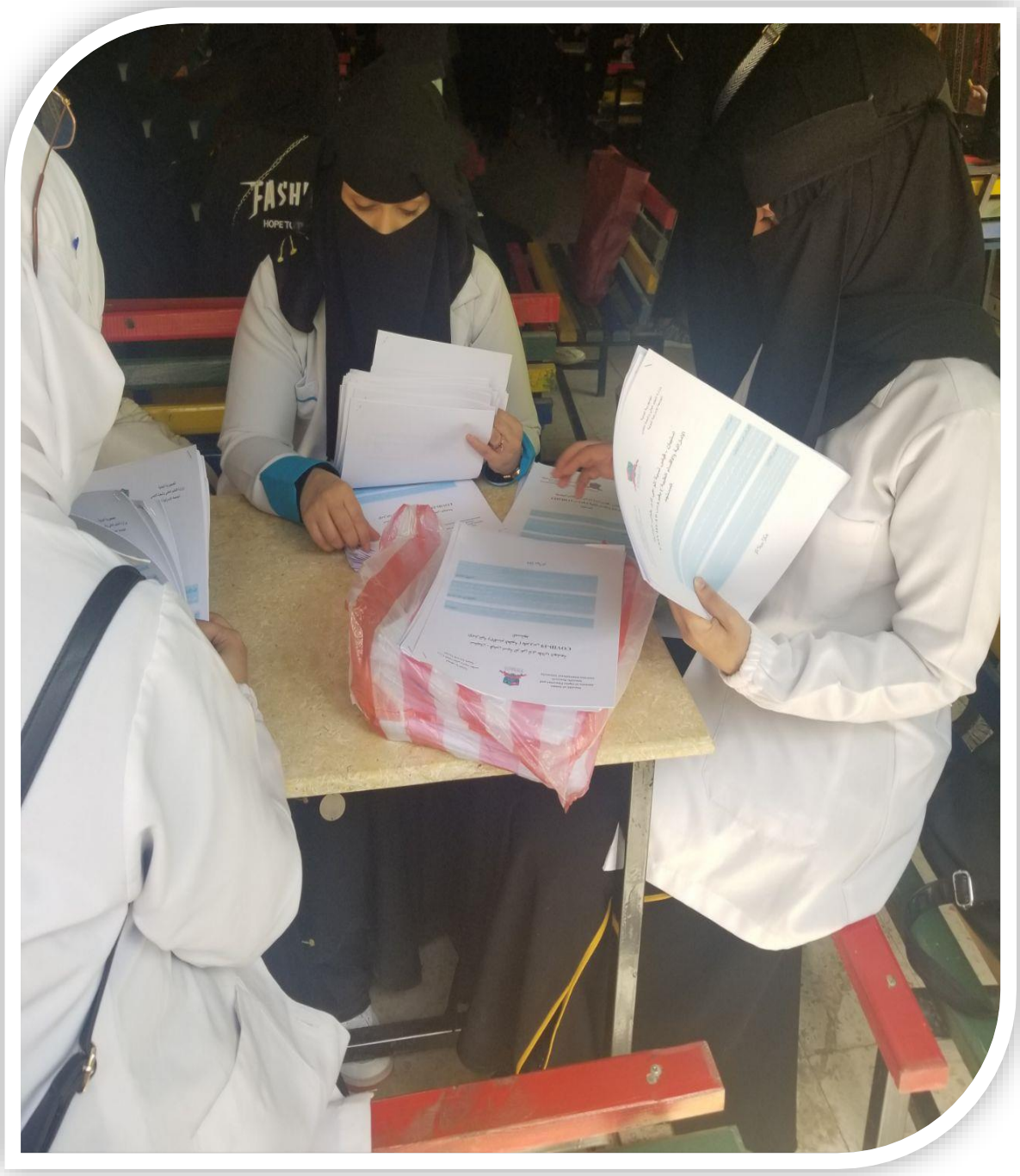

Figure shows while we are distributing the questionnaire

Figure shows while the students are answering the questionnaire

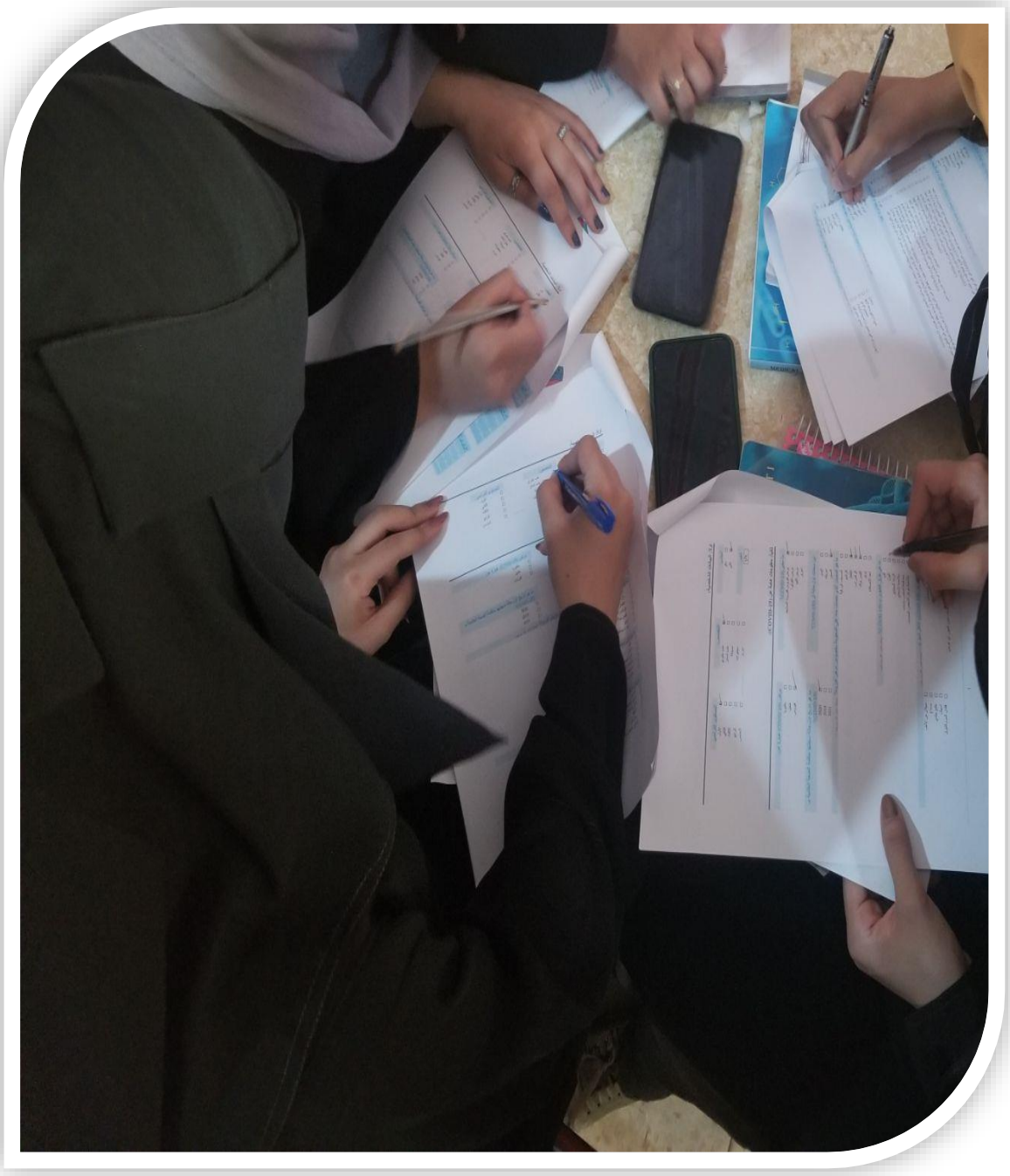

Figure shows while the students are answering the questionnaire