

Assessment of Knowledge, Attitudes and Prevalence of Postpartum Depression among New Mothers in Minia City

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Abstract

Background: Postpartum depression is a serious health issue for new mothers and has negative consequences on both the mothers and the children and it constitutes a significant public health problem worldwide. **Aim:** To assess knowledge, attitudes and prevalence of postpartum depression among new mothers in Minia City. **Design of the research:** A descriptive cross-sectional research design. **Setting:** The research was carried out at vaccination clinics at primary health care centers located in Minia City, Egypt. **Subjects:** convenient sample of 290 new mothers who were within six months after giving birth and attended primary healthcare centers for vaccination of their babies were included. **Tools:** Tool I: A structured interview questionnaire (Socio Demographic Data and Obstetric history), Tool II: Structured questionnaire on new mothers' knowledge regarding postpartum depression, Tool III: Structured questionnaire on new mothers' attitudes towards postpartum depression, Tool IV: Edinburgh postnatal depression scale (EPDS). **Results:** This research revealed that (51%) of studied new mothers had a low level of knowledge regarding postpartum depression and (78.3%) of them had negative attitudes towards postpartum depression. The prevalence of postpartum depression was (56.2%) **Conclusion:** Poor knowledge and negative attitudes towards postpartum depression were widespread, and postpartum depression was an existing problem among the study population. **Recommendations:** Health education and screening for postpartum depression should be incorporated into the antenatal and postnatal care by governmental policies, as this will promote awareness and early recognition of postpartum depression.

Key words: Postpartum Depression, Knowledge, Attitudes, Prevalence

Introduction:

Postpartum depression (PPD) has been identified as "the thief that steals motherhood" because it robs women of the expected joy of having a new baby. According to the United States National Library of Medicine, PPD is a moderate to severe depression that begins within the first year after birth and frequently occurs within the first three months. PPD can also be used to describe a non-psychotic mood illness that develops after birth. This disturbance comes during a time of significant life changes and more responsibility since there is a baby to be cared for (Citu et al., 2022).

The exact cause of PPD is unknown. Hormonal, physiological, genetic predisposition, social, and psychological factors are regarded as risk factors for all vulnerable women. Obstetric and infant care factors such as unexpected pregnancy, an unhealthy baby, and infant mortality have all been identified as risk factors. The most persistent risk factors documented over time are history of psychiatric disease, stress, marital issues such as domestic abuse, and lack of psychological or social support. (Pillai et al., 2022).

Knowledge of PPD includes the capacity to detect its symptoms, as well as identify risk factors, causes, and effective treatment options. Women's lack of understanding about PPD may impair their ability to recognize depression symptoms and seek professional assistance. Women with inadequate knowledge about PPD may struggle to deal with their depression symptoms and engage in maladaptive behaviors. It is thus vital to assess mothers' knowledge in

order to know how they recognize and deal with PPD. (Huang et al., 2022).

Attitudes toward PPD are linked to beliefs and stigma surrounding the disorder. Negative attitudes about PPD are frequently mentioned in studies, such as believing that it is typical to have PPD or that women have the skills necessary to care for a newborn on instinct. Negative attitudes toward PPD may prevent women from identifying depressive symptoms early, as they may perceive them as a normal part of the experience of being a mother or of their inability to cope with the demands of motherhood, which may reduce the possibility of seeking professional help (Branquinho et al., 2020).

Screening has significance for early detection of PPD. Several professional associations provide screening recommendations. The United States Preventive Services Task Force recommends screening all adults for depression, including postpartum women, regardless of risk factors. The Edinburgh Postnatal Depression Scale (EPDS) is the most widely used screening instrument due to its extensive validation, simplicity, strong validity, and reliability. Other measures include the Patient Health Questionnaire-9 (PHQ-9) and the Postpartum Depression Screening Scale (PDSS) (George, 2023).

Maternity nurses and midwives frequently interact with new mothers and are uniquely positioned to recognize women who exhibit high levels of anxiety or depression and educate them on PPD. Nurses can recognize PPD symptoms by regular visits or phone calls, understanding of risk factors and incentives, and mother-specific behaviors. When nurses provide new moms with accurate education and tools to

identify symptoms of PPD, early detection and treatment can be achieved. (Merrill, 2023).

Significance of the Study:

Worldwide, ten to twenty percent of new mothers experienced depressive symptoms during the postpartum period. According to the World Health Organization (WHO), approximately twenty to forty percent of women in developing nations experience depression during pregnancy or after birth. African countries had a higher rate of PPD, with 27.1 percent in Uganda, 27.5 percent in Egypt, and 35.6 percent in Nigeria (Wake et al., 2022). In Upper Egypt, women evaluated for PPD revealed a prevalence of 33.5 percent (Ahmed et al., 2021).

Despite the growing recognition of PPD as a worldwide childbirth-related condition, the necessity of diagnosing and treating it has until now been ignored in practice (Anokye et al., 2018). The American College of Obstetricians and Gynecologists recommends that all pregnant women be tested for depression at least once during the perinatal period and again after childbirth (Morehead, 2020).

Many studies on postpartum depression have been conducted, with the majority focusing on healthcare professionals' knowledge and attitudes, as well as their ability to recognize postpartum depression, whereas few have focused on women's knowledge and attitudes regarding postpartum depression. The assessment of women's knowledge and attitudes is particularly essential since it plays a crucial role in recommendations for appropriate professional help-seeking (Abazie & Usoro, 2021).

Actually, women's knowledge and attitude toward PPD, as well as screening for PPD, play an important role in the early detection and treatment of PPD. In Egypt, no studies had been done to assess the knowledge and attitude of new mothers towards PPD and few studies had been done to assess the prevalence of PPD.

Aim of the research is:

to assess knowledge, attitudes and prevalence of postpartum depression among new mothers in Minia City.

Research questions:

1. Are the new mothers having enough knowledge regarding postpartum depression?
2. Are the new mothers have appropriated attitudes regarding postpartum depression?
3. What is the prevalence of postpartum depression among new mothers attending primary health care centers in Minia City?

Operational definition

In the present research, new mothers referred to mothers who had given birth within the previous six months.

Subjects and Method:

Research Design: A descriptive cross-sectional research design was used.

Research Setting: The study was performed at the vaccination clinics of the Eastern Primary Health Care Center that located beside Minia University Hospital and the Western Primary Health Care Center that located beside El Chest Disease Hospital, in front of Saad Zaghloul Primary School. Eastern and Western primary health care centers are providing

various services, such obligatory vaccination, family planning, antenatal as well as postnatal care, in addition to a dental clinic, a pediatric clinic and a lab for laboratory investigation.

Sample of the research:

This research included convenient sample of 290 new mothers who were within six months after giving birth and attended primary healthcare centers for vaccination of their babies during the study period from March 2023 to September 2023.

Tools for Data Collection:

The research data was collected by using four tools:

These tools were developed by the researcher after reviewing the related literatures (Poreddi et al, 2021, Obioha et al, 2021 and Branquinho et al, 2020).

I-First tool: A structured interview questionnaire: It consisted of (18) items. It included 2 parts:

Part I: Socio demographic Data:

It covered the data related to new mothers as: age, educational level, occupation, type of family, educational level of husband, family income, etc.

Part II: Obstetric history:

It included questions as: number of gravidities, parity, abortion, spacing between children (years), number of children, gender of present baby, breastfeeding, complications in pregnancy or labor or postpartum, mode of delivery of current baby, etc.

II-Second tool: Structured questionnaire on new mothers' knowledge regarding postpartum depression (Yes- No response):

The instrument consisted of 33 items which included four domains namely: Knowledge about signs and symptoms (12 items), Knowledge about risk factors and causes (12 items), Knowledge about prevention (5items), Knowledge about treatment (4 items), and it was measured by using (Yes-No) responses.

Scoring System: -

The total score of knowledge was consisted of (33) points (derived from 33 questions). Each correct answer was given one mark, incorrect and do not know answers were given zero. The score of each item summed up and then converted into a percent score. It was categorized as follows:

- Low knowledge level <50% of total knowledge score (<17 score).
- Moderate knowledge level 50-75 of total knowledge score (17-25 score).
- High knowledge level > 75% of total knowledge score (>25 score).

III-Third tool: Structured questionnaire on new mothers' attitudes towards postpartum depression (Likert scale):

The instrument consisted of 23 items included: new mothers' attitudes towards PPD such as (e.g., attitude towards dealing with women having PPD).

Scoring System: -

Likert scale and the scores were interpreted on a scale of 1 to 3 (1 = Agree, 2 = Neutral, 3 = Disagree). The total scoring ranged from 1-69, the women attitudes were categorized as the following:

- Negative attitudes toward postpartum depression if

< 60% (41)

□ Positive attitudes toward postpartum depression from ≥ 60% (41)

IV-Forth tool: Edinburgh postnatal depression scale (EPDS):

This scale was used to screen for PPD from 6-8 weeks to 6 months and it could be used up to 12 months after birth. It consisted of 10 items. Each question in the EPDS had 4 answers scored 0, 1, 2 or 3. To determine the prevalence of PPD, all the scores were summed up. The minimum and maximum total scores obtained from the EPDS were 0 and 30 respectively. An EPDS score ≥13 was considered positive for PPD, while a score of <13 ruled out the possibility of PPD (Cox J. et al, 1987).

Validity:

A panel of five professionals in the field of maternal and newborn health nursing evaluated the tool for clarity, relevance, comprehensiveness, understanding, applicability, and ease before making any required revisions to ensure that the information was authentic.

Reliability:

The tool was tested for internal reliability by using Cronbach’ alpha test and reliability of knowledge, attitudes and prevalence were 0.85, 0.724 and 0.833, respectively.

Pilot Study:

The pilot study was conducted on (20) of the new mothers in order to evaluate the tools' clarity, objectivity and feasibility. As well to estimate the time needed to be applied. According to the results of the pilot no modifications were required and the new mothers who were tested in the pilot study were included in the study sample.

Ethical considerations:

- The Research Ethics Committee of the Faculty of Nursing at Minia University granted an official letter on 6/12/2022.
- The dean of Minia University's faculty of nursing gave his approval for the study to be carried out.
- The directors of primary health care centers granted permission.
- After explaining the nature and goal of the study to the mothers who were willing to participate, oral agreement was obtained before the pilot study and the main study were conducted. The new mothers had the right to decline participation or to leave the study at any time and without explanation. Privacy of new mothers was taken into account while data was collected. They were given the assurance that all of their information would be kept in strict confidence,

and anonymity was ensured by giving each lady a number rather than her name to preserve her privacy.

- The study did not conflict with traditional, cultural, or religious issues.

Data collection procedure

- An official letter granted from the Dean of Faculty of Nursing. This letter included a brief explanation of the objectives of the study.
- The permissions obtained from the directors of primary health care centers.
- The researcher translated the tool into Arabic.
- New mothers interviewed on the waiting area of vaccination clinics to explain the nature and purpose of the study.
- The researcher met mothers 2 times a week from 9:00 am to 2:00 pm on Saturday and Tuesday.
- The researcher introduced herself to each mother and explained the objectives of the study in details. Each woman gave verbal consent before the researcher thoroughly explained each component of the tool. Finally, the researcher recorded the responses of the new mothers on sheets.
- The time required to fill the sheet take a proximately 15-30 min.
- Data were collected over six months (from march 2023 to September 2023).

Statistical analysis:

Data entry was done using compatible personal computer. Statistical analysis done by using statistical package of social science (SPSS, IBM version 25 and excel for figures). The content of each tool was analyzed, categorized and then coded. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations for quantitative variables. Statistical significance used at P value <0.05. Fisher exact test and Pearson correlation, were used to identify group differences and the relationship among the study variables. The *p*-value > 0.05 indicates a non-significant result, while the *P* -value < 0.05 is significant, and the *p*-value ≤ 0.01 is highly significant.

Correlation tests the nature and strength of the relationship between the mothers’ knowledge, attitude, and prevalence of postpartum depression. The sign of the coefficient indicates the nature of the relation (positive/negative) while the value indicates the strength of the relationship as follows: no correlation for rho value less than 0.19, a weak correlation for rho of value between 0.20 - 0.29, a moderate correlation for rho of value between 0.30- 0.39, a strong correlation for rho of value between 0.4-0.69, and very strong correlation for values between 0.7 - 0.99.

Results of the research:

Table (1): Frequency distribution of the Socio demographic data among the studied new mothers (n = 290): -

Socio demographic data	No.	%
Age / years		
< 20	9	3.1
20 – < 35	250	86.2
35 -50	31	10.7
Mean ± SD	28.4 ± 5.5	
Duration of Marriage:		
1- < 5	133	45.9
5- < 10	70	24.1
10 - < 15	58	20.0

Socio demographic data		No.	%
15 - < 20		25	8.6
20 - 25		4	1.4
Mean ± SD		6.5 ± 5.3	
Occupation			
Unemployed		243	83.8
Employed		47	16.2
Educational level			
Illiterate		18	6.2
Read and write		15	5.2
Primary		10	3.4
Secondary		130	44.8
University		117	40.4
Educational level of husband			
Illiterate		14	4.8
Read and write		13	4.5
Primary		10	3.4
Secondary		137	47.3
University		116	40.0

Table (1): demonstrates that (86.2%) of the participants were aged between 20 – < 35 years with mean age (28.4 ± 5.5 years). (45.9%) of participants their duration of marriage was ranged from 1- < 5 years. The majority of participants were unemployed (83.8%). In relation to education, (44.8%) of them had a secondary education. Regarding the educational level of their husbands, (47.3%) had a secondary education.

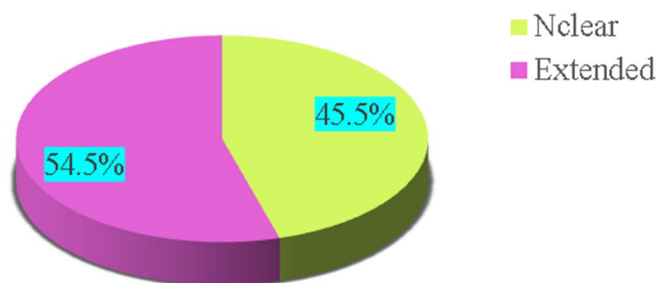


Figure (1): Frequency distribution of the studied new mothers regarding type of Family (n = 290):
Figure (1): portrays that (54.5%) of new mothers lived in an extended family.

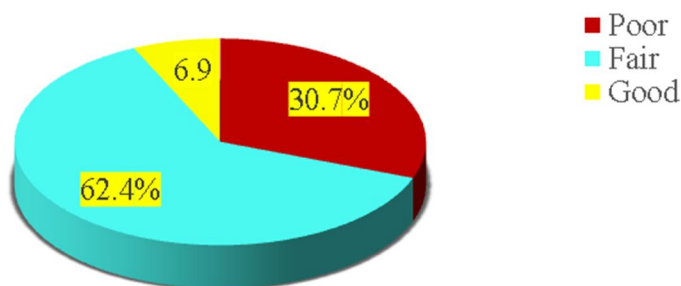


Figure (2): Frequency distribution of the studied new mothers regarding family income (n = 290):

Figure (2): reveals that the family income of (62.4%) of new mothers was fair.

Table (2): Frequency distribution of the new mothers’ knowledge regarding total items of each domain of postpartum depression (n = 290):

Items	Yes		No	
	No.	%	No.	%
Knowledge about signs and symptoms: signs and symptoms of PPD are	118	40.7	172	59.3
Knowledge about risk factors and causes	154	53.1	136	46.9
Knowledge about prevention	259	89.3	31	10.7
Knowledge about treatment	83	28.6	206	71.0

Table (2): indicates that the most recognized domain by the studied sample was the domain of knowledge about prevention of PPD (89.3%) and the least recognized domains by the studied sample were the domains of knowledge about signs and symptoms, causes and risk factors and treatment of PPD (59.3%,46.9% and 71.0% respectively).

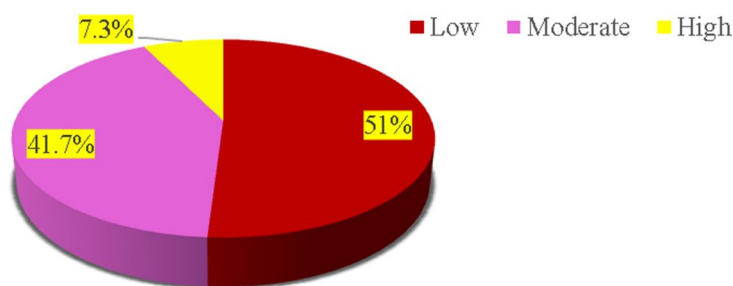


Figure (3): Frequency distribution of new mothers according to their total knowledge levels regarding postpartum depression (n = 290):

Figure (3): shows that slightly more than half of new mothers (51%), had low level of knowledge regarding postpartum depression.

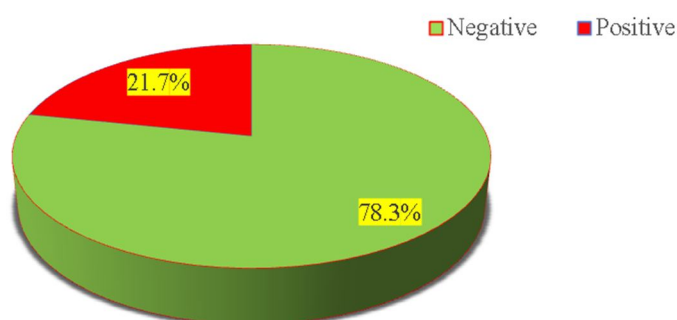


Figure (4): Frequency distribution of the studied new mothers according to total score of attitudes towards postpartum depression (n = 290):

Figure (4): illustrates that more than three-quarters (78.3%) of the studied new mothers had negative attitudes towards postpartum depression.

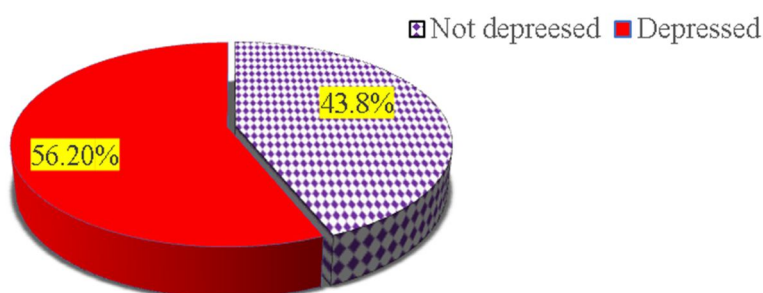


Figure (5) Frequency distribution of the prevalence of postpartum depression among new mothers in Minia City (n = 290):

Figure (5): portrays that (56.2%) of the studied new mothers had an Edinburgh Postnatal Depression Scale score of 13 or higher, indicating likely postpartum depression.

Table (3): Relation between prevalence of postpartum depression and new mothers' socio-demographic data (n = 290):

Items	Prevalence of postpartum depression				Test of significance	
	Not depressed		Depressed		X ²	P-value
	No.	%	No.	%		
Age / years						
< 20	6	66.7	3	33.3	3.626	0.163
20 - < 35	111	44.4	139	55.6		
35 - 50	10	32.3	21	67.7		
Duration of Marriage:					11.105	0.025*
< 5	71	53.4	62	46.6		
5 - < 10	29	41.4	41	58.6		
10 - < 15	19	32.8	39	67.2		
15 - < 20	7	28.0	18	72.0		
20 - 25	1	25.0	3	75.0		
Occupation					2.166	0.141
Unemployed	111	45.7	132	54.3		
Employed	16	34.0	31	66.0		

Items	Prevalence of postpartum depression				Test of significance	
	Not depressed		Depressed		X ²	P-value
	No.	%	No.	%		
Educational level						
Illiterate	5	27.8	13	72.2	4.468	0.346
Read and write	5	33.3	10	66.7		
Primary	3	30.0	7	70.0		
Secondary	63	48.5	67	51.5		
University	51	43.6	66	56.4		
Educational level of husband						
Illiterate	6	42.9	8	57.1	2.499	0.645
Read and write	3	23.1	10	76.9		
Primary	4	40.0	6	60.0		
Secondary	62	45.3	75	54.7		
University	52	44.8	64	55.2		
Type of Family						
Nuclear	55	41.7	77	58.3	.445	0.505
Extended	72	45.6	86	54.4		
Family income						
Poor	33	37.1	56	62.9	3.932	0.140
Fair	82	45.3	99	54.7		
Good	12	60.0	8	40.0		

Percentage calculated by raw **Statistically significance differences at P – Value < 0.05

Table (3): presents that there is a statistically significant relationship between prevalence of postpartum depression and duration of marriage (P- value: 0.025).

On the other hand, no statistically significant relationship between the age, occupation, educational level, educational level of husband, type of family and family income of new mothers with prevalence of postpartum depression.

However, the same table shows that slightly more than two-thirds of mothers whose age was ranged from (35 to 50) years old were depressed. Also, about two-thirds of employed mothers were depressed, (72.2 %) of illiterate mothers and 76.9% of mothers whose husbands read and wrote were depressed. Moreover (58.3% and 62.9%) of women who lived in nuclear families and had poor family income were depressed, respectively.

Table (4): Relation between prevalence of postpartum depression and new mothers’ obstetric history (n = 290)

Items	Prevalence of postpartum depression				Test of significance	
	Not depressed		Depressed		X ²	P-value
	No.	%	No.	%		
Number of Gravidity						
Primigravida	64	62.1	39	37.9	35.864	0.0001**
2	24	46.2	28	53.8		
3	24	40.0	36	60.0		
4	10	23.8	32	76.2		
More than four	5	15.2	28	84.8		
Number of Parity						
1	69	58.0	50	42.0	20.685	0.001**
2	25	38.5	40	61.5		
3	22	37.9	36	62.1		
4	9	27.3	24	72.7		
5	2	13.3	13	86.7		
Number of Abortion						
None	111	50.2	110	49.8	20.757	0.001**
1	13	28.9	32	71.1		
2	1	7.7	12	92.3		
3	1	14.3	6	85.7		
4	1	100.0	0	0.0		
More than four	0	0.0	3	100.0		
Number of living Children						
1	69	58.0	50	42.0	21.116	0.0001**
2	25	38.5	40	61.5		
3	23	39.0	36	61.0		
4	8	24.2	25	75.8		
Above 4	2	14.3	12	85.7		
Gender of the present baby						
Male	65	44.2	82	55.8	0.022	0.883
Female	62	43.4	81	56.6		
Breast feeding						
No	17	30.4	39	69.6	5.090	0.024*
Yes	110	47.0	124	53.0		
Mode of Delivery						
Vaginal delivery	32	53.3	28	46.7	2.797	0.094
Caesarean delivery	95	41.3	135	58.7		

Percentage calculated by raw **Statistically significance differences at P – Value < 0.01

Table (4): clarifies that there is a highly significant relationship between prevalence of postpartum depression and number of gravidity, number of parity, number of abortion, and number of living children (P- value: 0.0001, 0.001, 0.001& 0.0001 respectively).

Also, the same table clarifies that (69,6%) of mothers who don't breast feed their babies were depressed with statistically significant relationship (P value < 0.024).

On the other hand, no statistically significant relationship between gender of the present baby and mode of delivery with prevalence of postpartum depression, but it is noted that (56.6% & 58.7%) of mothers with females' babies and with caesarean deliveries were depressed, respectively.

Table (4): Correlation matrix between new mothers' knowledge, attitudes and prevalence of postpartum depression in Minia City (n = 290):

		Total knowledge	Total attitude	Total prevalence of postpartum depression
Total knowledge	r		0.661	0.088
	P- Value		0.0001**	0.133
Total attitude	r	0.661		0.128
	P- Value	0.0001**		0.029*
Total prevalence of postpartum depression	r	0.088	0.128	
	P- Value	0.133	0.029*	

*Correlation is significant at the 0.05 level **Correlation is significant at the 0.01 level

Table (4): shows that, there is a strong correlation between new mothers' knowledge and their attitudes toward postpartum depression and correlation between their attitudes and prevalence of postpartum depression with (P-value 0.0001 & 0.029, respectively).

Discussion:

Postpartum depression is one of the most common psychosocial consequences of motherhood. It is a disabling but treatable mental disorder that is associated with maternal morbidity and has negative effects on the baby. Despite the fact that PPD is harmful to both the mother and her child, it is still underdiagnosed and consequently neglected (Bhusal et al., 2023).

Regarding the socio-demographic characteristics of studied mothers, the current study showed that, the majority of studied mothers were in the age group of 20 – < 35 years old, with a mean age of (28.4 ± 5.5years). The greatest proportion of mothers had a duration of marriage ranging from 1- < 5 years. These results, supported by (Murry et al., 2020) who found that the greatest proportion of women their duration of marriage was ranged from 1 to 5 years. Similarly, a study conducted by (Karki& Gurung, 2021) reported that the majority of studied women aged between 21 – < 30 years and the greatest proportion of them their duration of marriage was ranged from 1 to 5years. Indeed, (Saeed et al., 2022) also found that the majority of women aged between 20 – < 35 years.

This finding contradicted the finding of (Hanach et al., 2023) who stated that less than two-thirds of mothers their age was ≥30 years with mean age (31.38±5.53 years). The lower age in the present study could be related to the younger age of marriage in Upper Egypt.

Concerning occupation, the majority of studied mothers were unemployed. These findings came in line with (Aslam et al., 2022) who reported that the largest number of participants were unemployed. However, this finding was inconsistent with (Obioha et al., 2021) who reported that the largest number of participants were employed. This might be due to that the majority of participants in this study had a tertiary education, which enhanced their chances of finding work.

In relation to education, less than half of the studied mothers had a secondary education. These results, confirmed by (Abazie& Usoro, 2021) and (Daliri et al., 2023) who reported that less than half studied mothers had a secondary education. Additionally, this result was at odds with the results of the studies done by (Obioha et al., 2021) and

(Tobiloba et al., 2022) who reported that more than half of their participants had a tertiary education.

In terms of the husband's educational level, less than half of the mother's husbands had a secondary education. This finding supported by (Aslam et al., 2022) who reported that less than half of the mother's husbands had a secondary education. However, this result conflicted with that of (Tobiloba et al., 2022) who found that two-thirds of the mother's husbands had a tertiary education.

Concerning the type of family, slightly more than half of the studied mothers lived in an extended family. This could be related to the strong ties between family members in Upper Egypt. This result was similar to the finding reported by (Adhikari et al., 2022) who found that slightly more than half of the studied mothers lived in an extended family. Contrary to this, (Tobiloba et al., 2022) found that more than three-quarters of mothers lived in a nuclear family.

In relation to family income, less than two-thirds of mothers said that their family income was fair. A similar result was obtained by (Mirsalimi et al., 2020) who revealed that less than two-thirds of mothers reported that their family income was fair. Also, (Zejnnullahu et al., 2021) reported that more than half of mothers their family income was fair.

Concerning knowledge regarding total items of each domain of PPD, the current study indicated that the highest score of knowledge was observed in the domain of knowledge about prevention and the lowest score of knowledge was in knowledge about treatment. These results were in line with those of (Huang et al., 2023) who found that the lowest score was for the domain of knowledge about treatment however, the same authors found the highest score was observed in the domain of knowledge about signs and symptoms.

Regarding total knowledge level about PPD, the current study showed that more than half of the mothers had a low level of knowledge regarding PPD. This might be because the majority of the study sample had a secondary education, which had an impact on their knowledge about PPD. This result was in accordance with (Obioha et al., 2021) who found that a little more than half of their subject had a poor knowledge regarding PPD. In addition, according to (Abazie& Usoro, 2021) more than half of the participants had

a poor knowledge regarding PPD. Moreover, (Karki & Gurung, 2021) found that the majority of their population had a poor level of knowledge regarding PPD.

Contrary to this, (Tobiloba et al., 2022) reported that less than two-thirds of the respondents had a fair knowledge about PPD and (Wang et al., 2023) reported that more than half of the participants had a good knowledge about PPD. Furthermore, less than three-quarters of the sample had a moderate degree of knowledge on PPD, according to (Huang et al., 2023). An explanation for this could include that the participants in these studies had a higher level of education.

Regarding the total score of attitudes toward PPD, the current finding illustrated that more than three-quarters of the studied mothers had negative attitudes toward PPD. This might be due to misconceptions regarding mental disorders and the stigma associated with them, in addition to poor knowledge regarding PPD. This finding was much higher compared to the study done by (Tobiloba et al., 2022) who reported that only 16.4% of mothers had poor attitudes towards PPD.

Additionally, it was observed by (Obioha et al., 2021) that merely 0.3% of mothers had poor attitudes towards PPD. This variation might be because in both studies, the respondents' attitudes toward PPD were categorized into three categories (poor, moderate, and good), and in both studies, most of the respondents had moderate attitudes towards PPD. Also, the respondents had a higher level of education in both studies.

Regarding the prevalence of PPD among new mothers, in the current study, the overall prevalence of PPD was 56.2%. This result was relatively high. This might be because obstetric clinicians ignore both PPD and other psychiatric disorders during pregnancy or postpartum, and PPD screening is not a routine part of postpartum care in Egypt. In addition, women are often hesitant to ask for help because of shame, cultural expectations, or the belief that their feelings are a normal reaction to this new condition.

As compared to western countries, the current study's PPD prevalence was higher, as according to a systematic review and meta-analysis conducted by (Wang et al., 2021) the prevalence of PPD was 13.89%, 11.22%, 18.56 %, and 21.50% in Canada, Australia, the United States and the United Kingdom, respectively.

The results of the current study were in line with those of other studies conducted in Africa. As reported by (Obioha et al., 2021) in Southwest Nigeria, the prevalence of PPD was found to be 52.3%. Similarly, in Ghana the prevalence of PPD was 50.4%, as reported by (Daliri et al., 2023). However, research by (Mokwena & Modjadji, 2022) revealed that the prevalence of PPD was 22% in South Africa, while research by (Kariuki et al., 2022) revealed a prevalence of 27.1% in Kenya.

In comparison to neighboring middle eastern countries, the study's findings aligned with those of (Almuqbil et al., 2022) who found that the prevalence of PPD was 59.68% in Saudi Arabia, and 60% in Libya, according to (Saeed et al., 2022). Also, in Iraq, (Al-Imam et al., 2023) found that the prevalence of PPD was 51.49%.

Contrary to this, a lower prevalence of PPD 32.8% was reported by (Alzahrani., 2022) in Saudi Arabia". Also, the prevalence of PPD was found as 35% in the United Arab Emirates, as reported by (Hanach et al., 2023). Furthermore, a study conducted in Palestine by (Wildali et al., 2022) found that the prevalence of PPD was 33.9%. Moreover, In Syria the

prevalence of PPD was 30.2% as reported by (Ayroun et al., 2023).

Obviously, variations in the prevalence of PPD occurred not only from one country to another but also within the same country. Therefore, in Egypt, according to the present study, the prevalence of PPD was higher than that in Sohag City, as reported by (Salem et al., 2017) who found that the incidence of PPD was 7.32%. This variation might arise from having noticed that, the Sohag study's participants were exclusively women between the ages of 20 and 35 years who were within six weeks postpartum.

Furthermore, the prevalence of PPD was 20% in Gharbia governorate (Mohamed et al., 2015) and 26.6% in Suez governorate (Goweda & Metwally, 2020). The reason for the difference might be that only women between the ages of 23 and 29 years who were within 6 to 8 weeks postpartum were included in the Gharbia trial, whereas only women within 4 to 12 weeks postpartum were included in the Suez study.

Moreover, according to (Ahmed et al., 2021) the prevalence of PPD was 33.5% in Assiut City and the prevalence of PPD in Port Said was 24.4% as reported by (Elkashif, 2022). The disparity in the results could be attributed to a different sample technique in the Assiut trial, while the Port Said study only included women who were 10 weeks postpartum. Also, according to (Elashiry et al., 2022) the prevalence of PPD in Fayoum governorate was 39.5%, which is a quite high and to some extent comparable to the prevalence of the present study.

In regard to relation between prevalence of postpartum depression and new mothers' socio-demographic data, the current study explained that there was a statistically significant relationship between prevalence of PPD and duration of marriage. These results disagreed with (Murry et al., 2020) who found that there was no significant relationship between prevalence of PPD and duration of marriage.

Concerning occupation and educational level and PPD, there was no statistically significant relationship between the occupation and educational level and PPD, but it was noted that about two-thirds of employed mothers were depressed. This could be because working mothers had to take on multiple responsibilities, such as taking care of family members, taking care of the home and working, which made them more vulnerable to PPD. Also, it was noted that less than three-quarters of illiterate mothers were depressed.

In a similarly, (Obioha et al., 2021) and (Tobiloba et al., 2022) found that there was no statistically significant relationship between the occupation and educational level and PPD. In contrast to these results (Elashiry et al., 2022) found that there was a statistically significant relationship between the occupation and educational level of women and PPD. However, the same author agreed with the current study and reported that more than half of employed mothers were depressed and two-thirds of illiterate mothers were depressed.

In relation to the educational level of husbands, the present study revealed no statistically significant relationship between the educational level of husbands and PPD; however, the highest percentage of mothers whose husbands read and wrote were depressed. This could be because uneducated husbands might not be able to recognize the value of psychological well-being and support for mothers, which might in turn affect women's ability to seek professional help. These results were in accordance with (Aslam et al., 2022)

who found that there was no statistically significant relationship between the educational level of husbands of mothers and PPD and also found that the highest percentage of mothers whose husbands read and wrote were depressed.

Concerning family income and PPD, the present study preserved no statistically significant relationship between family income and PPD. Even nevertheless, over half of women whose family income was poor were depressed. This might be because low family income constitutes a significant burden for women, which in turn affects their psychological well-being and might prevent them from seeking health care. The current study findings were similar to those of a study done by (Sunitha & Muktamath, 2023) who found that there were no statistically significant variations between PPD and family income and that more than half of women whose family income was poor were depressed.

Concerning the relation between prevalence of PPD and new mothers' obstetric history, the current study explained that there was a highly statistically significant relationship between prevalence of PPD and number of parity. This might be because that pregnancy and birth are stressful times for women since they include significant hormonal shifts that have an impact on moms' physical and mental health. Also, the present study found a highly statistically significant relationship between prevalence of PPD and number of abortions. This might be because abortion considered a painful and traumatic experience for the mother, as she experienced a feeling of loss. In addition, it might expose her to many health problems, which in turn might have a negative impact on the mother's psychological well-being.

These results were in accordance with (Aslam et al., 2022) who found that there was a statistically significant relationship between prevalence of PPD and number of abortions, however the same authors found no statistically significant relationship between prevalence of PPD and number of parity.

Regarding the number of living children and PPD, the current study revealed that there was a highly significant relationship between prevalence of PPD and number living children. This might be because that the large number of children increases the mother's responsibilities and places many burdens on her, which in turn negatively affects the mother psychologically and physically. This finding was confirmed by (Ahmed et al., 2021) who found a statistically significant association between number of infants and PPD.

In relation to breastfeeding and PPD, there was a statistically significant relationship between the prevalence of PPD and breastfeeding, as more than sixty six percent of mothers who didn't breast feed their babies were depressed. This might be because oxytocin and prolactin, which are released when a mother breastfeed, have a good impact on her mental and emotional health by lowering stress levels and improving mood. This finding was consistent with (Sunitha & Muktamath, 2023) and (Ahmed et al., 2021) who found a statistically significant relationship between the prevalence of PPD and breastfeeding.

Finally, in regard to the correlation between new mothers' knowledge, attitudes and prevalence of postpartum depression, the present study revealed that there was a strong correlation between new mothers' knowledge and their attitudes toward PPD. This result was in accordance with (Wang et al., 2023) who found that there was a statistically significant correlation between the total level of knowledge of the studied sample and their attitudes toward PPD.

Additionally, the current study illustrated that there was a correlation between the attitudes of mothers and prevalence of PPD. This result was inconsistent with (Tobiloba et al., 2022) who found that there was no correlation between mothers' attitudes toward PPD and prevalence of PPD.

Conclusion:

The current research summarized a lack of knowledge about postpartum depression among new mothers in Minia City. Furthermore, more than three-quarters of the studied new mothers had negative attitudes toward postpartum depression and the prevalence of postpartum depression was 56.2%.

Recommendations:

- ❖ Health education and screening for PPD should be incorporated into antenatal and postnatal care by governmental policies, as this will promote awareness and early recognition of PPD.
- ❖ Health professionals, in particular nurses, midwives, and obstetricians, as the specialists in direct contact with women, should be equipped with adequate knowledge about PPD and trained to detect women at risk of depression and refer them to psychiatrist when necessary.
- ❖ All women should be assessed with a screening instrument, such as the EPDS, at different times and for at least one year after childbirth, in order to detect women at risk and thus be able to intervene as early as possible.
- ❖ Education about PPD should also be given to women through mass media, as it can play an important role in enhancing women's knowledge level, correcting misconceptions and beliefs regarding PPD, and also improving community knowledge and attitudes towards PPD. Posters and educational materials about PPD should be available and located in well-visible areas in hospitals and primary healthcare centers.

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