The Implications of COVID-19 Pandemic on Knowledge, Anxiety level and Quality of Life of Nursing Internship Students

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Abstract: the COVID-19 pandemic underscores society's reliance on health care workers both on the front line and on the nursing internship students as are part of second line for fighting virus transmission, which makes them more vulnerable to anxiety and stress and thus it affects their quality of life. Aim: of this study was to assess the implications of covid-19 on knowledge, anxiety level and quality of life of nursing internship students. Design: A descriptive correlation design was used for the conduction of this study. Setting: The study was conducted at Technical Institute of Nursing, Fayoum University. The sample: A convenience sample of 286 nursing internship students. Tools of data collection: .A) self-administered questionnaire divided two parts to assess 1) the socio-demographic characteristics of internship students.2) internship student's knowledge related to covid-19 characteristics, second tool was Anxiety level scale to assess Anxiety level of internship students and third tool self-report quality of life scale to assess quality of life for nursing students during spread of Covid-19 period. Results: Three quarters of internship students had satisfactory knowledge about coronavirus. The minority of the male internship students reported they had severe anxiety and two third of female student had sever anxiety. Mean score total quality of life of male students higher than female students. Conclusion: The internship students had satisfactory knowledge about Corona disease. This knowledge led to a higher rate of anxiety for female students than for male students, which led to the quality of life for female students being lower than for male students. Recommendations: Design educational and counseling programs to reduce anxiety level between interns to assist students in identifying the influence of anxiety on quality of life during Covid-19 pandemic crisis.

Keywords: Covid-19 Pandemic, Knowledge, Anxiety level, Quality of life, Nursing Internship students.

1. INTRODUCTION

The evolution of the novel Corona Virus Disease (COVID-19) and its spreading have led the World Health Organization (WHO) to declare it a pandemic on 11 March 2020 **(WHO, 2020a).** As a consequence, many countries, including Egypt, have set a state of lockdown to prevent the spread of infection among people resulting in a global atmosphere of stress and anxiety associated with social isolation, fears of getting infected, financial problems, stopping travel plans, and future uncertainty **(Hiremath, et al., 2020; Ho, et al. 2020; Zhang, et al. 2020).**

Most of the recently published research related to COVID-19 focused on topics as epidemiology, clinical symptoms, genetic characteristics of the virus, and its spread **(Huang, 2020 & Lu, 2020).**However, there is a lack of information about the psychological and mental impact of the entire population, although anxiety and fears in society affect every individual globally to varying degrees during this pandemic **(Wang, 2020).** However, not enough studies focused on assessing the knowledge, and quality of life related to the COVID-19 among health care workers especially internship student. **(Chan, et al., 2019).**

COVID-19 caused significant changes to daily lives as movements, working outside the workplace, loss of jobs, and lack of physical relationships with other family members, friends, and colleagues to slow down the spread of the virus. The pandemic is likely to have both long- and short-term implications for health and quality of life, as well as The social health and psychological health effects, are equally important as physical health for combat coronavirus **(Emanuele et al .,2020).**

"The coronavirus disease 2019"(COVID-19) pandemic causes anxiety for population. Anxiety is a feeling of uneasiness characterized by feelings of tension, worried thoughts, and physical changes of students. Anxiety during an infectious disease outbreak can sometimes cause fear of infection and worry, lack of personal protection equipment (PPE) at work, changes in sleep or eating patterns, worsening of chronic health condition, and increased use of nicotine **(Wang, 2020).**

Anxiety is highly rated among nursing students even in normal circumstances. Nursing students encountered a new reality of economic uncertainty, fear of infection, challenges of distance education, lack of personal protection equipment (PPE) at work **(Savitsky, et al., 2020).** In recent years, health-related quality of life (HRQOL) has paid worldwide attention according to **(Caballero & Prior, 2017)**: Quality of life (QOL) is defined as "the individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals." COVID -19 causes considerable morbidity and mortality, and it poses a rising global health threat**.**

Students begin their "internship" in healthcare systems in their medical hospitals to prepare students to meet new challenges and opportunities through their work in various clinical settings. Because of their lack of practical experience, they may be exposed to many health problems resulting from diseases such as the Coronavirus 2019, so students must be trained to use preventive precautions so that they can protect themselves from exposure to infection by following the necessary precautions, safety measures and combating the Corona virus **(Xiao, et al., 2019).**

Primary care workers, such as nurses, internship students and physicians who are in direct contact with patients and their body fluids, are those most vulnerable to infection, in addition to extra pressures related to the responsible performance of their roles. Therefore, students must be protected from chronic anxiety and poor mental health to help them perform their roles efficiently **(WHO,2020).**

Significance of the study:

The majority of studies available have been conducted in China. An online survey conducted in China looked at the immediate psychological responses during the first period of the COVID-19 epidemic among the general population of China Of 1210 respondents, 53.8% rated the psychological problems as moderate or severe: 28.8 % reported moderate to severe anxiety symptoms **(Li, 2020).**

An online survey conducted in Benha City, Egypt looked at the immediate psychological responses during the period of the COVID-19 epidemic among the general population of Benha City, Egypt Of 1010 respondents, 62.7% reported moderate to severe anxiety symptoms **(Elrefaey, 2020).** In low-and middle-income countries, such as "Egypt", where infection control precautions, surveillance programs, laboratory capacity, and public health resources are limited **(Asbu, et al., 2017),** Recently, a study conducted on the population related to Covid-19 virus demonstrated a higher rate of stress and degree of fear,, depression and anxiety in women compared to men, respectively, due to their fear of contracting the disease **(Ministry of Health and Population Egypt [MOHP], 2020).** Therefore, the present study aims to assess the "effects of COVID-19 on knowledge, anxiety level and quality of life of Egyptian" students during the period of the pandemic, in an attempt to help in protecting the psychological wellbeing and improving quality of life of the community, particularly with its expansion in "Egypt" and other countries of the world, and the uncertainty surrounding it.

Aim of the Study:

This study aimed to assess the effects of Covid-19 pandemic on knowledge, anxiety level and quality of life of nursing internship students.

Research question:

1- What is the level of knowledge of the nursing internship students about Covid 19?

2**-**What is the effect of Covid 19 pandemic on the anxiety among the nursing students?

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3- What is the effect of Covid 19 pandemic on the quality of life among the nursing students?

4- Is there relation between socio-demographic characteristics of the internship students and anxiety level and quality of life during Covid -19 pandemic?

2. SUBJECTS AND METHODS

Research design:

"A descriptive correlation design" was utilized in this study to assess the relationship of anxiety level and quality of life, as dependent variables, with Covid 19 as independent variables.

Setting:

The present study was conducted at online sheet for nursing internship students at the Technical institute of Nursing at Fayoum government, start from March to April, 2020 by sending the tool of data collection in "telegram" group and ask every student to answer the questionnaire if they accepted and to submit again for the researchers.

Sample type:

A convenience sample of all internship students at Fayoum Technical Institute of Nursing, who accepted to participate in the current study. The actual sample size (286) Nursing internship students out of 300 students. The 14 out of 300 internship students refused to participate in study.

Tools of the study: Three tools for data collection were used in the present study

First tools divided two part: (A): Self-administered questionnaire.

It was designed by the researchers and written in simple Arabic language. Data obtained were related to: Demographic characteristics of the studied internship students which included: age, gender, marital status, place of residence and work department.

(B): Assess internship students' knowledge about Covid -19 it included 6 questions related to definition, mode of transmission infection, signs and symptoms, risk factor, complication, ways of protection. **Scoring System:** The scoring system for questionnaire sheet was calculated for each item as follows: correct answer was scored (two points), the incomplete answer was scored (one point), while unknown or incorrect answer was scored (zero).The maximum score was 12, and the minimum was 7 The total score for all questions related to knowledge was satisfactory if the percent score was ≥ 60% and poor if less than 60%.

The Second Tool: The self-report anxiety level scale related effect of Covid-19. The original scale was developed by Hamilton Anxiety level (HAM-A) in 1959, The HAM-A was one of the first rating scales developed to measure the severity of anxiety symptoms. The scale consists of 14 items, each defined by a series of symptoms, and measures both psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety). **Scoring system:** Each item was scored on a scale of 0 (not present) to (4 severe), with a total score range of 0–56, where <17 indicates mild anxiety, 18–24 indicates moderate anxiety and 25 – 30 indicates severe anxiety.

The Third Tool: **The self-report quality of life scale developed through the World Health Organization (2013)** and it modified according covid-19 **(WHO, 2020).** The WHOQOL brief instrument comprises 26 items, which measure the following broad domains: physical health, psychological health, social relationships, and environment. Scoring system: Students are asked to answer in the form of circling the given option which they feel is correct according to their life styles. This is a five point rating scale 1.Very poor, 2. Poor, 3. Neither poor nor good, 4. Good and the last 5. Very good. **Scoring system:** The minimum total score is 26 and the maximum is 130 Higher total scores indicate better quality of life. The nursing internship students score were classified as follows:' poor quality of life scale was less than 50% represent >65 marks, average quality of life scale of internship students equal 65 marks, good quality of life scale of nursing internship students was more than 50% present<65 marks.

Validity and Reliability of the tools:

Content validity was performed by five colleges; two professors from the Community Nursing Department, and three professors from the Psychiatric Nursing Department of Nursing Faculty. All experts were affiliated to Fayoum University, Egypt. The developed tools were tested for reliability. The reliability test of the translated version was established by using Cronbach's alpha and Pearson correlation which showed good internal consistency construct validity, Cronbach's Alpha coefficient test = (0.83) for the Anxiety level scale, and (0.92) for the quality of life scale.

The study was executed according to the following steps:

Procedures and Ethical consideration:

To carry out the study ethical consideration was maintained to ensure participants' s rights, the necessary official approval was obtained from director of the technical institute of nursing and Dean of the Faculty of Nursing and Chairman of the Institute's Board of Directors - Fayoum University to collect the necessary data after explaining the purpose of the study and consent was considered with the participant submit the form all internship students were informed that their participation is voluntary and their rights to withdraw at any time, and confidentiality of the information obtained. Also, the internship students were informed that the collected data would be used only for the purpose of the present study. They are more susceptible to acquiring disease, and therefore their concept of illness must be corrected, and thus it is reflected on the student to reduce anxiety and improve the quality of life.

Pilot study

It was carried out on 10% of the sample (30 internship students) who were included in the main study sample. It was conducted to test the study process and evaluate the applicability and test the content clarity, the feasibility, and the time needed to fill in the tools. According to the pilot study result no modifications was done to the study tools.

Field Work

The researchers explain the aim of the study and all internship students were informed through online telegram group for share in research and sent the tools through the telegram group and ask the internship students if agree to share in research complete the questionnaire and sent it on private for researchers then the consent of the students as obtained if the student sent the answered questionnaire.

Statistical analysis

Statistical presentation and analysis of the present study was conducted, using the mean, standard Deviation**, Unpaired Student T-test** was used to compare between two groups in quantitative data and chi-square are computed for 2x2 tables in qualitative data and **Linear Correlation coefficient** was used for detection of correlation between two quantitative variables in one group. By (IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp.).

>0.05 Non significant   <0.05* significant   <0.001** High significant

3. RESULTS

Table (1): frequency and Percentage distribution of nursing internship students regarding to their socio-demographic characteristics)(286).

Socio-demographic characteristics	No	%
Age/year		
≤ 20 years	194	67.8
>20 years	92	32.2
Mean±SD	19.85±2.08	
Gender		
Female	177	61.9
Male	109	38.1
Marital status		
Single	254	88.8
Married	32	11.2

Place of residence		
Rural	**197**	**68.9**
Urban	**89**	**31.1**
Work department		
Critical department	**178**	**62.2**
Non critical department	**108**	**37.8**

Table (1): Showed the demographic characteristics of the studied internship students. The study sample composed of 286 internship students whose mean age was 19.85±2.08years. Two third of them were females (61.9%), the majority of them were single (88.8%), two third of them were living in rural area (68.9%), and about two third of them were from the critical nursing department (62.2%).

Table (2): Percent distribution of the nursing internship students according to their knowledge regarding Covid - 19 pandemic (n=286).

Items	Unknown		Incomplete answer		Correct and complete answer		Chi-square	
	No	%	No	%	No	%	X^2	P-value
Definition of covid-19	16	5.6	23	8.0	247	86.4	169.990	<0.001*
Mode of transmission of infection	14	4.9	12	4.2	260	90.9	176.615	<0.001*
Signs &symptoms of covid-19	13	4.6	10	3.5	263	91.9	182.900	<0.001*
Risk factor for Covid -19	12	4.2	46	16.1	228	79.7	177.073	<0.001*
Complication of Covid -19	8	2.8	62	21.7	216	75.5	185.391	<0.001*
Ways of protection	11	3.8	18	6.3	257	89.9	169.990	<0.001*
Total	14	4.9	37	12.9	235	82.2	464.549	<0.001*
Mean±SD	9.37±2.45							

Table (2): Showed that the majority of studied sample had correct knowledge about the definition, mode of transmission, signs and symptoms and ways of protection (86.4, 90.9, 91.9 and 89.9 respectively), and about three quarters of studied sample had correct knowledge about risk factor and complication of Covid -19 (79.7 and 75.5 respectively) . with highly statistical significant relation as (P=<0.001).

Table (3) Comparison of male and female nursing internship students' anxiety during COVID pandemic (n=286)

Anxiety Level	male students (109)		Female students (177)		Chi-square	
	N	%	N	%	X^2	P-value
Mild	65	59.6	17	9.6		
Moderate	26	23.9	56	31.6	88.533	<0.001*
Severe	18	16.5	104	58.8		
Mean ± SD	**18.57±3.07**		**31.42±4.35**			

Table (3): Revealed statistical significant relation between male and female students according to self-report of anxiety level as (P= <0.001), the mean of anxiety level was lower in male rather than female (18.57±3.07 &31.42±4.35 respectively) (X2 = 88.533 and P= <0.001).

Table (4) Comparison of male and female nursing internship students' quality of life mean score during COVID pandemic (n=286)

	Male students (109)			Female students (177)			T-test	
	Mean	±	SD	Mean	±	SD	t	P-value
Physical health	129.75	±	21.45	94.28	±	17.42	15.290	<0.001*
Psychological health	131.27	±	15.67	96.6	±	12.5	20.647	<0.001*
Social relationship	34.5	±	5.12	28.75	±	5.23	9.102	<0.001*
Environment	180.62	±	23.8	134.22	±	17.4	18.983	<0.001*
Total	458.32	±	46.33	377.6	±	32.79	17.218	<0.001*

Table (4): Declared that the highest mean score was the environmental domain for male and female, followed by psychological health, then physical health domain and finally the social relationship domain with statistical significant difference at (t= 17.218 and P= <0.001).

Table (5) Frequency distribution of self-report total quality of life of the nursing internship students during Covid-19 pandemic (n=286).

Quality of life	male students (109)		Female students (177)		Chi-square	
	N	%	N	%	X^2	P-value
Poor	9	8.3	86	48.6	53.890	<0.001*
Average	38	34.9	48	27.1		
Good	62	56.9	43	24.3		
Mean ± SD	18.57±3.07		31.42±4.35			

Table (5): Revealed that male internship students had good total quality of life rather than female internship students with Mean ± SD (18.57±3.07 &31.42±4.35 respectively). Also this table showed highly statistical significant relation between male and female students regarding their quality of life as (X^2 = 53.890, P=<0.001).

Table (6) Correlation between Anxiety level and quality of Life among nursing internship students during Covid - 19 pandemic (n=286)

Items	Nursing internship students' quality of life	
	r	P-value
Nursing internship students' anxiety level	-0.457	<0.001*

Table (6): Showed that there was significant statistical relation between the nursing internship students' anxiety level and quality of life when (r= -0.457, P=0.000). Also, this table declared negative relation between both variables this means that when the level of anxiety increased the quality of life decreased.

Table (7) Correlation between socio demographic characteristics of the internship students and (Anxiety level and quality of Life) (n=286).

Internship students' characteristics	Total anxiety		T-test		Total quality of life		T-test	
	Mean	SD	t	P-value	Mean	SD	t	P-value
Age/year								
≤ 20 years	22.54	3.21	9.162	<0.001*	342.8	25.47	18.747	<0.001*
>20 years	26.8	4.5			398.57	18.65		
Gender								
Female	31.42	4.35	26.973	<0.001*	377.6	32.79	17.218	<0.001*
Male	18.57	3.07			458.32	46.33		
Marital status								
Single	28.3	3.7	5.485	<0.001*	365.4	20.55	5.728	<0.001*
Married	24.54	3.26			387.26	18.6		
Place of residence								
Rural	26.27	3.8	4.765	<0.001*	356.47	34.77	2.691	0.008*
Urban	28.51	3.4			367.6	26.3		
Work department								
Critical department	27.64	2.98	1.909	0.057	354.22	43.5	0.321	0.748
Non critical department	28.31	2.7			352.59	38.24		

Table (7): Revealed that there was a significant statistical positive relationship between total anxiety and total quality of life. There was a statistically significant relationship between total anxiety of nursing internship students and age, gender, marital status and place of residence. Also, the same table showed that, there was a statistically significant relation between total quality of life of nursing internship students and age , gender, marital status and place of residence .but there were no a statistically significant between total anxiety and total quality of life in relation to work department.

4. DISCUSSION

The ongoing COVID-19pandemicis creating psychological distress as mental health problems including anxiety, depression, stress, sleep disorders as well as fear among individuals from different socioeconomic backgrounds **(Xiao, et al., 2019).** World Health Organization has urged to take the necessary precautions to combat the negative effect of the dissemination of Coronavirus on psychological health and well-being **(Yao, et al., 2020).** In the light of the previous studies the researchers conducted this study conducted to assess the effects of covid-19 on knowledge, anxiety level and quality of life of nursing internship students that it have led to the exposure of health care workers, especially those who have not been trained, to be affected by misinformation spread on the internet and social media, which has led to uncorrected knowledge, increased anxiety and decreased quality of life. Regarding the demographic characteristics of the studied sample, the current study revealed that two thirds of studies sample less than or equal to twenty years of age. Mean age of studied sample19.85±2.08 and about two thirds of them were females. the majority of them were single and more than two thirds of them live in rural area. This finding was supported, in Saudi Arabia by **Abdulmalik et al., (2019),** conducted study about "Quality of Life and Stress Level among Health Professions Students" which showed that the majority of studied respondents' age was narrow between 20 and 22 years, more than half of them were females and the vast majority of studied respondents were single. The students had sufficient information about the disease through the awareness that was broadcast on television and social networks about the disease.

This result disagree with **Sutapa (2020),** who conducted a study about " Depression and anxiety among university Students during the COVID-19 pandemic", in Bangladesh, which showed that less than two thirds of students were aged from twenty one to twenty four, more than two thirds of students were male and two thirds of them live in urban area. From the researchers' point of view, the difference in results is due to the fact that the research sample was from one classroom, which is the internship year . As for the results of the other research, they were taken from the four classroom in the different colleges within the university.

Considering the studied sample knowledge about Covid – 19, the current study revealed that the majority of studied sample appeared to have acknowledged about the definition, mode of transmission, signs and symptoms and ways of protection from covid-19 and about three quarters of studied sample had satisfactory knowledge about risk factor and complication of Covid -19. This finding is supported by **Ahmed et al., (2020),** who conducted a study about " Knowledge, Perceptions, and Attitude of Egyptians Towards the Novel Coronavirus Disease (COVID-19) ", which showed that they had satisfactory general knowledge about the concept of disease, its methods of spread, and prevention which denoted a good level of knowledge about Coron-19 disease with total mean score knowledge coron-19 was 16.39 ± 2.63. The researchers' viewed that Corona 19 disease is new and dangerous. It is also a source of concern for the state, given its dangerous effect on people of all ages. Therefore, the state educated people by providing them sufficient information about the meaning of the disease and the methods of its spread. And the causes and methods of prevention. These findings justified the first research question.

Regarding the anxiety level between Internship students, the current study revealed that the more than half of female internship students had severe anxiety and more than half of male internship students had mild anxiety level .from The researchers' view that the anxiety is one of the most common symptoms of Covid-19 disease among health care workers, especially those internship students because of their fear of contracting the disease due to their direct interaction with patients, which increases their chances of infection, as well as the lack of continuity of their training in the latest methods infection control. This finding is supported by **Sutapa (2020)**, who reported that graduate students generally experience significant amounts of anxiety, which also affects their usual behavior, and but this study differs from the current study in the difference between male and female 'anxiety level which founded that no significant differences between Male and female students with relation to anxiety. This result disagree with **Usama et al.,(2020)**, who conducted a study about " Depression, Anxiety and Stress Among Indians in Times of Covid‑19" which showed that both males and females

seemed to suffer equally whereas the levels of anxiety were moderate among males and females. These findings justified the second research question.

Concerning the self-report quality of life among internship students, the current study reveals that the highest mean score was the environmental domains for male and female, followed by psychological health, then physical health domain and finally the social relationship domain with statistically significant. This result agree with **Husam, et al., (2019),** who conducted a study about " Quality of Life (QOL) among medical students in Saudi Arabia" who reported that the highest mean score was the environmental domain's followed by psychological health, then social relationships and finally the physical health domain. This is due to the fact that the current study was conducted during the spread of Covid disease, and there must have been social distancing that affected social relations. As for physical health, it was a concern to strengthen the immune system to reduce the chance of infection. In relation to self-report total quality of life. The result of this study indicated that male internship students had good total quality of life rather than female internship students with statistically significant difference. This result agrees with **Naseem et al., (2016)**, who conducted a study about " Quality of life of Pakistani medical students studying in a private institution " which showed that final year medical students had the lowest overall quality of life result of transitions from basic years to clinical years. The researchers' view that Since Covid -19 disease is a new disease, there is little research on it and its relationship to stress and quality of life. These findings justified the third question.

Considering the relation between socio-demographic characteristics of internship students and(Anxiety level and quality of Life), , this study result found that a statistically significant correlation between total anxiety and total quality of life, There was a statistically significant correlation between total quality of life of nursing internship and age , gender, marital status and place of residence .but there were no a statistically significant between total anxiety and total quality of life and work department. This result disagree with **Husam, et al., (2019),** which showed that the no correlation between the gender and place of residence of students and their QOL across all domains. This result agree with **Pagnin & Queiroz (2015)** who conducted a study about " Influence of burnout and sleep difficulties on the quality of life among medical students " which showed that males had higher scores in the physical health do-main when compared to females.

This finding agreed with **Nicholas, et al., (2020),** that found estimates have implications for the expected global burden of COVID-19, as a result of demographic differences across settings. In countries with younger population structures—such as many low-income countries—the expected per capita incidence of clinical cases would be lower than in countries with older population structures, although it is likely that comorbidities in low-income countries will also influence disease severity. this study result found that anxiety level was lower in males rather than females. This result disagrees with **Sutapa (2020),** which study reported that females (33.67%) had lower anxiety symptoms than males, whereas students in the early twenties showed higher anxiety. The researchers' view that The results differed between male and female regarding the level of anxiety due to the increase in the number of morbidity and deaths due to Corona disease. it can be proved that The positive significant correlation between anxiety level and the quality of life for internship students during covid-19 pandemic crisis. Increasing anxiety level for many causes as fear of comorbidity , which was reflected in the quality of life, the most of which was the impact of social relations as a result of applying social distancing to prevent the spread of disease.

5. CONCLUSION

On the light of the main study results and research questions, the study was concluded that concerning knowledge about Covid-19 founded that the majority of internship students had good knowledge about this virus; it can be proved that there was positive significant correlation between anxiety level and the quality of life of internship students during Covid-19 pandemic crisis. Increased anxiety level for many causes as fear of comorbidity, which was reflected in the quality of life, the most of which was the impact of social relations as a result of applying social distancing to prevent the spread of disease.

6. RECOMMENDATION

1- Design educational programs for nursing students to reduce anxiety level during covid-19 pandemic.

2- Apply counseling programs to reduce anxiety level between internship students to improve quality of life during covid-19 pandemic.

REFERENCES

[1] **Ahmed, S., Mahmoud, Z., Mohamed, M., Hany, H., and Mohamed, A.(2020):** Knowledge, Perceptions, and Attitude of Egyptians Towards the Novel Coronavirus Disease (COVID-19), J Community Health. 2020 Apr 21: 1–10.

[2] **Abdulmalik, M., Abdulkareem,M., Abdalrhman, A., & Hind, S.(2019):** Quality of life and stress level among health professional students; Health Professions Education· November.

[3] **Asbu, E., Z., Masri, M., D., & Kaissi, A. (2017):** Health status and health systems financing in the MENA region: roadmap to universal health coverage. 2:25 DOI 10.1186/s41256-017-0044-9.

[4] **Caballero, T., and Prior, N. (2017)**: Burden of Illness and Quality-of-Life Measures in Angioedema Conditions. Immunol Allergy Clin North Am; 37:597–616. doi: 10.1016/j.iac.2017.04.005.

[5] **Chan, J.F.W., Kok, K.H., Zhu, Z., Chu, H., To, K.K.W, Yuan, S., et al. (2019):** Genomic characterization of the novel human-pathogenic coronavirus isolated from a patient with atypical pneumonia after visiting Wuhan Emerg Microbes Infect. (2020) 9:221–36. doi:9902. 10.1080/22221751.2020.171

[6] **Elrefaey, S. (2020):** Stress, Anxiety, and Depression Symptoms in a Population Sample in The Initial Stage of The Coronavirus (COVID-19) Pandemic Outbreak .Evidence-Based Nursing Research;. 2 No. 3.

[7] **Emanuele, M., Elisa P., Guido, E., & Giada P. (2020):** The Psychological Impact of the COVID-19 Outbreak on Health Professionals: A Cross-Sectional Study. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7366071/

[8] **Hamilton, M. (1959):** The assessment of anxiety states by rating: Br J Med Psycho; l32:50–55

[9] **Hiremath, P., Suhas Kowshik, C., Manjunath, M., & Shettar, M. (2020):** COVID 19: Impact of lock-down on mental health and tips to overcome. Asian Journal of Psychiatry, 51, 102088.

[10] **Ho, C., Chee, C., & Ho, R. (2020):** Mental health strategies to combat the psychological impact of COVID-19 beyond paranoia and panic. Annals Academy of Medicine Singapore, 49, 1–3.

[11] **Huang, L., Xu, F.M., Liu, H.R. (2020):** Emotional responses and coping strategies of nurses and nursing college students during Covid-19 outbreak. MedRxiv 2020. https://doi. org/10.1101/2020.03.05.20031898. 03.05.20031898.

[12] **Husam, M., Mohammad, M., Maysaa, A., Ryan, O., and Anoud, R. (2019)**: Quality of Life (QoL) among medical students in Saudi Arabia, BMC Medical Education; 19:344.

[13] **Li, S., Wang, Y., & Xue, J. (2020):** The Impact of COVID-19 Epidemic Declaration on Psychological Consequences: A Study on Active Weibo Users. Int J Environ Res Public Health; 17(6): 2032.

[14] **Lu, R. (2020).** Genomic characterization and epidemiology of 2019 novel coronavirus: Implications for virus origins and receptor binding. The Lancet, 395(10224), 565–574.

[15] **Naseem, S., Orooj, F., Ghazanfar, H., & Ghazanfar, A. (2016):** Quality of life of Pakistani medical students studying in a private institution. J Pak Med Assoc; 66:579–83.

[16] **Nicholas, G., petra, L., Kiesha,P., & Mark, J. (2020):** Age-dependent effects in the transmission and control of COVID-19 epidemics Nature Medicine volume 26, pages1205–1211.

[17] **Ministry of health and Population(2020):** Health Ministry sets new definition for Covid-19 suspects https://www.sis.gov.eg/Story/144193/Health-Ministry-sets-new-definition-for-Covid-19-suspects?lang=en-us.

[18] **Pagnin, D. & Queiroz, V. (2015):** Influence of burnout and sleep difficulties on the quality of life among medical students. Springer Plus; 4: 676.

[19] **Savitsky, B., Findling,Y., Ereli, A. & Hendel, T. (2020):** Anxiety and coping strategies among nursing students during the covid-19 Pandemic, Nurse Education in Practice 46, https://doi.org/10.1016/j.nepr.2020.102809.

[20] **Sutapa, D., Hasin, R., & NafiulAlam, K. (2020):** Depression and anxiety among university students during theCOVID-19 pandemic in Bangladesh: A web-based cross-sectional survey, PLOSONE: www://https://doi.org/10.1371/journal.pone.0238162.

[21] **Wang, C, Pan, R., Wan, X., et al. (2020):** Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China. Int J Environ Res Public Health; 17(5): 1729.

[22] **Usama, R., Mohammad, G., Neda, H., Masrat, K., Kaveri, G., Drishti, K., & Ritika, U. (2020):** Depression, Anxiety and Stress Among Indians in Times of Covid‑19 Lockdown ;Springer Science, Business Media, LLC, part of Springer Nature.

[23] **Zhang, J., Wu, W., Zhao, X., & Zhang, W. (2020):** Recommended psychological crisis intervention response to the 2019 novel coronavirus pneumonia outbreak in China: A model of West China Hospital. Precision Clinical Medicine, 3, 3–8.

[24] **Yao, H., Chen, J., Xu Y-F. (2020):** Rethinking online mental health services in China duringtheCOVID-19 epidemic, Asian, J Psychiatry; 50:102015.https://doi.org/10.1016/j.ajp.2020.102015PMID.

[25] **Xiao, H., Z., Kong, D., LiS, N. (2019):** Social capital and sleep quality in individuals who self-isolated For 14 days during the coronavirus disease (COVID-19)outbreak in January2020inChina.MedSciMonit.2020;26:e923921e.https://doi.org/10.12659/MSM.923921PMID:32194290.

[26] **World Health Organization (WHO) (2020a):** WHO Director-General's opening remarks at the media briefing on COVID-19. (Press release). 11 March 2020. https ://web.archi ve.org/web/20200 311212521/https :/www.who.int/dg/speec hes/detai l/who-direc tor-general-s-opening-remarks-at-the-media -briefing-on-covid -19---11-march -2020. Advice and guidance from WHO on COVID-19 **WHO, 2020:** https://www.who.int/emergencies/diseases/novel-coronavirus-2019.

[27] **World Health Organization (WHO) (2013):** "Quality Of Life: Everyone Wants It, But What Is It?" 'Quality of life' is subjective and multidimensional, encompassing positive and negative features of life Advice and guidance from WHO on quality of life to COVID-19 revised at **(WHO) (2020)**: https://www.who.int/emergencies/diseases/novel-coronavirus-2019 https://www.epi-win.com.