Relation between psychological problems, fear and anxiety, with COVID-19 pandemic and the quality of life among pregnant women

Shymaa Mohammed Sayed[1], Mona R. Ahmed [2], Nadia Hussein Ahmed[3], Shimaa El-Wardany Aly[4] and Shimaa Abdelrahim Khalaf [4], Azza Mohamed Abd El-Aziz[1]

[1] Lecturer of Psychiatric and Mental Health Nursing, Faculty of Nursing, Assiut University, Egypt.

[2] Lecturer of Maternity & Newborn Health Nursing, Faculty of Nursing, Assiut University, Egypt

[3] Assistant professor of Maternity & Newborn Health Nursing, Faculty of Nursing, Assiut University, Egypt

[4] Assistant professor of Community Health Nursing, Faculty of Nursing, Assiut University, Egypt

ABSTRACT

Background: Pregnant women's fear and anxiety about COVID-19 are increasing which reducing the social performance and quality of life. **Aim**: explore the relation between psychological problems, fear and anxiety, with COVID-19 pandemic and the quality of life among pregnant women. **Design**: Descriptive research design. **Setting**: The study carried out in the antenatal out-patients clinic at Women' Health Hospital, Assiut University. **Sample**: Included 350 pregnant women. **Tools**: Four tools were used; **Tool (1)**: Structured interviewing questionnaire, **Tool (2):** Fear of COVID-19 Scale (FCV-19S). **Tool (3):** COVID-19 Anxiety Scale (CAS) and **Tool (4):** Pregnant women's quality of life questionnaire. **Results**: 55.4% and 45.7% of mothers aged 25-30years and had secondary education respectively. 45.4% of them had low fear level of COVID 19. While, 26.9% of the pregnant women; were had high anxiety level. **Conclusion**: There were positive correlation between fear and anxiety about COVID 19 and pregnant women quality of life. There were statistical significance differences between pregnant women educational level, occupation, residence and gestational age with their quality of life. **Recommendations**: Further researches should be conducted to implement intervention program to alleviate the level of fear and anxiety about COVID-19 to improve pregnant women quality of life.

Keywords: Fear, Anxiety, COVID-19, Quality of life, pregnant women.

Introduction

World Health Organization, (WHO), 2019 announced the spread of coronavirus disease (COVID-19) which began in Wuhan, China to 217 nations. The COVID-19 pandemic has had negative physical and psychological effects on communities, families and people. Pregnant women are more vulnerable to the effects of the COVID-19 issue, which necessitates adherence of protective measures. Pregnant women face barriers to critical healthcare services during the pandemic, including concerns about COVID-19 exposure, childcare and nursing, all of which wreak havoc on their mental health **(Buekens et al, 2020)**.

According to **BahaaEldin et al, 2021** reported that, in Egypt, the first case of COVID-19 was announced in 14 February 2020. As of 31 December 2020, a total of 136 644 cases of COVID-19 and 7576 deaths were reported. **Arafa et al, 2021** reported that, in Assuit, The total percentage of infection in Assiut is 0.04%; it is lower than the percentage of the total infection in the country (0.1%). Respiratory failure is the leading cause of death in all patients. Since the beginning of the COVID-19 pandemic, it has been argued that pregnant females are at increased risk of severe infection, respiratory complications, require intensive care unit admission and require invasive ventilator**.**

Pregnancy places significant demands on a woman's body, which can be mentally, physically and socially draining. A woman's experience is unique and it is influenced by a variety of elements and circumstances that have varying degrees of impact on a mother's health and quality of life. Quality of life assessment is increasingly becoming a distinct interdisciplinary field (**Mazuchova et al, 2018**).

Many women are fear of COVID-19 during pregnancy. Fear of losing the baby's or mother's life, fear of disease, fear of having a premature child, dread of having a child with mental retardation or congenital abnormality, fear of surgery, fear of family's negative attitude toward the new environment (**Adams et al, 2019**).

Anxiety is a worry, or unease about anything that has an unpredictable consequence and it can coexist with, predispose to, or induce depression. People are prone to acute worry due to the unpredictability of COVID-19 pandemic. According to research, pregnant women are more prone to anxiety, with a prevalence of gestational anxiety ranging from 15% to 23%, compared to 3 to 5% of anxiety symptoms in the general population (**Sinesi et al, 2019 and Luong et al, 2021**).

World Health Organization (2013) defined the quality of life includes the people's understanding of their situation in life in terms of the culture, the value system of the country where they are living as well as their goals, expectations, standards, and priorities which are quiet individual and cannot be observed by others. It is based on the people's understanding of different aspects of their life.

According to **Mogos et al, (2013)** research who reported that, quality of life is extremely important throughout pregnancy. Women's vitality is said to be lowered during pregnancy, resulting in a reduction in quality of life even during a normal pregnancy. The enhancement of women's quality of life should be used to assess their health. Also, **Ahorsu et al, (2020a)** reported that there is a negative significant relationship between pregnant women's fear and anxiety about COVID-19 and their mental quality of life; the higher their fear and anxiety, the lower their mental quality of life.

Despite the fact that psychological changes are a common occurrence during pregnancy, the prevalence and severity of mental illness in

pregnant women were substantially higher during the COVID-19 pandemic than during the pre-pandemic period. Fear and anxiety about COVID-19 were the most common mental illnesses among pregnant women. Preterm delivery, small for gestational age and low infant birth weight were all linked to such diseases throughout pregnancy **(Lopez-Morales et al, 2021)**.

Healthcare professionals including Community health nurses, Psychiatric nurses and Maternity Health nurses are the main frontline defense against the COVID-19. They should work collaboratively together to alleviate the high level of anxiety and fear which induced by the presence of the pandemic among the pregnant women **(Chaleoykitti and Srisawad, 2020)**.

Significant of the study:

In Egypt, from 3 January 2020 to 24 February 2022, there have been 475,341 confirmed cases of COVID-19 with 23,889 deaths, reported to WHO **(World Health Organization, 2022)**.

The current COVID19 pandemic is regarded as a natural disaster, affecting more than 22 million people globally and resulting in the deaths of more than 791,000 people. According to a recent study of 178 pregnant women in Italy during the COVID-19 pandemic, 46.6% of them were had high level of anxiety because they were fear about potential fetal anomalies caused by COVID-19, 65 % were had fear about intrauterine growth restriction and 51 % were had fear about premature birth **(World Health Organization (WHO), 2020 and Mappa et al, 2020)**.

Pregnancy makes women more susceptible to viral infections and promotes immune suppression to some extent. Because of this, it's possible that women who are pregnant are more afraid of COVID-19. COVID-19-related fear and anxiety are among the most common psychological issues in persons who are pregnant during the pandemic **(Arpac et al, 2020)**.

The prevalence of covid-19 is increasing pregnant mothers' fears and anxiety about their health and that of their infants. However, because it causes significant changes in mental and psychological health, it will diminish pregnant women's social performance, vitality and quality of life **(Mirzadeh & Khedmat, 2020)**. So this study was held to assess the relation between fear and anxiety about COVID-19 with the quality of life among the pregnant women.

Aim of the study:

This study aimed to explore the relation between the psychological problems, fear and anxiety with COVID-19 pandemic and the quality of life among the pregnant women in Assiut.

Research questions:

1. What is the level of fear and anxiety among the pregnant women with COVID-19 pandemic in Assiut?

2. What is the relation between the psychological problems, fear and anxiety with COVID-19 pandemic and the quality of life among the pregnant women?

Subjects and methods:

Research Design:

Descriptive research design was used in this study

Setting:

This study was carried out in the antenatal outpatient clinic at Women' Health Hospital, Assiut University, Affiliated to ministry of high education. This outpatient clinic was chosen because it is serving the entire region of Upper Egypt and providing antenatal services for the pregnant women.

Subject and sample size estimation:

The target population of the study was composed of 350 pregnant women

Purposive sampling was carried out in the current study on 350 pregnant women which was calculated according to the following equation:

$$n = [DEFF*Np(1-p)]/ [(d^2/Z^2_{1-\alpha/2}*(N-1) + p*(1-p)]$$

DEFF (Design effect) = 1

N (population) = 4000

p (Hypothesized %) = 50%+/-5

d (tolerated margin of error) = 0.05

Z (level of confidence) = 1.96

α (Alpha)= 0.05

$n = [1*4000*50\%+/-5 \ (1-50\%+/-5)/ \ [(0.05)^2/ (1.96)^2 1-0.05*(4000-1) + 50\%+/-5 \ (1-50\%+/-5)]$

Inclusion criteria:

Pregnant women who agreed to take part in the research and free from any stressful experiences such as the death of the acquaintance within the past 6 months, addiction, infection by COVID-19 were recruited in this study.

Tools of the study:

Four tools were used to collect the needed data after reviewing of the related literature.

Tool (1): Structured interviewing questionnaire:

It was developed by the researcher and consisted of two parts; **Part I**: included personal data as: age, residence, educational level and occupation. **Part II**: included data related to obstetric history as: number of gravidity, number of parity, number of living children, number of still births, number of abortion and gestational age.

Tool (2): Fear of COVID-19 Scale (FCV-19S):

This scale was formulated for the first time by **Ahorsu et al, (2020a)** and **Ahorsu et al, (2020b)** also by them the scale tested for psychometrics in Iran. The Arabic version of the Fear of COVID-19 Scale (FCV-19S) was used to measure fear levels about COVID-19 (**Alyami et al, 2020**). This questionnaire consisted of 7 questions using 5-points Likert scale; in which the answers were "strongly disagreed", "disagreed", "neither agreed nor disagreed", "agreed" and "strongly agreed". The minimum score and the maximum one for each question was 1 and 5, respectively. By summing the scores of each question, the total score was calculated. The scores range was achieved as 7 to 35. The higher score (27-35) revealed greater level of fear about COVID-19, moderate (17-26) and low (7-16) (**Ahorsu et al, 2020a** and **Ahorsu et al, 2020b**).

Tool (3): COVID-19 Anxiety Scale (CAS):

This tool consisted of 7 questions using a 4-points rating scale (0= not applicable to me, 1= hardly ever applicable to me, 2= sometimes applicable to me and 3= very applicable to me). The level of anxiety was measured by averaging the participants' scores (ranging from 0 to 3), so that the higher the average (14-21points), the greater the anxiety of the individual regarding COVID-19, moderate (8–14 points), and low (0–7points). The reliability and validity of this scale were tested by **Silva et al, (2020)**.

Tool (4): Pregnant women's quality of life questionnaire (QOL-GRAV):

This questionnaire was designed by **Vachkova et al, (2013**), using WHO Quality of Life BREF questionnaire (WHOQOL-BREF). It consisted of nine questions for expressing the amount of individual's experience of life quality during pregnancy. Scoring for each item was done according to Likert scale from never (one) to completely (five). Total score of pregnancy-related quality of life (QOL-GRAV) was between 1 and 5 and the higher score indicated a higher quality of life. In this questionnaire, the first 6 questions were scored reversely **(Mirghafourvand et al., 2016)**. Based on the total score, the quality of life was evaluated as excellent (9–18 points), very good (19–27 points), good (28–36points),and not very good (37–45 points) **(Vachkova et al, 2013**).

Tools validity:

The study tools were tested for validity by a panel of five experts in the fields of Maternity and Newborn Health Nursing, Community Health Nursing and Psychiatric and Mental Health Nursing. The modifications were done as needed.

Tools reliability:

Cronbach's Alpha was used to assess reliability of the tools, it was (0.811) for COVID-19 fear scale tool & (0.74) for COVID-19 anxiety scale tool & (0.74) for pregnancy quality of life tool.

Ethical and legal considerations:

Before starting the study, ethical approval was obtained from the scientific research ethical committee of faculty of Nursing, Assiut University. An official permission was obtained from the Manager of Women's Health Hospital, Assiut University. Before data collection, women were informed about the aim and the nature of the study which didn't cause any harm or pain & oral agreement for participation in the study was taken. Also, they were assured that the information was confidential and used only for research purpose. The participants were informed that participating in the study was voluntary& they had the right to withdraw from the study at any time.

Pilot study:

A pilot study was carried out on 10% of the total sample (35 pregnant women) to assess the clarity and applicability of the tools. No changes were made in the tools. So, they were added to the total sample.

Procedure:

The actual fieldwork was carried out at the period of four months from November 2021 to February 2022; was involving two phases:

1-The preparatory phase:

The researchers reviewed past and current available literature relevant to the study topic in order to acquire in-depth theoretical knowledge of the various aspects of the problem then they prepared the tools of the study.

2-The implementation phase:

- After appraisal of the proposal of the study by ethical and scientific committee of faculty of Nursing, An official letter from the Dean of the Faculty of Nursing Assiut University directed to the Manager of Women's Health Hospital at Assiut University Hospital to get the official permission to conduct the study.

- Upon securing an official permission to conduct the study. The researchers interviewed with each pregnant woman individually, explained the purpose of the study and took her oral consent for participation in the study. The researchers met the pregnant women three days per week; around 7-8 sheets were completed per day. Each interview took about 20-30 minutes according to the out-patients working hours and the pregnant women available time.

Statistical analysis:

Data entry and data analysis were done using SPSS version 22 (Statistical Package for Social Science). Data were presented as number, percentage, mean, standard deviation. Chi-square test was used to compare qualitative variables. Independent samples t-test was used to compare quantitative variables between groups. Spearman correlation was done to measure correlation between quantitative variables in case of non-parametric data. P-value considered statistically significant when $P < 0.05$.

Results:

Table (1): Presents that the participated pregnant women were in the age group 25 – 30 years, were reside in rural locality, had secondary level of education and were housewives 55.4%, 84.9%, 45.7% and 92.0% respectively.

Table (2): Shows that 46.3%, 32.6%, 29.4% and 78.3% of the participated pregnant women were had 2–3 pregnancies had three or more deliveries had Three or more living children hadn't history of abortion before respectively.

Figure (1): Reveals that 53.7% of the participated pregnant women were in their third trimester regarding to the current pregnancy gestational age.

Table (3): Declares 34.6%, 30.3% and 27.7% of them feel to a great extent that the psychological changes associated with this pregnancy do not allow to do what you they need, not at all fear of not able to handle the household and moderately satisfied with adapt to this pregnancy respectively.

Figure (2): Presents that 45.4%, 33.7% and 20.9% respectively of the participated pregnant women had low, moderate and high level of fear about COVID19.

Figure (3): Refers to that the pregnant women had low, high and moderate level of anxiety about COVID19 among the studied pregnant women in Assiut48.2%, 26.9% and 24.9% respectively.

Figure (4): Clears the presence of positive correlation between quality of life scale and fear about COVID19 among the studied pregnant women in Assiut.

Figure (5): Demonstrates that there was positive correlation between quality of life scale and anxiety about COVID19 among the studied pregnant women in Assiut.

Figure (6): Represents that there was positive correlation between fear and anxiety scale about COVID19 among the studied pregnant women in Assiut.

Table (4): Signifies the presence of statistical significance differences between residence, educational level, occupation, number of gravidities, number of parities, number of living children, number of abortion and the gestational age with QOL-GRAV scale among the participated pregnant women.

Table (5): Illustrates that 24.2%, 32.1%, 23.3%, 46.4% of the participated pregnant women who were aged 25 – 30, resided in urban area, had university education and working were had high fear level of COVID-19 with p-values= 0.002,

0.007, 0.028 and 0.012 respectively. On the other hand; 42.9%, 38.2%, 36.0% and 50.0% of the pregnant women who were had one pregnancy, one delivery, one living child and in the first trimester of their current pregnancy respectively had moderate fear level of COVID-19 with statistical significance differences.

Table (6): Clarifies that 31.4%, 32.1%, 30.0% and 37.7% of the participated pregnant women who were aged 25–30, resided in urban locality, had secondary level of education and were working were found to had moderate anxiety level about COVID-19 with statistical significance differences p-values= 0.028, 0.007, 0.001 and 0.021. Moreover, 30.4%, 38.2%, 43.0% and 33.7 of them respectively were had one pregnancy, one delivery, one living child and in their second trimester were had high anxiety level about COVID-19 with statistical significance differences.

Table (1): Distribution of the studied pregnant women in relation to their personal data in Assiut

Personal data	No. (350)	%
Age (years):		
< 25	79	22.6%
25 – 30	194	55.4%
> 30	77	22.0%
Mean ± SD (Range)	27.65 ± 4.87 (18.0-42.0)	
Educational level:		
Illiterate	20	5.7%
Read & write	17	4.9%
Primary	28	8.0%
Preparatory	65	18.6%
Secondary	160	45.7%
University	60	17.1%
Occupation:		
Housewife	322	92.0%
Working	28	8.0%
Residence:		
Rural	297	84.9%
Urban	53	15.1%

Table (2): Percentage distribution of the studied pregnant women regarding to their clinical data in Assiut

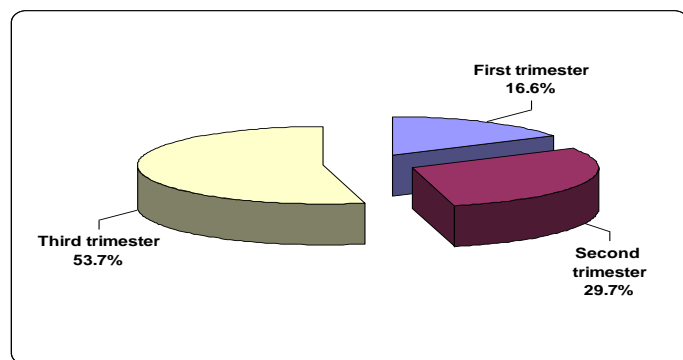| Items	No. (350)	%
Number of gravidity:		
One	56	16.0%
2 – 3	162	46.3%
> 3	132	37.7%
Number of parity:		
None	64	18.3%
One	76	21.7%
Two	96	27.4%
Three or more	114	32.6%
Number of living children:		
None	70	20.0%
One	86	24.6%
Two	91	26.0%
Three or more	103	29.4%
Number of still births:		
None	307	87.7%
1 – 2	43	12.3%
Number of abortions:		
None	274	78.3%
One	52	14.9%
Two or more	24	6.9%

Figure (1): Gestational age of the studied pregnant women in Assiut

Table (3): Quality of life of the studied pregnant women (The QOL-GRAV) in Assiut

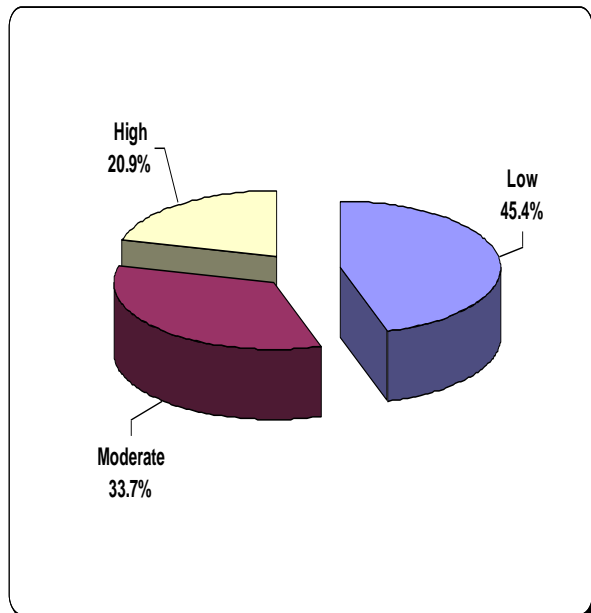| Items	Not at all		Moderate		Average		Very		To a great extent		Mean ± SD
	No.	%	No.	%	No.	%	No.	%	No.	%	
Feel that the psychological changes associated with this pregnancy do not allow to do what you need	79	22.6	32	9.1	75	21.4	43	12.3	121	34.6	3.27 ± 1.56
Fear not able to handle the household	106	30.3	46	13.1	46	13.1	35	10.0	117	33.4	3.03 ± 1.67
Worry about failing to carrying the pregnancy to a viable stage	85	24.3	51	14.6	32	9.1	57	16.3	125	35.7	3.25 ± 1.63
Fear that will not manage labor	76	21.7	64	18.3	50	14.3	44	12.6	116	33.1	3.17 ± 1.58
Forced to restrict physical activity in this pregnancy	69	19.7	70	20.0	51	14.6	55	15.7	105	30.0	3.16 ± 1.53
Satisfied with partner life now	17	4.9	58	16.6	112	32.0	64	18.3	99	28.3	3.49 ± 1.20
Satisfied with social life now	18	5.1	63	18.0	127	36.3	53	15.1	89	25.4	3.38 ± 1.19
Satisfied with adapt to this pregnancy	42	12.0	97	27.7	143	40.9	30	8.6	38	10.9	2.79 ± 1.11

Figure (2): Total score of fear about COVID19 among the pregnant women in Assiut
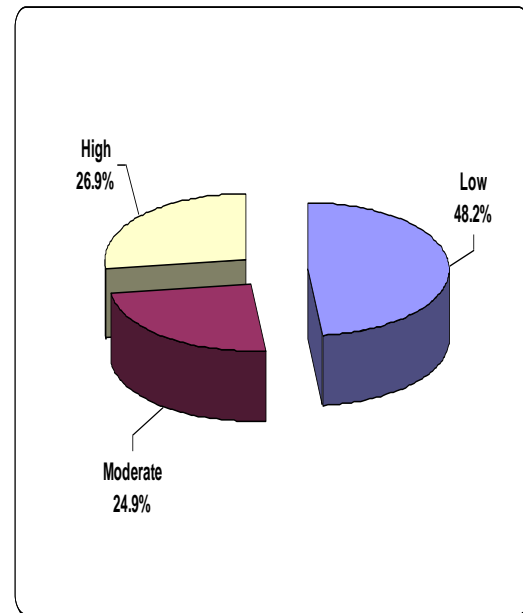

Figure (3): Total score of anxiety about COVID19 among the pregnant women in Assiut

Spearman correlation

Figure (4): Correlation between quality of life scale and fear about COVID19 among the studied pregnant women in Assiut

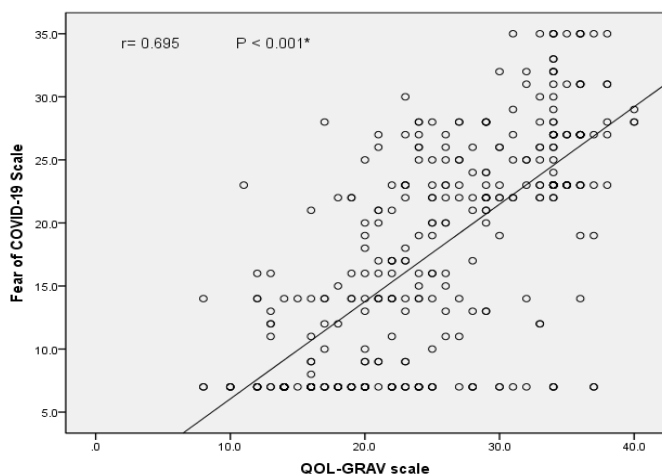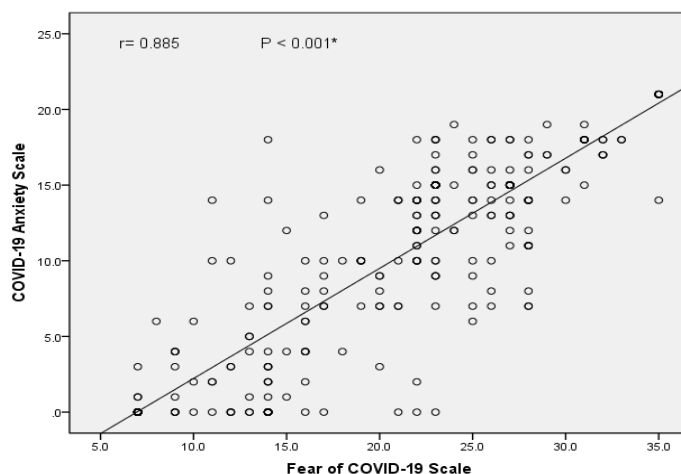Spearman correlation

Figure (6): Correlation between fear and anxiety scale about COVID19 among the studied pregnant women in Assiut
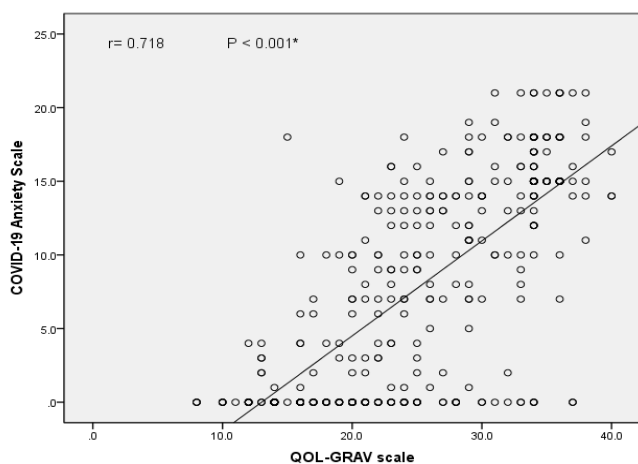

Spearman correlation

Figure (5): Correlation between quality of life scale and anxiety about COVID19 among the studied pregnant women in Assiut

Table (4): Relation between QOL-GRAV scale and pregnant women personal and obstetric history in Assiut

Items	QOL-GRAV scale		P-value
	Mean ± SD	Range	
Age (years):			
< 25	25.90 ± 6.86	10.0-38.0	
25 – 30	25.96 ± 8.28	8.0-40.0	0.183
> 30	24.08 ± 7.55	8.0-37.0	
Educational level:			
Illiterate	20.25 ± 5.79	10.0-32.0	
Read & write	23.88 ± 5.86	15.0-36.0	
Primary	25.82 ± 8.84	10.0-36.0	0.003*
Preparatory	24.25 ± 7.45	12.0-40.0	
Secondary	25.90 ± 8.09	8.0-40.0	
University	28.03 ± 7.24	8.0-38.0	
Occupation:			
Housewife	25.16 ± 7.80	8.0-40.0	0.002*
Working	29.86 ± 7.07	12.0-38.0	
Residence:			
Rural	24.97 ± 7.80	8.0-38.0	0.001*
Urban	28.70 ± 7.36	12.0-40.0	
Number of gravidities:			
One	27.68 ± 6.79	15.0-40.0	
2 – 3	27.10 ± 7.70	8.0-40.0	<0.001*
> 3	22.70 ± 7.65	8.0-40.0	
Number of parities:			
None	27.75 ± 6.77	15.0-40.0	
One	27.36 ± 7.10	12.0-40.0	<0.001*
Two	26.45 ± 8.39	8.0-40.0	
Three or more	22.30 ± 7.45	8.0-37.0	
Number of living children:			
None	27.03 ± 7.04	12.0-40.0	
One	27.92 ± 7.01	12.0-40.0	<0.001*
Two	25.88 ± 8.34	8.0-40.0	
Three or more	22.21 ± 7.55	8.0-37.0	
Number of still births:			
None	25.74 ± 7.86	8.0-40.0	0.178
1 – 2	24.02 ± 7.65	10.0-36.0	
Number of abortions:			
None	26.01 ± 7.70	8.0-40.0	
One	23.00 ± 8.28	8.0-40.0	0.039*
Two or more	25.54 ± 7.72	12.0-36.0	
Gestational age:			
First trimester	28.12 ± 7.49	10.0-37.0	
Second trimester	25.58 ± 8.15	8.0-40.0	0.015*
Third trimester	24.71 ± 7.64	8.0-40.0	

(*) Statistical significance differences P < 0.05   Independent samples t-test

Table (5): Relation between Fear of COVID-19 Scale and pregnant women personal and obstetric history in Assiut

Items	Total score of fear scale						P-value
	Low		Moderate		High		
	No.	%	No.	%	No.	%	
Age (years):							
< 25	27	34.2	34	43.0	18	22.8	
25 – 30	93	47.9	54	27.8	47	24.2	0.012*
> 30	39	50.6	30	39.0	8	10.4	
Educational level:							
Illiterate	16	80.0	3	15.0	1	5.0	
Read & write	5	29.4	5	29.4	7	41.2	
Primary	13	46.4	11	39.3	4	14.3	0.028*
Preparatory	34	52.3	19	29.2	12	18.5	
Secondary	71	44.4	54	33.8	35	21.9	
University	20	33.3	26	43.3	14	23.3	
Occupation:							
Housewife	152	47.2	110	34.2	60	18.6	0.002*
Working	7	25.0	8	28.6	13	46.4	
Residence:							
Rural	145	48.8	96	32.3	56	18.9	0.007*
Urban	14	26.4	22	41.5	17	32.1	
Number of gravidities:							
One	16	28.6	24	42.9	16	28.6	
2 – 3	63	38.9	61	37.7	38	23.5	<0.001*
> 3	80	60.6	33	25.0	19	14.4	
Number of parities:							
None	18	28.1	29	45.3	17	26.6	
One	26	34.2	29	38.2	21	27.6	<0.001*
Two	42	43.8	32	33.3	22	22.9	
Three or more	73	64.0	28	24.6	13	11.4	
Number of living children:							
None	21	30.0	30	42.9	19	27.1	
One	29	33.7	31	36.0	26	30.2	<0.001*
Two	42	46.2	34	37.4	15	16.5	
Three or more	67	65.0	23	22.3	13	12.6	
Number of still births:							
None	137	44.6	106	34.5	64	20.8	0.655
1 – 2	22	51.2	12	27.9	9	20.9	
Number of abortions:							
None	120	43.8	94	34.3	60	21.9	
One	29	55.8	17	32.7	6	11.5	0.314
Two or more	10	41.7	7	29.2	7	29.2	
Gestational age:							
First trimester	16	27.6	29	50.0	13	22.4	
Second trimester	46	44.2	33	31.7	25	24.0	0.016*
Third trimester	97	51.6	56	29.8	35	18.6	

(*) Statistical significance differences P < 0.05   Chi-square test

Table (6): Relation between COVID-19 Anxiety Scale and pregnant women personal and obstetric history in Assiut

Items	Total score of anxiety scale						P-value
	Low		Moderate		High		
	No.	%	No.	%	No.	%	
Age (years):							
< 25	34	43.0	25	31.6	20	25.3	
25 – 30	96	49.5	37	19.1	61	31.4	0.028*
> 30	39	50.6	25	32.5	13	16.9	
Educational level:							
Illiterate	18	90.0	1	5.0	1	5.0	
Read & write	6	35.3	6	35.3	5	29.4	
Primary	15	53.6	3	10.7	10	35.7	<0.001*
Preparatory	38	58.5	11	16.9	16	24.6	
Secondary	72	45.0	40	25.0	48	30.0	
University	20	33.3	26	43.3	14	23.3	
Occupation:							
Housewife	162	50.3	75	23.3	85	26.4	0.021*
Working	7	25.0	12	42.9	9	32.1	
Residence:							
Rural	154	51.9	69	23.2	74	24.9	0.007*
Urban	15	28.3	18	34.0	20	37.7	
Number of gravidities:							
One	18	32.1	21	37.5	17	30.4	
2 – 3	66	40.7	36	22.2	60	37.0	<0.001*
> 3	85	64.4	30	22.7	17	12.9	
Number of parities:							
None	19	29.7	25	39.1	20	31.3	
One	27	35.5	20	26.3	29	38.2	<0.001*
Two	45	46.9	18	18.8	33	34.4	
Three or more	78	68.4	24	21.1	12	10.5	
Number of living children:							
None	21	30.0	29	41.4	20	28.6	
One	30	34.9	19	22.1	37	43.0	<0.001*
Two	45	49.5	21	23.1	25	27.5	
Three or more	73	70.9	18	17.5	12	11.7	
Number of still births:							
None	146	47.6	76	24.8	85	27.7	0.629
1 – 2	23	53.5	11	25.6	9	20.9	
Number of abortions:							
None	131	47.8	67	24.5	76	27.7	
One	28	53.8	14	26.9	10	19.2	0.690
Two or more	10	41.7	6	25.0	8	33.3	
Gestational age:							
First trimester	16	27.6	22	37.9	20	34.5	
Second trimester	49	47.1	20	19.2	35	33.7	0.001*
Third trimester	104	55.3	45	23.9	39	20.7	

(*) Statistical significance differences P < 0.05   Chi-square test

Discussion:

The psychological changes felt by pregnant women are fear and anxiety, during the current Covid-19 pandemic is a risk factor for the emergence of pregnancy health complications and impact of quality of life **Ahorsu et al, (2020b)**.

This study aimed to explore the relation between psychological problems, fear and anxiety, with COVID-19 pandemic and the quality of life among pregnant women in Assiut.

The current study revealed that more than half of studied sample were aged from 25 – 30 with Mean ±S D 27.65 ± 4.87; this finding agreed with **Hossain et al., (2020)** who reported that a mean age of most pregnant women enrolled in the study were 26.47 ± 4.81 years. Whereas disagrees with **Kurian et al., (2021) and Nwafor et al., (2021)** who mentioned that more than two thirds of pregnant women were 21-30 years and more than two fifths from 28–37years respectively. Also contrast with **Nowacka et al., (2021).**

As regards residence the majority of studied sample were from urban areas; this result consistent with **Janik et al., (2021)** who found that the majority of women from urban localities. Moreover, was disagreed with **Moyer et al., (2020)** who reported less than one third of studied sample from rural area; also was disagreed with **Nwafor et al., (2021)** who was stated that more than one third of studied sample from rural.

The present study showed that more than two fifths of studied sample had secondary level of education; this result in contrast with **Kurian et al., (2021) and Ahorsu et al, (2020 b)** who cleared that more than half of studied sample had secondary and most of sample had university respectively.

The majority of studied sample were housewife; this result agrees with **Kurian, (2021)**, who reported that the majority of sample were homemaker. on the other hand, this result different with **Nowacka et al., (2021)** and **Nwafor et al., (2021)** who reported less than two quarters of sample were unemployed.

The present study clears that more than three quarters of studied sample were multi para; this result in the line with **Khadka et al., (2021)** who stated more than half were multipara. Moreover incompatible with **Silalahi, (2021)** who reported three fifths of sample were primipara. Also disagrees with **Nowacka et al., (2021)** who stated less than half of sample were primipara

As regards number of children; the current study cleared that one fifth of studied sample haven't children; this result incongruent with **Janik et al, (2021)** who reported nearly half of women haven't children.

Concerning gestational age of studied sample; the study found that more than half of them were in third trimester stage of pregnancy; this similar with **Moyer et al., (2020)** who reported more than two fifths of sample were in third trimester. on the other hand, inconsistent with **Kurian, (2021)** mentioned that three quarters of sample were in third trimester and **Silalahi, (2021)** who stated that

more than two thirds of sample in second trimester. These differences may be due to working on different subjects that have different obstetrical history.

In addition **Mutaqin, (2021), Mirzaei et al., (2021)** and **Ahmad, (2021)** who mentioned that the COVID-19 epidemic increases the risk of anxiety and lowers QoL in pregnant women.

As regards to Fear of COVID-19; the study revealed that more than two fifths of studied sample had low level of fear; this result in the same line with **Tesfamichael et al., (2020)** who cleared that around three fifths of women had Fear of COVID-19. While disagreed with **Nowacka et al., (2021)** who stated that more than three fifths hadn't anxiety. Also, in contrast with **Hossain et al., (2020)**, who said that women who were afraid of COVID-19 had significantly higher score of fear.

The present study cleared that nearly half of studied sample had low level of Anxiety; this finding in the same line with **Kurian et al., (2021)** and **Hamzehgardeshi, et al., (2021)** who mentioned that more than two fifths of sample had anxiety. **Wu et.al (2020)** stated that pregnant women had higher anxiety scores than the nonpregnant women. Also, other study by **Demissie and Bitew (2021)** who showed that the pooled prevalence of anxiety was one third between studies. In addition **Mutaqin (2021), Mirzaei et al., (2021)** and **Ahmad, (2021)** who mentioned that the COVID-19 epidemic increases the risk of anxiety.

Moreover, in congruent with **Silalahi, (2021)** who mentioned that nearly half of pregnant women had moderate anxiety, and also disagrees with **Khadka et al., (2021)** and **Sutrisno et al., (2021)** who cleared that almost all pregnant women had Low-grade anxiety. In addition, inconsistent with **Nwafor et al., (2021),** who revealed that only 10% of women had severe and extremely severe anxiety. This difference may back to small sample size in **Khadka et al., (2021) and Sutrisno et al., (2021)** compared with this study and also the different culture where there is elevating the amount of prenatal SARS-COV-2 screening, elevating education and consciousness about COVID-19 and appropriate precautions (such as hygiene, vaccination, And social distancing) can also help reduce stress related to fear of infection.

According to correlation between fear, anxiety and quality of life; the current study presented that there was a significant correlation between quality of life with fear and anxiety among studied sample; this result in contrast with **Ahorsu et al., (2020)** who mentioned that the fear of COVID-19 among pregnant was not significantly associated with higher level of anxiety, also stated Fear of COVID-19 demonstrated significantly negative associations with quality of life for both pregnant women. This may back to difference between the current study and **Ahorsu et al., (2020)** in sample size.

In addition, **Lagadec et al, (2018)** stated the pregnancy is a period of transition with important physical and emotional changes, these

changes can affect the quality of life of pregnant women,

Also, **Ishaq, et al, (2020)** mentioned that pregnancy is associated with numerous mental and physical changes in women. These changes are likely to be associated with reduced quality of life.

The present study found that there was statistically significant difference between anxiety, demographic data and obstetric history among studied sample related to age, residence, education, occupation, parity, gestational age and number of living children; this finding consistent with **Janik et al., (2021)** who reported that there was significant relation between anxiety level among studied sample and their education and parity.

While disagrees with **Khadka et al, (2021)** who stated that there was no significant difference by education, occupation, gestational age, parity, with level of anxiety among studied sample. This discrepancy may back to difference between the current study and **Khadka et al, (2021)** in study setting.

Conclusions

There was positive correlation between fear and anxiety about COVID 19 and pregnant women quality of life; also, there were statistical significance differences between pregnant women educational level, occupation, residence and gestational age with their quality of life.

Recommendations:

1-The nurses should educate the pregnant women the relaxation techniques as a strategy to overcome their fear and anxiety about COVID-19 and improve their quality of life.

2-Reducing fear and anxiety posters and brochures should be available and accessible for pregnant women in antenatal care out-patients clinics.

3-Further researches should be conducted to implement intervention program to alleviate the level of fear and anxiety about COVID-19 to improve pregnant women quality of life.

4- Education program to increase public awareness to decrease fear and anxiety.

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