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### **RESEARCH ARTICLE**

## **PSYCHOLOGICAL IMPACT OF COVID-19 PANDEMIC ON KING SAUD UNIVERSITY FOR HEALTH SCIENCE STUDENTS IN ALAHS-SAUDI ARABIA**

**Paramasivan Mani, Hussain Aljuaidan, Senthil Vadivu, Abdullah Alruwaili, Mohammed Alsaleh, Ahmed Alhassan, Abdullah Alabdulmohsin and Ridha Alabdulmohsin**

1. College of Applied Medical Sciences, King Saud Bin Abdulaziz University for Health Sciences, AlAhsa, Saudi Arabia.
2. King Abdulla International Research Center, AlAhsa, Saudi Arabia.

#### **Manuscript Info**

##### **Manuscript History**

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#### **Abstract**

**Introduction and Aim:** The new coronavirus disease outbreak 2019 (COVID-19, originally referred to as 2019-nCoV and later referred to as SARS-CoV-2) started in Wuhan, Hubei Province, China, after 8 years of the MERS-CoV epidemic outbreak and the root of COVID-19 infection was mostly thought to be the Chinese horseshoe bats[1]. As countries have reported a sharp rise in mental health issues, including anxiety, depression, stress, sleep disorder, and fear, among their people, the ongoing COVID-19 pandemic creates a psycho emotional chaotic situation. Several countries have taken steps or already graduating healthcare professional students early to support professional resources due to the rapid increase in COVID-19 patients and the shortage of health care professionals[4]. The aim of the study was to determine the psychological impact of the COVID-19 on the King Saud bin Abdulaziz University for Health Sciences students in Al-ahsa.

**Method:** Psychological impact of COVID-19 pandemic among KSAU-HS students in Alahsa-Saudi Arabia assessed by the questionnaire. The purpose of the questionnaire to measure the Psychological impact of COVID-19 pandemic among KSAU-HS students in Alahsa-Saudi Arabia. We share the link between the KSAU Al-ahsa and students through email. Allied health science students in KSAU-HS -Al-Ahsa. This study was conducted in KSAU-HS in Al-Ahsa students. The data collected from KSAU Al-ahsa. 30 questions used to assess different aspects of psychological; impact on KSAU-HS students, using PHQ-9, GAD-7, and PSS-14 scale with five options (Strongly Disagree – Disagree – Normal – Agree Strongly Agree. In addition, it is cross-sectional because the study collected data at giving point across the study.

**Result:** There are 102 students participate in this study. All of the participants were from KSAU students in Al-ahsa that met the inclusion criteria in this study. 40.2% of the participants have moderate depression, 48% of the participants have moderate anxiety and 82.4% of the participants have moderate stress.

**Conclusion:** PHQ-9 results shows that 2% of the students are normal, 19.6% have mild depression, 40.2% have moderate depression, 34.3%

**Corresponding Author:- Paramasivan Mani**

Address:- College of Applied Medical Sciences, King Saud Bin Abdulaziz University For Health Sciences, AlAhsa, Saudi Arabia.

have moderately severe depression and 3.9% have severe depression. GAD-7 results shows that 9.8% of the students are normal, 31.4% have mild anxiety, 48% have moderate anxiety and 10.8% have severe anxiety. PSS-14 result shows that 9.8% of the students have low stress, 82.4% have moderate stress and 7.8% have high-perceived stress.

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### **Introduction:-**

Coronaviruses (CoVs), is a crown-like spikes on their top, are a wide group of single-stranded RNA virus. There are four major types of CoVs, these exist alpha, beta, gamma, and delta. This present both mammals and vertebrates and can cause infectious disease. In humans, these viruses can cause infections in the respiratory tract that are mild to lethal[1]. CoV infections have been responsible for many disease outbreaks, beginning in 2002 with the extreme acute respiratory syndrome coronavirus (SARS-CoV) and then in 2012 with the Middle East respiratory syndrome coronavirus (MERS-CoV)[1]. Before spreading to humans, outbreaks of respiratory diseases originated in animals. SARS-CoV and MERS-CoV, respectively, were transmitted to humans from civet cats and Arab camels. The new coronavirus disease outbreak 2019 (COVID-19, originally referred to as 2019-nCoV and later referred to as SARS-CoV-2) started in Wuhan, Hubei Province, China, after 8 years of the MERS-CoV epidemic outbreak and the root of COVID-19 infection was mostly thought to be the Chinese horseshoe bats[1]. COVID-19 caused a global outbreak of pneumonia and has become a major public health challenge in almost all countries around the world and was declared a pandemic by the World Health Organization on March 11, 2020, (WHO)[1]. The widespread public presence of the coronavirus has caused many countries to declare a lockdown and maintain social distance between people who have to stay at home to prevent the spread of infection. Teaching for the students continued for the rest of the year online[2]. Therefore, sudden isolation and social distance can have a major impact on the students' mental health as they are removed from their extracurricular activities, making them feel less linked to their friends, hobbies[2,3]. This situation also provides them with uncertainty about their future, their health, and their friend's and relatives' health[2]. Several countries have taken steps or already graduating healthcare professional students early to support professional resources due to the rapid increase in COVID-19 patients and the shortage of health care professionals[4].

As a result, a variety of anti-epidemic initiatives have been introduced in many nations, such as the prohibition of travel for foreign visitors, the closure of public spaces, and the shutdown of the entire transport system to prevent the transmission of highly infectious human-to-human infections[5]. As countries have reported a sharp rise in mental health issues, including anxiety, depression, stress, sleep disorder, and fear, among their people, the ongoing COVID-19 pandemic creates a psycho emotional chaotic situation. Some studies have found that greater social media exposure to 'misinformation' is more likely to lead to the development of anxiety, depression, and other mental health issues in its diverse socio-economic population[5]. This unparalleled experience of 'home quarantine' under the lockdown of academic and professional career instability and some of them can't afford to buy electronic devices for continuing study in a home, which leads to a multifaceted effect on students' mental health[3,5]. Also, some of them can't afford to buy electronic devices for continuing study at home.

### **Justification:**

Depression, stress and anxiety have increased among students due to the coronavirus disease outbreak (COVID-19) which had a significant impact on people's lives throughout the world, particularly after the World Health Organization declared a worldwide pandemic in March 2020. As a result, several governments undertook a variety of anti-epidemic measures, such as restricting foreign citizens' travel, banning public areas, and shutting down the whole public transportation system, in order to prevent the extremely infectious illnesses from spreading from person to person. This unprecedented 'home isolation' under lockdown, along with the uncertainty of academic and professional careers, has had a wide range of effects on students' psychological health.

### **Objective of the study:-**

#### **Aim of the study:**

The study was designed to determine the COVID-19 psychological impact on King Saud bin Abdulaziz University for Health Sciences students in Al-ahsa.

**Specific Objectives:**

1. To assess the psychological impact of KSAU students in Alahsa.
2. To find the most common psychological impact affecting the student's studies
3. To measure the prevalence of depression, stress and anxiety for student studies.

**Secondary Objective:**

1. Educate the students who have Psychological issues.

**Methodology:-**

**Study Area/Setting:**

This study was conducted in KSAU-HS in Al-Ahssa students.

**Study Subjects:**

**Inclusion Criteria:**

1. 18 years old to 25 years.
2. Allied health science students in KSAU-HS -Al-Ahssa.
3. Male and female Subjects.

**Exclusion Criteria:**

1. Mental illness and hearing difficulties excluded.
2. Administrative staff and Faculties.

**Study Design:**

The research is quantitative research, because we are dealing with numerical data. Psychological impact of COVID-19 pandemic among KSAU-HS students in Alahsa-Saudi Arabia assessed by the questionnaire. In addition, it is cross-sectional because the study collected data at giving point across the study.

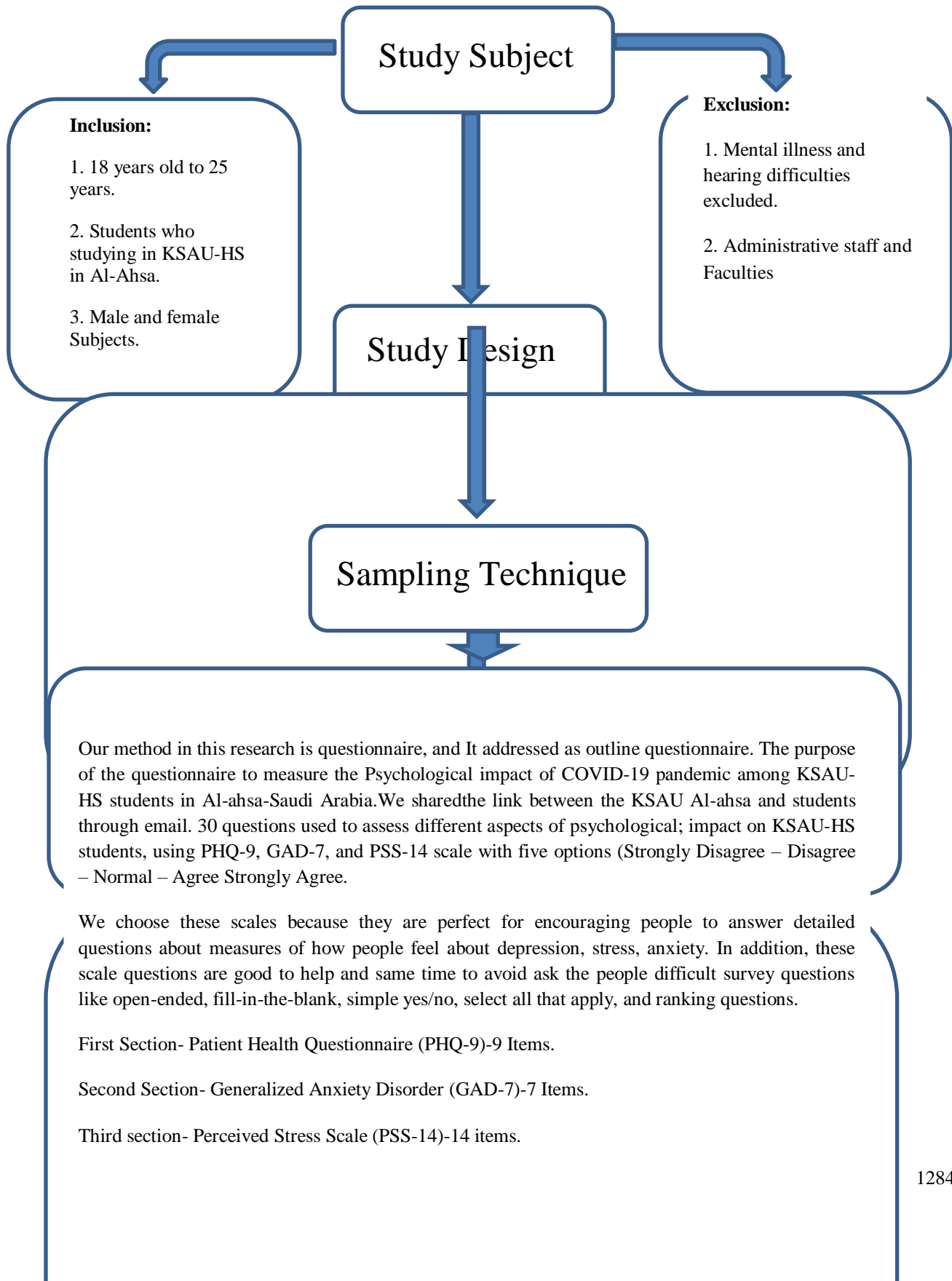
**Sample Size:**

The number of participants in the study was 218 with a respond rate 46.79%

**Sampling Technique:**

Sampling Technique is Convenience sampling Technique, which is a type of non-probability sampling. The data collected from KSAU Al-ahsa. All the participants who meet the inclusion criteria.

Flowchart of the study design that describes the research methods



**Data Collection methods, instruments used, measurements:**

Our method in this research is questionnaire, and It is addressed as outline questionnaire. The purpose of the questionnaire to measure the Psychological impact of COVID-19 pandemic among KSAU-HS students in Alahsa-Saudi Arabia. We shared the link between the KSAU Al-ahsa and students through email. 30 questions used to assessed different aspects of psychological; impact on KSAU-HS students, using PHQ-9, GAD-7, and PSS-14 scale with five options (Strongly Disagree – Disagree – Normal – Agree Strongly Agree).

We choose these scales because they are perfect for encouraging people to answer detailed questions about measures of how people feel about depression, stress, anxiety. In addition, these scale questions are good to help and same time to avoid ask the people difficult survey questions like open-ended, fill-in-the-blank, simple yes/no, select all that apply, and ranking questions.

**First Section-**

Patient Health Questionnaire (PHQ-9)-9 Items.

**Second Section-**

Generalized Anxiety Disorder (GAD-7)-7 Items.

**Third section-**

Perceived Stress Scale (PSS-14)-14 items.

**Data Management and Analysis Plan:**

In our analysis, continuous parametric data monitor as mean with standard deviation and categorical data as proportions. The difference between the categorical variables is assess using the chi-squared, While students' T-test is use to evaluate the variance in continuous parametric variables. Alpha is set at 5% and p-value <0.05 is consider statically significant. The SPSS version 24-SPSS Inc., Chicago, IL).

**Ethical Consideration:**

- Approval was obtained from King Abdullah International Medical Research Center (KAIMRC) IRB Committee, which is the authorized department to allow conducting research in MNGHA.
- Research procedures have ensured privacy during data collection.
- Data was stored securely with adequate provisions to maintain the confidentiality of the data.
- All possible measures were ensured that participants' identities are not directly or indirectly disclosed for secondary data analyses.

**Results:-**

There are 102 students participate in this study. All of the participants were from KSAU students in Al-ahsa that met the inclusion criteria in this study. We have found that almost (42.2%) of KSAU students said it is neutral to feel a little interest or pleasure to doing something's during quarantine and (7.8%) strongly agreed. Also, the statistics indicated that most students feel depressed or hopeless during exam day neutrally (34.3%), but some students strongly disagreed (7.8%). In addition, the results about having trouble falling or staying asleep or sleeping too much indicated that most students agreed it (40.2%), unlike students who did not agreed (8.8%). Also, about (36.3%) of students feel tired or having little energy during study, despite the students who disagreed that (2%). There are some students suffering of poor appetite or overeating during quarantine (30.4%). Some students feel bad about their selves (20.6%) and some of them don't (25.5%). Having trouble in concentrating on things like newspaper or watching television or studying its neutral (29.4%) but some agreed this problem (28.4%). Moving or speaking so slowly that other people could have noticed or opposite disagreed by most students (30.4%) and some of them agreed it (20.6%). The students disagreed about thoughts that would be better off dead or of hurting self in some way (53.9%). Most students are Neutral about feeling nervous in the quarantine when it was active (32.4%).

There are (33.3%) of Students feel neutral about not being able to stop or control worrying in their self. There are (32.4%) of Students feel neutral about being worry too much about different things during quarantine. There were (27.5%) of students agree with feeling afraid about getting the virus. There were (31.4%) of students disagree with having a trouble relaxing during quarantine. There were (27.5%) of students fee neutral about not become annoyed or irritable in the quarantine that even did not affect there sleeping hours and daily life activities. There were (40.2%) of students strongly agree with feeling restless in himself and there family from the corona virus. There were (34.3%) of students agree with having so much upset because of something that happened unexpectedly to

them. There were (27.5%) of students during quarantine disagree with feeling that they were unable to control the important things in their lives. There were (35.3%) of students feel neutral about having felt so much nervous and "stressed" in the quarantine. There were (42.2%) of students agree with dealing successfully with day-to-day problems and annoyances.

We see that (43.1%) of students during quarantine agree with feeling that there were effectively coping with important changes that were occurring in there live. There were (49%) of students agree with feeling confident about their ability to handle their personal problems. There were (42.2%) of students during quarantine feel neutral about feeling that things were going on their way. There were (40.2%) of students during quarantine feel neutral that they could not cope with all things they had to do. There were (40.2%) of students feel neutral about having able to control irritation in there live. There were (36.3%) of students during quarantine agree with feeling that were on top of things. There were (34.3%) of students agree with being angered because of things that happened were outside of their control. There were (42.2%) of students agree with being thinking about things that they have to accomplish. There were (36.3%) of the students during quarantine feel neutral about control the way that they spend their time. There were (34.3%) of the students during quarantine disagree with feeling that difficulties were piling up so high that they could not overcome them.

**Table:**

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1. Do you feel a Little interest or pleasure in doing things during quarantine?	7.8%	32.4%	42.2%	9.8%	7.8%
2. Do you feel down, depressed, or hopeless during exam day?	12.7%	32.4%	34.3%	12.7%	7.8%
3. Do you have Trouble falling or staying asleep, or sleeping too much?	15.7%	40.2%	20.6%	14.7%	8.8%
4. Do you feel tired or having little energy during study?	27.5%	36.3%	23.5%	10.8%	2%
5. Do you have Poor appetite or overeating during quarantine?	12.7%	30.4%	29.4%	17.6%	9.8%
6. Do you feel bad about yourself recently — or that you are a failure or have let yourself or your family down?	13.7%	20.6%	17.6%	25.5%	22.5%
7. Do you have Trouble concentrating on things, such as reading the newspaper or watching television or studying?	11.8%	28.4%	29.4%	21.6%	8.8%
8. Do you Move or speak so slowly that other people could have noticed? Or the opposite —being so fidgety or restless that you have been moving around a lot more than usual?	3.9%	20.6%	23.5%	30.4%	21.6%
9. Thoughts that you would be better off dead or of hurting yourself in some way.	2%	13.7%	14.7%	15.7%	53.9%
10. Are you feeling nervous in the quarantine when it was active?	7.8%	18.6%	32.4%	23.5%	17.6%
11. Not being able to stop or control worrying in yourself?	7.8%	21.6%	33.3%	20.6%	16.7%
12. Have you been worry too much about different things during quarantine?	11.8%	25.5%	32.4%	23.5%	6.9%
13. Did you feel afraid about get the virus?	21.6%	27.5%	19.6%	20.6%	10.8%

14. Did you have trouble in relaxing during quarantine?	12.7%	17.6%	25.5%	31.4%	12.7%
15. Did you become easily annoyed or irritable in the quarantine that even effect your sleeping hours and daily life activities?	7.8%	17.6%	27.5%	25.5%	21.6%

### Discussion:-

Covid-19 has an important impact either negative or positive on the students and the ways of getting information. The research indicated that most students suffer from not receiving the information correctly due to internet connection problems, device quality, lack of focus when there are large number of brothers in the same room, and not leaving the house has a major impact on mood. Internet connection problems affect the students' mood through losing the connection during online exams, which is considered a critical time, and that will have an effect on the grades negatively. Next, device quality dependent on family's abilities to buy. Some families couldn't buy high quality device due to the large number of boys that they need device to study and that's difficult, in addition to the lack of money, so the families will buy device with low quality which lacks the capabilities that help the students to study, and therefore this will negatively affect him. Coming to house space, it's important to have some rooms in the house for taking lectures and exams without interruption from other members in the family. Leaving home during the pandemic difficult for students and their families, so the students will get depression and stress and therefore that will affect their studies and grades negatively. The solution is to take a time of rest when feeling of depression or stress to skip this bad feeling through setting with families and play something's to get a better mood for study.

Our study test psychological impact of three disorders, which is stress, depression, anxiety compared to the previous study, which test anxiety alone. In our study, we use PHQ-9 scale for depression test and GAD-7 scale for anxiety test and PSS-14 scale to test the stress among KSAU student. In Compare to the previous study, they use Zung's self-rating anxiety scale (SAS) to test the anxiety among student in Malaysia [6]. Our study result show that 9.8% of KSAU students are normal, 31.4% have mild anxiety, 48% have moderate anxiety and 10.8% have severe during pandemic. In compare to the previous study results, which show that 20.4%, 6.6%, and 2.8% of the students experienced minimal to moderate, marked to severe and extreme anxiety levels [6].

As a result of this study, we have been able to examine depression, stress and anxiety related to Covid-19 in situations of lockdown due to pandemic. The future development of studies on the subject could be improved by taking into account registration measurements for other variables, including economic, employment status, housing conditions, and goods and/or resources. Considering sociodemographic aspects could shed light on other factors that may be protective against or precursors to depression that appears to be inextricably entwined with fear, stress, and anxiety. Furthermore, it could serve as a useful tool for guiding possible prevention and mitigation measures and optimizing resources for the most vulnerable people within the entire group of university students.

There are some limitations to this study. Although the cross-sectional design is appropriate for the objectives we proposed, we could not draw cause-and-effect conclusions from it. In future studies, longitudinal design will enable us to learn how different factors affect the development of depression, stress, and anxiety.

This research established to find out the extent of the impact of the Covid-19 on the psychology of students. Also, how was their psychology during pandemic, and how it affected the academic performance of students, and what other problems did they face during pandemic and how worried about themselves and their families from Covid-19 and how they were suffering from studying on the Internet and the difficulty of understanding and communicating information. In addition, our Research focused on depression, stress, anxiety of student during pandemic. We conclude that the result shows that 40.2% of the participants have moderate depression, 48% of the participants have moderate anxiety and 82.4% of the participants have moderate stress.

### Implications:

The online classes generally get lower grades, are less likely to perform well in follow-on coursework. The student ability to learn decrease because of getting distracted during classes. For example, his family may distract the student during the online session.

In addition, poor understanding of practical classes during the quarantine will affect their grade, and leading to feel stressed during the practical exam. Lack of experience in the practical application of the medical knowledge will lead the students to forget how to do their duty in the hospital.

The students feel Bereavement, isolation, and fear are triggering mental health conditions or exacerbating existing ones. Many students may be facing increased the level of depression, stress, and anxiety during the quarantine because of Covid-19.

Mental health will be disrupted if they are subjected to constant disturbance and changes in their daily routines. Physical activity, sleep, and time usage are all disrupted, especially towards the start of the epidemic. There are significant reductions in mental health, including dramatic increases in depression, and the risk variables for depression diverge significantly during the pandemic compared to preceding cohorts, tightening the link between lifestyle behaviors and mental health. Finally, during COVID-19, interruption of physical routines is a strong predictor of depression.

Poor internet connection considered one of the most challenges that facing the students during the exams and their online session, which will make the student feel afraid and agitated. For instance, connection lost while the student taking the exam, which will make him panicked and stressed.

#### **Limitation:**

Our questionnaire distributed online which played a main reason for not reaching the aimed sample size and distributing the questionnaire. Our finding shows that the online questionnaire have less responds rate than paper questionnaire. Getting inaccurate information of the students because our research started post the quarantine. In the future, we hope to conduct other studies to find out how different the psychological impact of Covid-19 will be and whether it will increase or decrease with the new mutation of Covid-19 in the future. And to see the difference in the percentage of depression, stress and anxiety among the students.

#### **Conclusion:-**

According the questionnaire, which include PHQ-9, GAD-7 and PSS-14 scales. PHQ-9 results shows that 2% of the students are normal, 19.6% have mild depression, 40.2% have moderate depression, 34.3% have moderately severe depression and 3.9% have severe depression. GAD-7 results shows that 9.8% of the students are normal, 31.4% have mild anxiety, 48% have moderate anxiety and 10.8% have severe anxiety. PSS-14 result shows that 9.8% of the students have low stress, 82.4% have moderate stress and 7.8% have high-perceived stress. We recommend running convincing information campaigns about COVID-19 and providing effective coping techniques and training about its prevention in order to reduce depression, anxiety, and stress. We could introduce an attention and/or psychological training program for students, aimed at helping them manage and overcome anxiety [7]. Reduced anxiety may have a positive impact on stress and depression as well. The improvement of health response could also reduce fear, as there would be greater expectations of response when an illness occurs [7].

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