Preoperative Anxiety Level and Fear of Covid 19 among Adult Patients undergoing Elective Surgery

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Abstract

Background: adult patient undergoing elective surgery are experienced anxiety and fear before surgery which has been increased during Covid 19 and may be affected them both physical and psychological. So, **the aim** of the study was to assess the preoperative anxiety level and fear of Covid 19 among adult patients undergoing elective surgery. Design: A descriptive research design. **Setting**: The study was conducted at surgical adult wards at Beni-Suef University Hospital. **Sample**: - A total of 220 adult patients aged from 21-60 years. **Tools**: Data were collected using three tools including: A structured interview questionnaire, fear of COVID-19 Scale (FCV-19S), and Corona Disease Anxiety Scale (CDAS). **Results**: Adult patients' age ranged from 20 - 53 years, it was observed that majority of adult patients had severe anxiety score and high Mean scores and standard deviations of fear 29.60 ± 5.11. A significant differences was observed between the level of FCV-19S and CDAS scores ($p = 0.000 < 0.05$). **Conclusion**: Majority of adult patients undergoing elective surgery is experienced high and severe fear and anxiety scores of Covid-19. **Recommendations**: The preoperative nursing care should be focused on appropriate anxiety-minimizing methods such as providing preoperative education, family-centered preparation for surgery, and increasing preoperative information. Additionally, psychological care, providing strategies and medication can be required for surgical patients who develop a high level of preoperative anxiety.

Keywords: Anxiety, Covid-19, Fear, Adult patients, Elective surgery.

Introduction

Surgery is an invasive procedure which performed by making an incision in the body usually associated with bleeding, pain, and sometimes causes morbidity and mortality. Hence, the preoperative period is stressful period for surgical patients scheduled for surgery. Preoperative anxiety is considered a challenging topic for the preoperative care of adult patients. Most adult patients who are awaiting elective surgery experienced fear and anxiety (**Hisato and Umemoto, 2017**).

Elective surgery it is the surgery that is subject to choice (election). The choice may be made by the patient or doctor as; the time when a surgical procedure is performed may be elective. The procedure is beneficial to the patient but does not need be done at a particular time. Most surgeries necessary for medical reasons are elective, that is, scheduled at a time to suit the surgeon, hospital, and patient. These include inguinal hernia surgery, cataract surgery, mastectomy for breast cancer, and the donation of a kidney by a living donor. Elective surgeries include all optional surgeries performed for non-medical reasons. This includes cosmetic surgery, such as facelifts, breast implants, liposuction, and breast reduction, which aim to subjectively improve a patient's physical appearance (**Smith et al., 2014).**

Anxiety as an unpleasant state of tension, feelings of uncertainty, uneasiness, and apprehension may be causes abnormal hemodynamics as a consequence of sympathetic, parasympathetic, and endocrine stimulation with life-threatening postoperative complications and increase the risk of postoperative morbidity and mortality (**Edition, 2013**)

The degree of anxiety depends on many factors. These include age, gender, type of the surgery, previous surgical experience, and susceptibility to cope with stressful situations. High preoperative anxiety levels can result in increased postoperative analgesic requirement, prolonged hospital stay (**Stamenkovic et al., 2018**).

Preoperative anxiety has a significant impact on adult patients as morbidity, mortality, and postoperative complications that may lead to patient may pay an additional cost for the management of postoperative complications commonly associated with preoperative anxiety (**Almalki et al., 2017**).

Preoperative anxiety has several postoperative complications such as cardiovascular disturbances like increased blood pressure and heart rate, gastrointestinal disturbances such as nausea, vomiting, and diarrhea, and endocrine disturbances like diaphoresis and increased risk of infection. Increased blood pressure may increase the risk of bleeding and suppression of the immune system may delay the wound healing process (**Woldegerima et al., 2018**)

Increasing anxiety and fear in individuals all over the world is associated with COVID-19 **(WHO, 2020).** Infectious diseases epidemics is damaged the physical health and have a negative psychological impact on them. The psychological consequences may persist and need be recovered in a much longer time. As COVID-19 occurs suddenly, is highly contagious and no specific drugs and in the absence of treatment, the patient's condition deteriorates rapidly and may even be fatal that has caused a negative psychological effect on the general adult patients health and making them more likely to develop fear, anxiety or depression **(Qiao, 2020; Schwartz & Graham, 2020).**

Current COVID-19 pandemic that considered as an example for a natural disaster, which more than 22 million people worldwide are suffering from it and more than 791,000 people died **(WHO, 2020).** Restrictions related to the social distance that prevents having communication with relatives, friends, and others increase fear, stress, anxiety, and depression in people's daily lives **(Mehta et al., 2020).**

Anxiety is accompanies patient before surgery and is found stressful as lead to many changes that occur during this period as mood swings, narrowing of interest, depression**.** Fear of covid-19 before surgery and being infected is experienced by a lot of patients, fear of operation, fear of family's undesirable attitude of the new environment **(Li et al., 2020).**

Adult patients facing a pandemic with no vaccination would result in fear of the unknown that making them anxious, stressed and depressed. Keeping in mind the concerns regarding psychological distress rose around having infection during the Covid-19 pandemic. Furthermore, the World Health Organization **(WHO, 2020)** has also issued public interest guidelines to address psychological issues that may arise. What is alarming is the heightened fear related to the coronavirus culminating in people committing **suicides (Goyal et al. 2020; Mamun and Griffiths 2020).**

The main important role of medical-surgical and psychiatric nurses is to provide health educational program about Covid -19 and its preventive measures to avoid infection and reduce the physical and psychological problems. Therefore, preoperative nursing care should focus on the reduction of patient fear and anxiety through the establishment of preoperative educational interventions, administrating required medications, and providing non-pharmacological treatment methods. Interventions to reduce preoperative anxiety include pharmacological therapy, provision of information, distraction, attention focusing, and relaxation procedures. Give emotional support to adult patients. Screening and recognizing the signs of anxiety disorders during the preoperative period are very important, because If not identified and treated, they may cause many complications **(Lilly and Dakshayani, 2018).**

Significance of the study:

Fear and anxiety are the most common negative emotions preoperatively especially with COVID-19 that increase the level of fear and anxiety during the epidemic. The morbidity

and mortality growing during COVID-19 led to various changes in the organization and healthcare system. New recommendations proposed by scientific many associations concerning COVID-19 care pandemic which included preventive measures such as social distances of citizens, wearing face masks, banning gatherings, limiting the number of people in public transportation and stores, and shutting down restaurants. Further restrictions were incorporated in hospitals such as limiting elective surgical procedures, prohibiting visitors during hospital stays, reducing systemic treatment intensity which can cause increase anxiety and fear level among adult patients undergoing elective surgery **(Wysocki et al., 2020**).

There is an increase rate of patients with COVID-19 in Egyptian 2020, and have poor knowledge and behaviors regarding the preventive measures of COVID- 19. Sufficient support and knowledge for patients about COVID-19 elective surgical procedures may decrease their preoperative anxiety levels and indirectly achieve better outcomes for their elective surgical procedures **(Ministry of Health and Population in Egypt "MOHP", 2020).** So, this study aimed to assess the preoperative anxiety level and fear of Covid 19 among adult patients undergoing elective surgery.

Aim of the Study

This study aimed to assess the preoperative anxiety level and fear of Covid -19 among adult patients undergoing elective surgery.

Research questions:

1. What is the fear and anxiety levels of COVID-19 among adult patients undergoing elective surgery?
2. Is there is a relationship between fear and anxiety scores of COVID-19 among adult patients undergoing elective surgery?

Research design:

A descriptive research design was used in the current study.

Setting:

The study was conducted at surgical adult wards at Beni-Suef University Hospital.

Sampling:

A purposive sampling was used in this study by using a systematic random sampling technique was used for data collection from selected patients; the study sample included 220 adult patients was collected within six months. The inclusion criteria were: their ages ranged from 21-60 years undergoing elective surgery at the preoperative period, and who are willing to participate in the study. Patients suffering from chronic and mental health diseases were excluded from the study.

Tools of data collection:-

There were three tools used in the current study as the following:

Tool (I):- A **structured questionnaire:** It was developed by the researchers after reviewing related literatures. It was composed of two parts:

Part (1): It includes demographic data which consisted of 4 items related to age, educational level, occupation, and residence.

Part (2): It includes the medical history of adult patients; it consisted of 4 items about previous hospitalization, previous surgery, having chronic disease, and type of surgery.

Tool (II):- Fear of COVID-19 scale (FCV-19S)

Fear of the COVID-19 Scale (FCV-19S) consists of 7 items measuring the emotional fear reactions toward the COVID-19 pandemic, and it included these seven items:

1. I am most afraid of Corona
2. It makes me uncomfortable to think about Corona
3. My hands become clammy when I think about Corona
4. I am afraid of losing my life because of Corona
5. When I watch news and stories about Corona on social media, I become nervous or anxious.
6. I cannot sleep because I'm worrying about getting Corona.
7. My heart races or palpitates when I think about getting Corona

Scoring system:

It is on a five-point Likert-type scale from 1 to 5. The sum of the scores of these items shows higher level of fear (7–35). Designing and testing validity and reliability of this tool were adopted by **Ahorsu et al. (2020)** in Iran

in 2020. The scale's Cronbach's alpha was calculated as 0.82.

Tool (III):- Corona disease anxiety scale (CDAS)

Corona related anxiety is an 18 item tool that measure corona-related anxiety in two dimensions, namely psychological symptoms and physical symptoms, and the items are answered on a Likert scale from zero to 3. Each participant receives a score from 0 to 54. The validity and reliability of this questionnaire have been assessed in Iran adopted by **Alipour et al., (2020)**. Moreover, the Cronbach's alpha for the whole questionnaire was reported ($\alpha = 0.919$).

It included these 18 questions:

1. Thinking about Coronavirus makes me anxious
2. I feel tense when I think about the Coronavirus threat.
3. I am seriously worried about the prevalence of Coronavirus
4. I am afraid of contracting Coronavirus
5. I fear that I might contract Coronavirus anytime
6. Minor symptoms make me think that I am contracting the virus, and I start checking myself
7. I am concerned about transferring the virus to others around me
8. My anxiety about Coronavirus has interfered with my daily activities
9. The mass medias focus on Coronavirus make me anxious
10. Thinking about Coronavirus has interrupted my sleep
11. I have lost my appetite because of thinking about Coronavirus
12. I get a headache when I think about Coronavirus
13. My body starts jittering when I think about Coronavirus
14. I get goose bumps when I think about Coronavirus
15. Coronavirus has become my nightmare
16. I have less physical activity because of my fear of Coronavirus
17. I find it hard to talk with others about Coronavirus
18. I feel my heart beating when I think about Coronavirus

Validity and reliability:

Face and content validity of the tools for clarity, comprehensiveness, and appropriateness was tested by a board of five experts' professors in medical- surgical nursing and psychiatric health nursing at Beni-Suef university hospital with more than ten years of experience in the field were assessed; the board ascertained the face and content validity of the tools after modifications. Reliability was assessed through Cronbach's alpha reliability test $\alpha = 85\%$.

Methods of data collection:

Pilot study: It was carried out on 10 % of adult patients (22), for the purpose of modification and clarification and estimation of the time needed for data collection. To fill in the sheets unclear items were clarified, unnecessary items were omitted and new items were added. Those who shared in the pilot study were excluded from the study sample.

Field work:

Before starting this study, administrative approval was taken from authorities in the previous selected setting. The researchers firstly introduced themselves to the adult patient and then explained the purpose of the study at the beginning of the interview after obtaining oral consent from the adult patient for data collection. Data collection was conducted from July to December 2020. Data collection was done during the routine work of the hospital. The interview was conducted in two days through the week from 9-11 am. The participants took about 20-25 minutes to fulfill the questionnaire. Assessing preoperative anxiety and fear of Covid-19 was done through fear of COVID-19 Scale, and Corona Disease Anxiety Scale.

Administrative Approval and Ethical considerations;

Official permission was obtained through an issued letter from the Dean of Faculty of Nursing, Beni-Suef University to the mangers of the surgical adult wards to conduct this study. Approval from the ethical committee at faculty of nursing, Beni-Suef University was obtained to complete the research process. The aim of the study was explained and the expected outcomes from the implementation of the study were included in this letter to obtain permission to collect the research data. Each adult patient was informed about the aim and benefits of the study. Each adult patient informed that participation in the study was voluntary and that they had the right to withdraw from the study at any time before completing the questionnaire with no consequences, without giving any reason and that their responses would be held confidentially.

Statistical analysis:

Data was collected and analyzed by the computer program SPSS" version, 21 Chicago. USA. Data expressed as mean, standard deviation and number, percentage, so nonparametric methods were used. Mann Whitney U test, Kruskal-Wallis test and was used Person's correlation used to determine significance between variables in same group. N.s P > 0.05 is no significant, P < 0.05 is significant, P<0.001 is moderate significance and p<0.000 highly significance.

Results:

Table (1) distributed socio-demographic characteristics of the studied adult patients. It was observed that adult patients ' age ranged from 21 - 53 years, and that (54.0%) of the adult patients their age was ranged between 21 < 40 years. Regarding the level of education, it was observed that more than half of them (55.0%) of the adult patients had secondary education.

Concerning the percentage distribution of the studied adult patients according to their occupation, **figure (1)** pointed out that (63.0%) of adult patients were not working and (37.0%) of them were working.

Figure (2) mentioned the percentage distribution of adult patients according to their residence and showed that (66%) of adult patients were living in rural area.

Table (2) showed that (80%) of the adult patients previously hospitalized, (73%) had not previous surgery, (35%) of them having chronic disease, and Hepato-biliary represented the high percentage (42%) of the most type of surgery was performed among adult patients.

Table (3): illustrated that majority of adult patients (72%) had severe anxiety (more than 36) and (20%) of them were moderate anxiety and 8% had mild anxiety score from covid-19 before surgery.

Concerning mean scores and standard deviations among adult patients for the FCV-19S **table (4):** showed that the FCV-19S mean scores was 29.52 ± 4.13 and it indicated higher level of fear.

Table (5): illustrated that the average scores of the CDAS and FCV-19S, and it was display that a significant differences was observed between the level of FCV-19S and CDAS scores ($p = 0.000 < 0.05$).

Table (6): reported a relation between sociodemographic characteristics and the CDAS average scores among the studied adult patients, it was observed that statistical significant relations were found between and the CDAS average scores and their age, education, occupation, and residence (P= 0.012, p= 0.03, p= 0.000= and P= 0.008) respectively.

Table (7) displayed that statistical significant relation were found between sociodemographic characteristics and the FCV-19S average scores among studied adult patients (P= <0.001, p= <0.001= p= <0.001, P= 0,021) respectively.

Table (1): Percentage distribution of the studied adult patients according to their demographic characteristics:

Item	Adult patients (220)	
	No.	%
- 21 < 40	119	54.0
- 40 ≤ 60	101	46.0
Mean ±Stander deviation	40.10 ± 13.68	
- Adult patients ' education		
-Primary education	55	25.0
-Secondary education	121	55.0
-University education	44	20.0

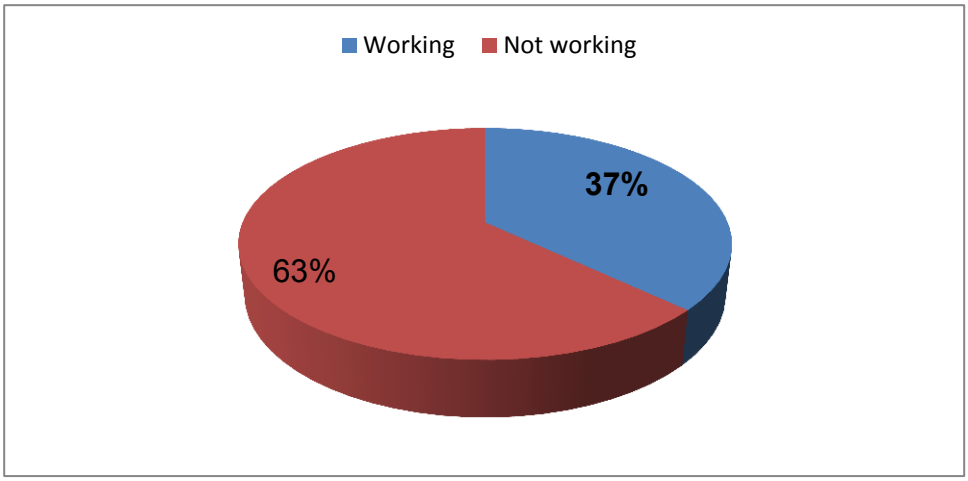

Figure (1): Percentage distribution of the studied adult patients according to their occupation

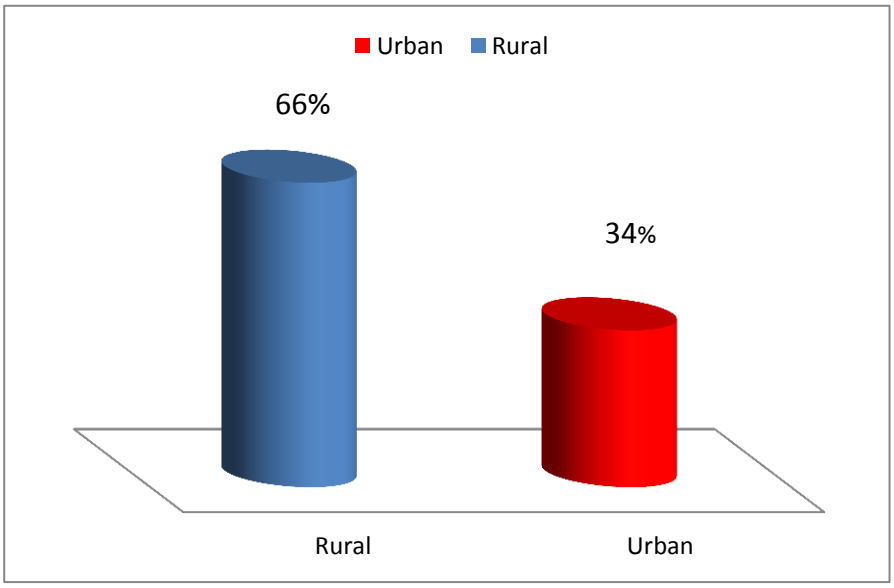

Figure (2): Percentage distribution of the studied adult patients according to their residence

Table (2): Percentage distribution of the studied adult patients according to their medical history

Medical history	No.	%
Previous hospitalization		
- Yes	44	20.0
- No	176	80.0
Previous surgery		
- Yes	59	27.0
- No	161	73.0
Having chronic disease		
- Yes	77	35.0
- No	143	65.0
Type of surgery		
- Hernia	44	20.0
- Gastrointestinal	40	18.0
- Hepato-biliary	92	42.0
- Breast	33	15.0
- Thyroid	11	5.0

Table (3): differences in CDAS about anxiety level towards covid-19 among adult patients

CDAS anxiety level	Adult patients (220)	
	No	%
- Mild	18	8.0
-Moderate	44	20.0
-Sever	158	72.0

Table (4): Mean scores and standard deviations among adult patients for Fear of COVID-19 scale factors.

FCV-19S factors	Adult patients (220)
- Fear of COVID-19 scale average Scores	29.52 ± 4.13

Table (5): Relation between the average scores of the FCV-19S and CDAS

Items	Adult patients (220)	T- test	p- value
- FCV-19S average Scores	29.52 ± 4.13	16.58	0.000***
- CDAS average Scores	38.72 ± 15.42		

***A highly statistical significant difference (P<0.000)

Table (6): Relation between socio- demographic characteristics and the Corona disease anxiety scale average scores among of the studied adult patients

Socio- demographic characteristics	Corona disease anxiety scale Average Scores among studied adult patients			
	Adult patients (220)		T- test	p- value
	No.	%		
Adult patients ' age in years				
- 21 < 40	119	54.0	3.04	0.012*
- 40 < 60	101	46.0		
- Adult patients ' education				
-Primary education	55	20.0	7.5	0.003*
-Secondary education	121	55.0		
-University education	44	20.0		
- Adult patients ' occupation				
-Working	81	37.0	20.06	0.000***
-Not working	139	63.0		
-Residence				
-Rural	145	66.0	13.2	0.008*
-Urban	75	34.0		

*A statistical significant difference

Table (7): Relation between sociodemographic characteristics and the FCV-19S average scores among studied adult patients

Sociodemographic characteristics	FCV-19S average Scores among studied adult patients		
	Adult patients (220)		p- value
	No.	%	
Adult patients' age in years			
- 21 < 40	119	54.0	<0.001
- 40 < 60	101	46.0	
- Adult patients ' education			
-Primary education	55	20.0	0,001*
-Secondary education	121	55.0	
-University education	44	20.0	
- Adult patients ' occupation			
-Working	81	37.0	0.001*****
-Not working	139	63.0	
-Residence			
-Rural	145	66.0	0.021**
-Urban	75	34.0	

Discussion:

The present study revealed that level of preoperative fear and anxiety during Covid were high among them, from the researcher point of view this may due to that adult patients have no sufficient information about Covid and afraid from complications and from being infected.

The results of the current study indicated that majority of adult patients more than two thirds had severe anxiety score and one fifth of them were moderate anxiety from covid-19 before surgery. This may be attributed to fear about their health and presence of Covid -19 to be infected and have complications. This result is supported by **Abate et al., (2020)** who conducted study about global prevalence and determinants of preoperative anxiety among surgical patients and reported in their study about global prevalence and determinants of preoperative anxiety among surgical patients that half of patients scheduled for elective surgery experienced preoperative anxiety.

Also, several studies from different countries These results were consistent with (**Melchior et al., 2018)** who reported that the prevalence of preoperative anxiety among patients was high, where, the prevalence of preoperative anxiety among patients in Brazil was 53%, 63% in Pakistan (**Kanwal et al. 2018),** 67% in Tunisia (**Zammit et al. 2018),** and 72.8% in Rwanda (**Ryamukuru, 2017**) In Ethiopia, preoperative anxiety is a common mental health problem and its magnitude ranges from 47% **(Bedaso and Ayalew , 2019)** to 70.3% (**Nigussie et al., 2014**) There are only a few relevant studies on preoperative anxiety among surgical patients in developing countries, particularly in Ethiopia.

Concerning mean scores and standard deviations among adult patients for the FCV-19S, the current study indicated higher level of fear. This may be related to several factors related to surgery such as waiting for the operation, fear of postoperative pain; the patient had insufficient information regarding their surgery, fear of post-operative disability, awareness about the disease and surgery**.** Also, may be related to fear unexpected operation result, fear of harm from doctor or nurse mistake, need of blood transfusion, and fear of unable to recover. Preoperative anxiety also, related to fear of the unknown, unfamiliar place, loss of control of situation, and fear of death. It's also, matched with the research questions and aim of the study that fear of Covid-19 may affect their anxiety level preoperatively.

These results are reliable with the finding of **Homzová and Zeleníková, (2015**) who done study about " Measuring preoperative anxiety in patients undergoing elective surgery in Czech Republic" and found that fear of being infected during Covid-19, concerning and fear of medical mistakes have a significant effect on patient anxiety level.

The current study revealed that statistical significant relations were found between and the CDAS average scores and their age, education, occupation, and residence (P= 0.012, p= 0.03, p= 0.000= and P= 0.008) respectively. Concerning age that can explain by those adult patients with young age had little knowledge about the disease that made them more stressed about their surgical operation and complications especially during Covid-19 who are may be at high risk for infection. This is explained by that education is believed to raise awareness related to surgery and helps patients prepare themselves preoperatively. On the other hand, highly educated patients obtain detailed information about the potential complications which is likely to increase preoperative anxiety.

The finding of the current study revealed that statistical significant relation were found between sociodemographic characteristics and the FCV-19S average scores among studied adult patients (P= <0.001, p= <0.001= p= <0.001, P= 0,021) respectively. These results are agree with **Neda et al., (2020)** who conducted a study in Iran about predictors of preoperative anxiety among surgical patients and found that preoperative anxiety was found to be associated with socio-demographic and surgery-related factors such as age, sex, educational status, occupation, monthly income, marital status, and religion affect the patient's susceptibility to preoperative anxiety.

Similarly, the study result is in agreement with a study conducted **Wang et al., (2020)** who conducted study in China about Immediate psychological responses and associated factors during the initial stage of the 2019 Coronavirus Disease (COVID-19) epidemic among the general population and found that showed that health crises as COVID-19 may increase fear and anxiety**.**

Also, the result is in the same line with the result of a study done by **Daniel et al., (2020)** who conducted study about cryo-EM structure of the 2019-nCoV spike in the prefusion conformation and reported that COVID-19 pandemic has caused the increased fear with surgical operations because they think about their own health condition, so COVID-19 anxiety can also be considered as an influential factor in mental health.

This result also is matched with a report of **Leili et al., (2020)** who conducted study about the relationship among fear and anxiety of COVID-19 experience, and mental health disorder in patients and found that fear and anxiety caused by coronavirus had a direct impact on patients**.**

The current result is in the same line with **(Zhu, 2020)** who stated in his study prevalence and influencing factors of anxiety and depression symptoms in the first-line medical staff fighting against COVID-19 in Gansu and reported that during public health emergencies as COVID-19 several negative emotional disorders such as severe levels of fear and anxiety have been occurred**.**

The all findings of the present study supported the study questions and hypothesis that COVID -19 affected anxiety level of patients. These results and hypotheses are supported by **Colizzi et al., (2020)** who conducted a study about medically unexplained symptoms in the times of Covid-19 pandemic and stated that fear and anxiety that has increased during the pandemic period of COVID-19 among patients.

This is indicated the important role of medical-surgical and psychiatric health nurses in providing health education for the adult patients to support them preoperatively especially during Covid -19 which result and emphasized on the importance of the readiness of them to gain more information about surgical operations and also covered all identified needs and knowledge gaps about the topic among the adult patient. Because it is considered alarming as it represent insufficient health information regard this health topic and ensure the need for education to increase health information among the adult patients to be knowledgeable that may decrease preoperative anxiety and fear during covid-19.

Finding can be used to improve patient care by providing emotional support to them and educated patients about preventive measures for COVID -19. These to decrease liability of patients to be high risk to be infected after

operations that may be increase their anxiety level.

Limitation of the Study

There was a limitation to this study that the study was depending on self-reported information that may be liable to bias.

Conclusion:

Based on the results of the current study and research questions, it was concluded that majority of the adult patients are experienced severe anxiety and fear scores related to covid-19. There was a significant positive relation at the level of p = 0.000 (<0.05) between FCV-19S and CDAS total score among adult patients before surgery.

Recommendation:

In the light of the findings obtained from the current study, the following recommendations were suggested:

The preoperative nursing care should be focused on appropriate anxiety-minimizing methods such as providing preoperative education, family-centered preparation for surgery, and increasing preoperative information. Additionally, psychological care, providing strategies and medication can be required for surgical patients who develop a high level of preoperative anxiety. Pay special attention to adult patients' fears and anxiety to identify their mental disorders to avoid complications during this period. Providing standard booklet contains answers of the questions regarding surgical procedure for the patients for relieving fear and anxiety and better preparing them for the procedure. Further researches conducted regarding the relation between preoperative fear and anxiety and the postoperative complications.

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