Prevalence and relationships of socioeconomic state of postpartum depression among mothers during their first week of postpartum period, ALmadinah AL Monawarah, Saudi Arabia

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Abstract

Background

Postpartum depression (PPD) is inversely correlated with woman's' functioning, marital and personal relationships, mother-infant interaction quality, and children's' social, behavioral, and cognitive development. "With peripartum onset if onset of mood symptoms occurs during pregnancy or within 4 weeks following delivery" Prevalence and relationships of socioeconomic state of postpartum depression among mothers during their first week of postpartum period. **Objective:** This study aimed to estimate to the prevalence of postpartum depression among mother of Al-Madinah province in Saudi Arabia and investigate the factors associated with higher prevalence of postpartum depression. **Method:** The study design was cross-sectional. Data in regard of postpartum depression prevalence and associated risk factors. Were the number of samples 350 collected by using a self-administered and online questionnaire. The survey was distributed using social media platforms. Finally, The EPDS and MSPSS was used to identify risk factors significantly associated with postpartum depression. **Result:** Total of 351 participants were included in this study.As for the level of perceived social support from the other significant, 87 had low support from the other significant, 77 had a moderate support, and 187 had a high support.As for the level of perceived social support from the family, 91 had low support from the family, 89 had a moderate support, and 171 had a high support.As for the level of perceived social support from friends, 116 had low support from friends, 139 had a moderate support, and 96 had a high support. Level of perceived social support from the other significant, level of perceived social support from family, and level of perceived social support from friends were all significantly associated with depression score postpartum, where it was observed that the higher the level of the support the lower the depression score. **Conclusions:** The prevalence of PPD among the study participants was high, especially those with no social support. And this study was aimed to detect the relation between PPD and socioeconomic status and its effect on mother daily life. PPD is a serious, but treatable condition that must be observed in all pregnant women, The most-common psychosocial and psychological interventions using in the management of postpartum depression and the psychosocial support proved to be the most effective intervention.

Key words: Postpartum depression, prevalence, social work, socio-economic status, social support

Introduction:

Depression is a major public health problem that is twice as common in women as men. Postpartum depression affects as many as 80% of all women Begins within one week after birth [1]. Diagnostic and Statistical Manual of Mental Disorders (DSM-5) defines as major depressive disorder: "with peripartum onset if onset of mood symptoms occurs during pregnancy or within 4 weeks following delivery"[2]. PPD is different from postpartum blues and psychosis, in which the first refers to a transient condition mood liability, mild anxiety, and tearfulness that most mother could experience shortly after delivery [3]. Whereas postpartum psychosis is a rare illness that occurs in 1-2 women out of 1,000 and is considered to be the most severe form of postpartum Psychiatric illnesses [3]. Risk factors includes History of mood and anxiety problems, if depression and anxiety during pregnancy untreated, rapid decline and shift of hormones in postpartum period, Genetic factors, social factors-intimate-partner violence, prior abuse, lack of social support, negative life event. Its same as for major depression, with the specifier "with peripartum onset" defined as depressive symptoms occurring during pregnancy and up to 4 weeks after birth [4]. Includes, Sleep disturbance, feeling overwhelmed, Anxiety, Irritability, Unable to perform activities of daily living, Pre occupation and obsession with the infant's health Can have suicidal, infanticidal, and or homicidal ideation Apathy toward self or to the infant [5]. the Symptoms do not improve over time; more likely to worsen. It's a serious and common but treatable condition and should be considered during observation in all pregnant women just after delivery especially in primary health care unit [6]. So, screen all postpartum women for depression through Utilize validated tools-Edinburgh Postnatal Depression Scale and Rule out other illnesses or factors that may cause similar symptoms There are valid and reliable treatments for PPD which including psychotherapy, antidepressant medication and others treatment such as electroconvulsive therapy (ECT), remove of the stressor or risk factor if there is any. But there is significant limitation that prevent women from receiving care and effective treatments such as stigma, no effective screening, and a lack of skilled health care providers with special training to recognize and treat this condition. There is high variation among reported research on the prevalence of PPD. A cross-sectional study was conduct in Riyadh, Saudi Arabia show high prevalence PPD 38.5 % [7], while a study of among Saudi women show 25.7% [8]. Another cross-sectional study in Ethiopia found the prevalence was 15.6% which consider lower than most studies done in different area [9]. The variation in prevalence among different population might be due to the disparities in health care setting or social and geographical differences.

General objective:

To estimate the community prevalence of postpartum depression in ALmadinah Almnawarh, Saudi Arabia

Specific objective:

- To determine the prevalence of of postpartum depression among mothers in ALmadinah Almnawarh
-To determine the relationship between postpartum depression and socio-economic state

Body (review of literature):

1- A cohort study of total 2802 pregnant women conducted to analyze the trajectories of depression and the associated key risk factors in the per- partum and postpartum period which concluded that a history of anxiety or depression, unattached marital status, and inadequate social support were significantly associated with greater depression as well as most of the depression trajectories were stable or slightly decreased over time.

2- Cross-sectional study of PPD was done in Ghana,Africa 2018, in this study A Patient Health Questionnaire was used to screen for depression ,to collect primary data on the interventions for the management of postpartum depression

The prevalent was 7% among all mothers were selected.

The psychosocial support has been the most effective intervention in its management.

 socioeconomic status: most influential determinant of health, is defined as

 the position of an individual or of a household within a society. It is a

 combination of occupation, education, income, wealth, and residence

 neighborhood, building, of an appropriate tool for measuring SES can be a

 significant contribution for planning and policy-making in health system, both

 at micro & macro levels.

Postpartum depression may affect socialization behaviors in children and the mother, and it may lead to thoughts of failure leading to deeper depression.

Frequent screening exercises for postpartum depression should be organized by authorities of the hospitals in conjunction with the Ministry of Health.

3- Cross section study of PPD was done in Riyadh,Saudi Arabia 2020 , In this study, 174 mothers receiving treatments in different hospitals of Riyadh and the study result show of 174 participants of the study, 38.50% (n = 67) reported postpartum depression. Around (115) of the participants were in an age group of 25-45 years with most of them highly educated (101) but unemployed (136). Significant association was noted between occurrence of PPD with unsupportive spouse and recent stressful life events, The prevalence of PPD among the study participants was high.

4- Cross-sectional study of PDD was done in Riyadh, Saudi Arabia 2017. the required sample sizes

was calculated to be 120. This study aimed to examine the impact of general help-seeking

behavior (GHSB) and partner support (PS) on PPD among Saudi women in primary health care

clinics. The prevalence of PPD among the study participants was high, especially among higher

para women who underwent normal delivery and women ≥6 weeks post cesarean-section, in

comparison with the results in other studies. PPD is reduced by enhancing women's GHSB and

PS.

5- cross-sectional study of PPD was done in Ethiopia Debre Berhan University 2018, in this study 308 mothers who attended postpartum care we're included, which was a 100% response rate. The prevalence of postpartum depression was found to be 15.6% (95%CI = 11.7, 19.8). Being widowed/widower, having poor social support, having a current hospitalized child, and experienced a death of family member or close relative were significantly associated with postpartum depression

Methods:

The study design was cross-sectional. In material and child hospital in almadinah almunawarh . The time period was from January to April 2022. Our population include postpartum women in the first week of postpartum period and our exclusion population includes non-married female, nullipara, infertile women. Data in regard of postpartum depression prevalence and associated risk factors Were the number of sample 351 collected by cluster random sample using a self-administered in material and child hospital in almadinah almunawarh which include 1/3 of the collected sample and online questionnaire include 2/3 of the collected sample.The survey was distributed using social media platforms. Finally, The Edinburgh Postnatal Depression Scale (EPDS) and Multidimensional Scale of Perceived Social Support (MSPSS) questionnaires was used to identify risk factors significantly associated with postpartum depression. Data analysis was performed using Statistical Package for the Social Sciences, SPSS 23rd version. Frequency and percentages were used to display categorical variables. Minimum, maximum, mean, and standard deviation were used to present numerical variables. ANOVA test was used to test for factors associated with depression score. ANOVA test was followed by Tukey post-hoc test to determine where the exact difference between groups exist. Level of significance was set at 0.05.

Statistical Analysis:

Data analysis was performed using Statistical Package for the Social Sciences, SPSS 23rd version. Frequency and percentages were used to display categorical variables. Minimum, maximum, mean, and standard deviation were used to present numerical variables. ANOVA test was used to test for factors associated with depression score. ANOVA test was followed by Tukey post-hoc test to determine where the exact difference between groups exist. Level of significance was set at 0.05.

Result:

Total of 351 participants were included in this study. Table 1 shows the sociodemographic profile of the participants. As for the age, 64 (18.2%) were 18 – 25 years old, 125 (35.6%) were between 25 – 35 years, 79 (22.5%) were between 35 – 40 years, and 83 (23.6%) were older than 40 years. As for the family income, 203 (57.8%) reported they had a sufficient family income, 64 (18.2%) reported that their income was sufficient and there is enough for saving, 39 (11.1%) reported that their income was not sufficient, and 45 (12.8%) reported they need an extra source of income. As for the time spent with the child, 279 (79.5%) reported that they spend most of the time with their child, 46 (13.1%) reported they sometimes spend time with their child, 21 (6%) reported that they are not always spending time with their child, and 5 (1.4%) reported they never spend time with their child.

Table 1 Socio-Demographic Profile of The Participants (n = 351)

Demographical Charactaristics	n	%
As for the age		
18 - 25 years	64	18.20
25 - 35 years	125	35.60
35 - 40 years	79	22.50
Older than 40 years	83	23.60
Is the family income sufficient?		

Yes, it is sufficient	203	57.80
Yes, it is and there is enough for saving	64	18.20
No, it is not sufficient	39	11.10
In need for extra source of income	45	12.80
Do you spend time with your child		
Yes, most of the time	279	79.50
Yes, sometimes	46	13.10
Not always	21	6.00
No never	5	1.40

Figure 1 displays the appetite change postpartum. 66 (18.8%) reported it increased, 152 (43.3%) reported it decreased, 110 (31.3%) reported it did not change, while 23 (6.6%) reported they were not sure.

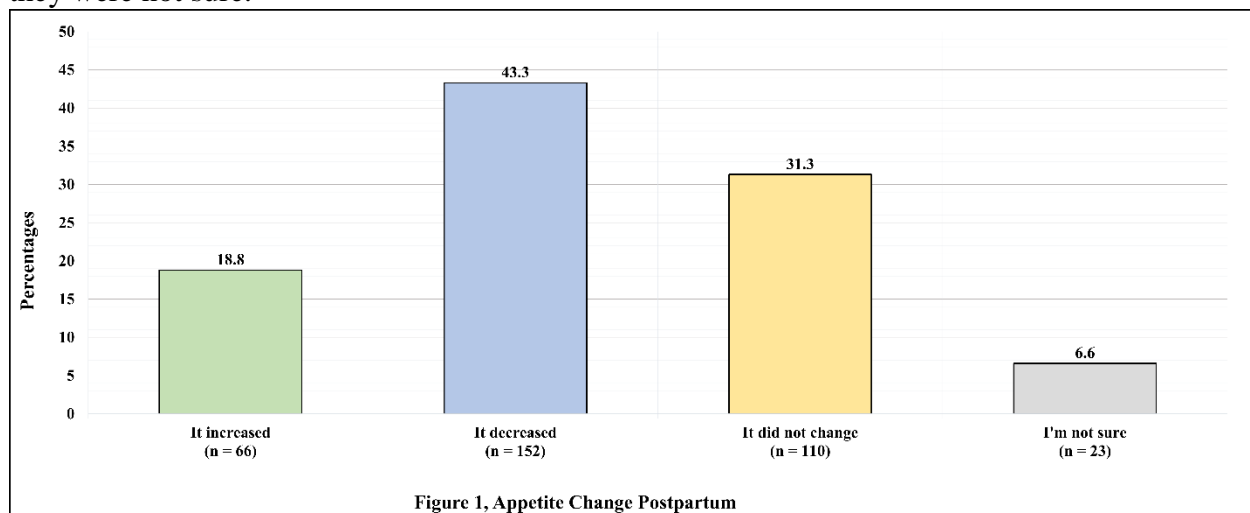

Figure 1, Appetite Change Postpartum

Figure 2 present the sleep change postpartum. 261 (74.4%) reported that their sleep decreased, 31 (8.8%) reported it increased, 42 (4.8%) reported they had insomnia, and 31 (8.8%) reported they had insomnia.
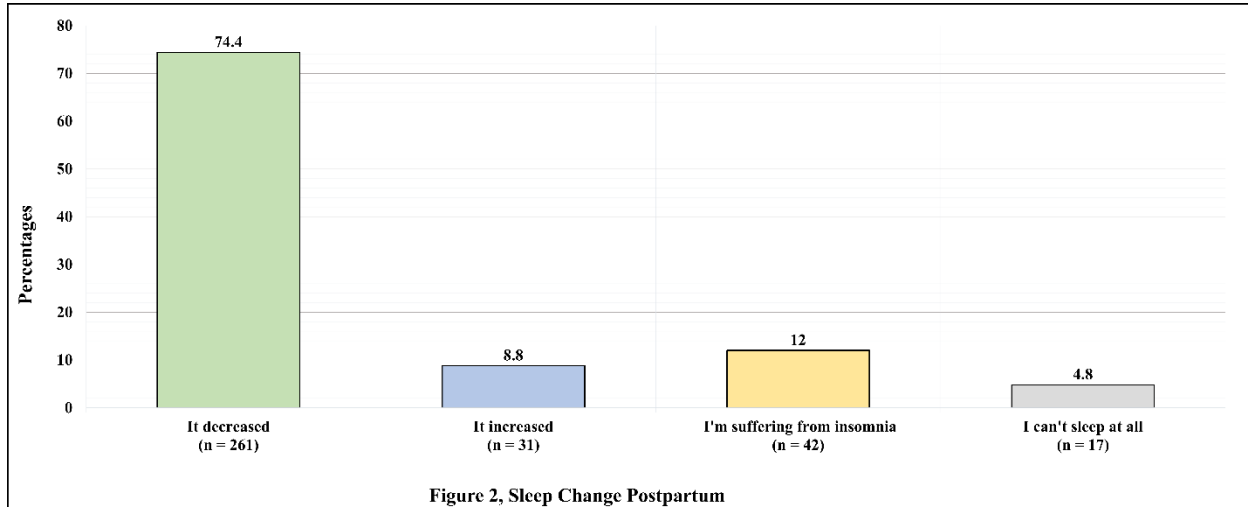
Figure 2, Sleep Change Postpartum

Table 2 demonstrates postpartum depression assessment using the Edinburgh Perinatal/Postnatal Depression Scale (EPDS). As for the depression assessment score, the minimum was 0, the maximum was 26, and the mean was 11.36 + 6.53. Figure 3 illustrates the postpartum depression assessment interpretation. Depression was not likely in 130 (37%) of the participants, depression was possible for 62 (17.7%), depression was fairly highly possible for 29 (8.3%), and depression was probable in 130 (37%).

Table 2
Postpartum Depression Assessment using the Edinburgh Perinatal/Postnatal Depression Scale (EPDS) (n = 351)

Question	n	%
I have been able to laugh and see the funny side of things		
As much as I always could	233	66.4
Not quite so much now	82	23.4
Definitely not so much now	26	7.4
Not at all	10	2.8
I have looked forward with enjoyment to things		
As much as I ever did	208	59.3
Rather less than I used to	101	28.8
Definitely less than I used to	34	9.7
Hardly at all	8	2.3
I have blamed myself unnecessarily when things went wrong		
Yes, most of the time	82	23.4
Yes, some of the time	113	32.2
Not very often	64	18.2
No, never	92	26.2
I have been anxious or worried for no good reason		
No, not at all	59	16.80
Hardly ever	69	19.70
Yes, sometimes	156	44.40
Yes, very often	67	19.10

I have felt scared or panicky for no very good reason		
Yes, quite a lot	87	24.8
Yes, sometimes	110	31.3
No, not much	86	24.5
No, not at all	68	19.4
Things have been getting on top of me		
Yes, most of the time I haven't been able to cope	86	24.5
Yes, sometimes I haven't been coping as well as usual	143	40.7
No, most of the time I have coped quite well	57	16.2
No, I have been coping as well as ever	65	18.5
I have been so unhappy that I have had difficulty sleeping		
Yes, most of the time	63	17.9
Yes, sometimes	94	26.8
Not very often	102	29.1
No, not at all	92	26.2
I have felt sad or miserable		
Yes, most of the time	57	16.20
Yes, quite often	46	13.10
Not very often	93	26.50
No, not at all	155	44.20
I have been so unhappy that I have been crying		
Yes, most of the time	67	19.1
Yes, quite often	37	10.5
Only occasionally	116	33
No, never	131	37.3
The thought of harming myself has occurred to me		
Yes, quite often	16	4.6
Sometimes	19	5.4
Hardly ever	34	9.7
Never	282	80.3
Depression Assessment Score		
Range	0-26	
Mean±SD	11.36±6.53	

Table 3A and 3B shows the social support assessment using the Multidimensional Scale of Perceived Social Support (MSPSS). As for the overall perceived social support score, the minimum was 1, the maximum was 7, and the mean was 4.42 + 1.84. As for the perceived social support from the other significant score, the minimum was 1, the maximum was 7, and the mean was 4.81 + 2.18. As for the perceived social support from family score, the minimum was 1, the maximum was 7, and the mean was 4.62 + 2.06. As for the perceived social support from friends score, the minimum was 1, the maximum was 7, and the mean was 3.84 + 1.89. As for the level of perceived social support from the other significant, 87 (24.8%) had low support from the other significant, 77 (21.9%) had a moderate support, and 187 (53.3%) had a high support. As for the level of perceived social support from the family, 91 (25.9%) had low support from the family, 89 (25.4%) had a moderate support, and 171 (48.7%) had a high support. As for the level of
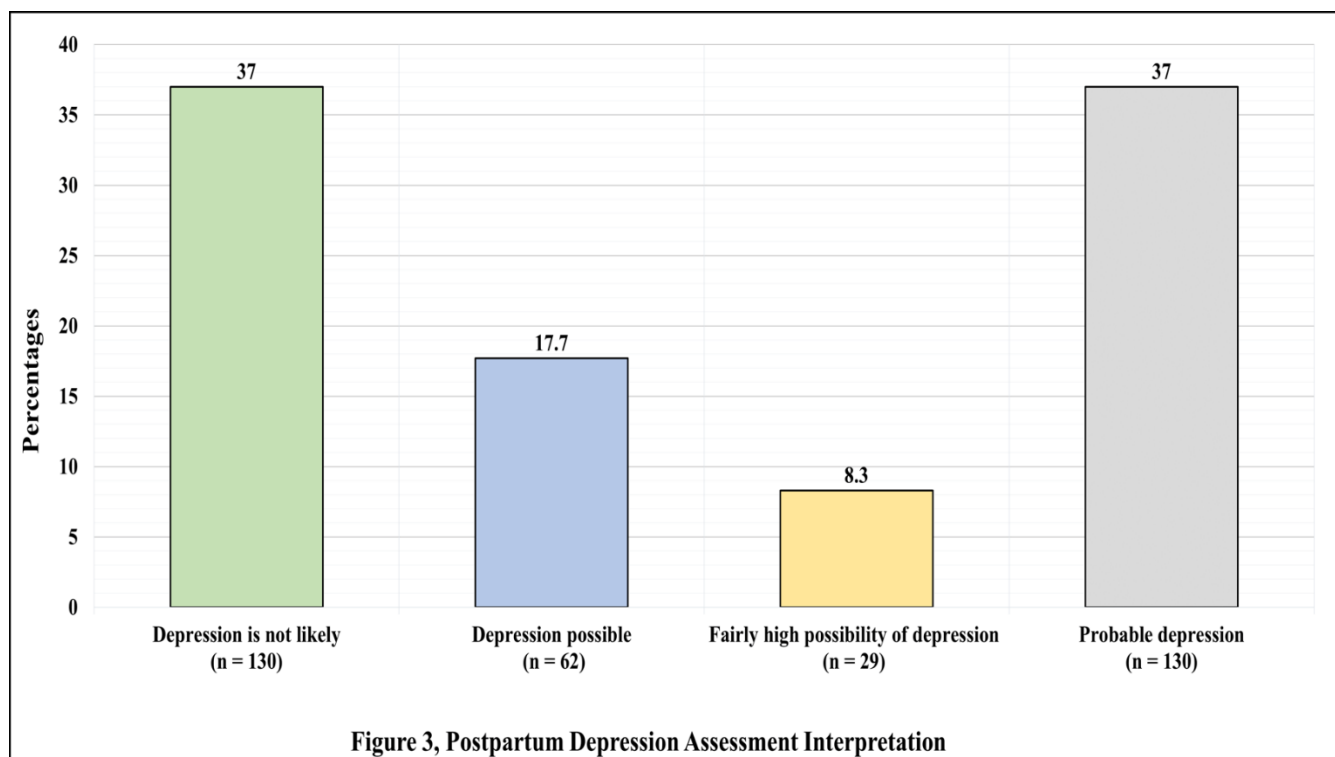
Figure 3, Postpartum Depression Assessment Interpretation

perceived social support from friends, 116 (33%) had low support from friends, 139 (39.6%) had a moderate support, and 96 (27.4%) had a high support.

Table 3A Social Support Assessment using the Multidimensional Scale of Perceived Social Support (MSPSS) (n = 351)

		Very strongly disagree	Strongly disagree	Mildly disagree	Neutral	Mildly agree	Strongly agree	Very strongly agree
There is a special person who is around when I am in need.	N	59	27	22	31	32	46	134
	%	16.8	7.7	6.3	8.8	9.1	13.1	38.2
There is a special person with whom I can share joys and sorrows.	N	57	24	23	30	29	44	144
	%	16.2	6.8	6.6	8.5	8.3	12.5	41
My family really tries to help me.	N	52	21	23	34	25	43	153
	%	14.8	6	6.6	9.7	7.1	12.3	43.6
I get the emotional help & support I need from my family.	N	57	28	27	31	26	39	143
	%	16.2	8	7.7	8.8	7.4	11.1	40.7
I have a special person who is a	N	59	24	24	30	33	46	135
	%	16.8	6.8	6.8	8.5	9.4	13.1	38.5

real source of comfort to me.							
My friends really try to help me.	N	63	39	39	58	39	46	67
	%	17.9	11.1	11.1	16.5	11.1	13.1	19.1
I can count on my friends when things go wrong.	N	90	37	45	48	42	33	56
	%	25.6	10.5	12.8	13.7	12	9.4	16
I can talk about my problems with my family.	N	74	33	27	40	36	48	93
	%	21.1	9.4	7.7	11.4	10.3	13.7	26.5
I have friends with whom I can share my joys and sorrows.	N	74	33	32	52	39	43	78
	%	21.1	9.4	9.1	14.8	11.1	12.3	22.2
There is a special person in my life who cares about my feelings.	N	61	27	21	32	30	40	140
	%	17.4	7.7	6	9.1	8.5	11.4	39.9
My family is willing to help me make decisions.	N	68	27	30	46	34	38	108
	%	19.4	7.7	8.5	13.1	9.7	10.8	30.8
I can talk about my problems with my friends.	N	97	40	42	60	34	29	49
	%	27.6	11.4	12	17.1	9.7	8.3	14

Table 3B
Social Support Assessment using the Multidimensional Scale of Perceived Social Support (MSPSS) (n = 351)

Overall Perceived Social Support score	
Range	1-7
Mean±SD	4.42±1.84
Perceived Social Support from Significant Other score	
Range	1-7
Mean±SD	4.81±2.18
Perceived Social Support from Family score	
Range	1-7
Mean±SD	4.62±2.06
Perceived Social Support from Friend score	
Range	1-7
Mean±SD	3.84±1.89

Item	n	%
Level of Perceived Social Support from Significant Other		
Low support	87	24.80

Moderate support	77	21.90
High support	187	53.30
Level of Perceived Social Support from Family		
Low support	91	25.90
Moderate support	89	25.40
High support	171	48.70
Level of Perceived Social Support from Friend		
Low support	116	33.00
Moderate support	139	39.60
High support	96	27.40

Figure 4 displays the overall level of perceived social support. 89 (25.4%) had low overall social support, 115 (32.8%) had a moderate support, and 147 (41.9%) had a high support..
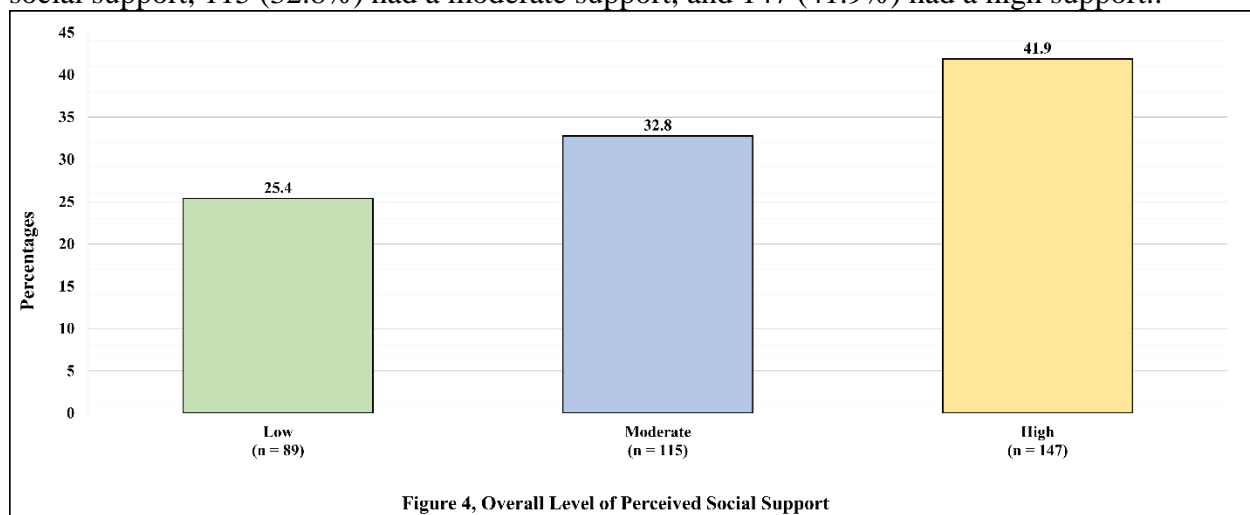

Figure 4, Overall Level of Perceived Social Support

Table 4 present the factors associated with postpartum depression assessment. Family income was significantly associated with postpartum depression score (p < 0.001), where it was observed that those with sufficient income had lower depression score compared to those with insufficient income. Tukey-post hos test revealed that both those with sufficient income and those with sufficient income and have enough to save had a significantly lower depression score compared to both those insufficient income (p < 0.05), and those in need for extra source of income (p < 0.05), respectively.

Table 4

Factors Associated with Postpartum Depression Assessment

Factor	Mean±SD	P-Value
Age		
18 - 25 years	12.83±6.075	
25 - 35 years	10.91±6.953	0.214
35 - 40 years	11.49±6.365	
Older than 40 years	10.8±6.289	
Is the family income sufficient?		< 0.001*
Yes, it is sufficient	10.74±6.44	

Yes, it is and there is enough for saving	9.00±5.95	
No, it is not sufficient	15.36±5.72	
In need for extra source of income	14.07±6.15	
Do you spend time with your child		
Yes, most of the time	10.56±6.295	
Yes, sometimes	14.09±6.66	< 0.001*
Not always	16.00±6.55	
No never	12.00±4.06	
Appetite Change Postpartum		
Yes, it increased	12.05±6.40	< 0.001*
Yes, it decreased	13.20±6.57	
No, it did not change	8.25±5.81	
Sleep Change Postpartum		
It decreased	10.79±6.13	
It increased	9.87±6.30	< 0.001*
No, I'm suffering from insomnia	13.00±7.12	
I can't sleep at all	18.94±6.34	
Level of Overall Perceived Social Support		
Low support	14.37±5.90	< 0.001*
Moderate support	12.63±6.39	
High support	8.56±5.89	
Level of Perceived Social Support from Significant Other		
Low support	14.22±5.71	< 0.001*
Moderate support	12.77±6.42	
High support	9.46±6.33	
Level of Perceived Social Support from Family		
Low support	14.14±6.18	< 0.001*
Moderate support	13.27±5.49	
High support	8.89±6.30	
Level of Perceived Social Support from Friends		
Low support	13.67±6.24	< 0.001*
Moderate support	11.40±6.19	
High support	8.52±6.29	

*Significant at level 0.05

Overall perceived social support level, level of perceived social support from the other significant, level of perceived social support from family, and level of perceived social support from friends were all significantly associated with depression score postpartum (p < 0.001, in each comparison respectively), where it was observed that the higher the level of the support the lower the depression score. Tukey post-hoc test revealed that those who received high overall social support had a significantly lower depression score compared to those who had low overall social support (p < 0.05). It also revealed that those who received high social support from the other significant had a significantly lower depression score compared to those who had low

social support from the other significant (p < 0.05). Likewise, it revealed that those who received high social support from the family had a significantly lower depression score compared to those who had low social support from the family (p < 0.05). Moreover, Tukey post-hoc test revealed that those who had high social support from friends had a significantly lower depression score compared to both those with moderate support from friends (p < 0.05) and compared to those with low social support from friends (p < 0.05). It also revealed that those who received moderate social support from friends had a significantly lower depression score compared to those with low social support from friends. Age was not significantly associated with depression score postpartum.

Table 5 demonstrates the postpartum consequences associated with postpartum depression assessment. Spending time with the child was also significantly associated with the postpartum depression score (p < 0.001).
Tukey post-hoc test revealed that those who spend most of the time with their child had a significantly lower depression score compared to those who spend sometimes (p < 0.05), and those who spend time but not always (p < 0.05). Appetite change postpartum was also significantly associated with the depression score postpartum (p < 0.001). Tukey post-hoc test revealed that those with increased appetite and those with decreased appetite both had significantly higher depression score compared to those with no change in appetite (p < 0.05), in each comparison respectively. Sleep change post-partum was also significantly associated with postpartum depression score (p < 0.001), where it was observed that the lowest score was seen in participants with increased sleep time. Tukey post-hoc test revealed that those who reported not being able to sleep at all had a significantly higher depression score compared to those with decreased sleep (p < 0.05), compare to those with increased sleep (p < 0.05), and compared to those with insomnia (p < 0.05).

Table 5
The postpartum consequences associated with postpartum depression assessment

Factor	Postpartum Depression Score Mean±SD	P-Value
Do you spend time with your child		
Yes, most of the time	10.56±6.295	
Yes, sometimes	14.09±6.66	< 0.001*
Not always	16.00±6.55	
No never	12.00±4.06	
Appetite Change Postpartum		
Yes, it increased	12.05±6.40	
Yes, it decreased	13.20±6.57	< 0.001*
No, it did not change	8.25±5.81	
Sleep Change Postpartum		
It decreased	10.79±6.13	
It increased	9.87±6.30	< 0.001*
No, I'm suffering from insomnia	13.00±7.12	
I can't sleep at all	18.94±6.34	

Discussion:

This research was cross sectional study focused on elucidating the prevalence and predictor of postpartum depression amongst mother of Almadinah region of Saudi Arabia using established validated protested questionnaire with Edinburgh postnatal depression scale which is considered as one of the most common tool for assessing depression in prevalent studies reported till date on PPD, and multidimensional scale of perceived social support (MSPSS Our finding in this study showed prevalence (37%) (n=130) of PPD and in (37%) (n=130) PPD was not likely. The prevalence of PPD was relatively high when compared to other studies. There's another study was done in Riyadh which showed prevalence of 38%. Also, our findings correlated with the report of World Health Organization's (2009) that indicated 20–40% prevalence of PPD in developing countries. The possible reasons for earlier reports on lower PPD prevalence could be due to single centered sample collection or limiting the interview time to 8–12 weeks post-delivery. This study reported the importance of corrective measures and family support to curb the menace of depression and promote healthy life for mother to facilitate proper growth and development of the new born. This study shows women who's older than 25 years old have a significant risk for PPD about (81.7%), and for the family income, there is low significant risk for PPD. The PPD affect daily life such as, sleep, appetite which was significantly decreased in those with PPD. And other includes crying, relationship between the mother and her baby, this is considered an important predictor of PPD and carrying a high risk for the baby development. Also, mother being blamed herself for most of the time had strong association with PPD. This research shows 41.9% out of 351 participants had a high social support, who's perceived social and positive emotional support from life partners, family and friends had a low risk for developing PPD. Were the family support was the strongest factor. It turns out that the economic status of the family has an effect, but not significantly on the emergence of postpartum depression with the presence of social support and particularly from the family. The family play an important role in preventing depression and the wellbeing of the mother, and whom had unsupportive life partner and low social support had greatest risk for depression. After the birth of the baby, mothers will have many new responsibilities and challenges that she may can't handle with, and the presence of unsupportive life partner will increase the load on the mother making it difficult for her. Our study concludes that there's a relationship between postpartum depression and the presence of social support. One of the limitations of our study is uncooperative patients. We found difficulties getting their approval. We believe that society must be aware of medical research and how helpful it is for the community's health. We also faced time management between the college and filling surveys. We believe that it would be much easier if we done from data collection during summer vacation.

Conclusion:

The prevalence of PPD considered to be low among our study populations. But it was high in those who have no social support. And this study was aimed to detect the relation between PPD and socioeconomic status and its effect on Mother daily life. After conducting the research, we concluded that among mothers with good social support we found that there was a significant association between family support and the prevention of development of PPD. And for the

family income there is low significant risk for PPD. PPD is a serious, but treatable condition that must be observed in all pregnant women, The most-common psychosocial and psychological interventions using in the management of postpartum depression were psychosocial support, professionally based postpartum home visits, interpersonal psychotherapy, and cognitive therapy. However, psychosocial support proved to be the most effective intervention as it was reported to have influenced the reduction of depressive symptoms.

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