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RESEARCH ARTICLE

PREVALENCE AND FACTORS ASSOCIATED WITH DEPRESSIVE SYMPTOMS AMONG POST-PARTUM MOTHERS IN JEDDAH.

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Abstract

Background: Pregnancy and delivery are big events in a woman's life , it could associated with physiological and psychological problems lead to postpartum depression (PPD) , This study aimed to assess the prevalence rate of post-partum depression symptom among post-partum mother in Jeddah , Saudi Arabia

Method: This cross sectional study was carried out at five health care centers in Jeddah , Saudi Arabia during the period from January to December 2016, among post-partum mother who admitted to obstetrics & gynecology units , A semi structure questionnaire was used to collect the data.

Result: A total of 512 postpartum females were included in this study, (68.8%) were from group age 25-40 46.5% were housewives and 66.6% had a university education , 65.6% were from group monthly income more than 8000 SR, 25.0% reported medical problem, 43.9% planned for pregnancy. The EPDS mean score was 12.7 ± 5.8 rang (0-30) , there was significant association between PPD and the following sociodemographic and medical characteristics (maternal age, maternal education ,maternal occupation, monthly income , medical problems , planning pregnancy and previous psychological problems).

Conclusion: The current study showed that advanced age , lower educational level for both mother and father , medical problems were risk factors . Further studies need to be conduct to investigate the relation between PPD and other risk factors in Saudi community.

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Introduction:-

Pregnancy and delivery are big events in a woman's life , it is a blessing and joyful experience in normal situation, however the opposite can happen due to the fact that childbirth could associated with physiological and psychological problems lead to postpartum depression (PPD) , which is defined as " in the Diagnostic and Statistical Manual for Mental Disorders as major depression with postpartum onset with episodes of depression beginning within 4 weeks of giving birth" . (1) and also as "a non-psychotic depressive state that begins in the post-partum period, after the child birth , it is a mood disorder that can occur at any time during the first year after delivery " . (2)Mental health problem are major public health issue for women in reproductive age in both developing and developed countries ,(2)where several studies reported postpartum depression as the most common

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psychological complications among childbearing women , with prevalence rate between 10-20% , (1,3,4) this variety in the prevalence due to several factors : time of survey, population characteristics, culture issues. (1) in the first day after delivery mother will be concentrated on her baby and excited about it but after a few days her mood go down and she may feel sad ,depressed and had insomnia that what we called a baby blues and it begin from the early days after birth to two weeks later and it would may develop to a postpartum depression, (3,5) . The main characteristics of PPD are: tearfulness, anxiety, emotional stress , guilty feelings , loss of appetite, suicidal thoughts, sleep disorders, concentration and memory problems, exhaustion, and irritability, as well as feelings of weakness and incompetence to deal with the baby. (1,3,4).

the post-partum depression is a relatively common disorders with onset between one and six months after delivery and may last six month or longer, (4) and can affects the health of both the mother (poor life quality and death) as well as the child (malnutrition , developmental delay, poor growth, and damaged mother-infant relation). (1,3,4,6) There are several risk factors associated with PPD: Family history of previous depressive illness or other psychiatric in the patient or her relatives, life stress , (4) ,labor pain (1) inadequate antenatal care, socio-economic status, (7) chronic illness, caesarian section, (post partum), nutritional deficiency (3), poor social support, (vigod) violence during pregnancy (7), in addition there are few risk factors seen only in developed countries : multiparity, baby gender and multiple births (2,3).

This study aimed to assess the prevalence rate of post-partum depression symptom among post-partum mother in Jeddah , Saudi Arabia and to identify the risk factors associate with PPD in order to help mothers avoiding them.

Method:-

This cross sectional study was carried out at five health care centers in Jeddah , Saudi Arabia during the period from January to December 2016, among post-partum mother who admitted to obstetrics & gynecology units , A semi structure questionnaire was used to collect the data from the mothers, where it divided to three parts : first demographic data (age, education level, occupation and monthly income), second pregnancy and delivery characteristics (delivery place, postnatal care service level, delivery mode, planning pregnancy, labor duration, abortion, gravidity and parity, baby health, medical problem during pregnancy, complications, surgical history, depression history, family history) and the third part is the Edinburgh Postnatal Depression Scale which consists of 10 questions with 4 points scale , (8) The data collected was analyzed using SPSS version 20 statistical software. Mean and standard deviations (minimum and maximum) were used to presented parametric data while number (percentage) were used to presented non-parametric data. Comparison for categories variables (sedation drugs and delirium presentation) was done using Chi – square test . Statistically significance was considered at the 0.05 level and extreme significant at the 0.0001 level .

Result:-

A total of 512 postpartum females who completed the demographic , obstetric variables section and the EPDS questionnaire were included in this study. The majority of them (68.8%) were from group age 25-40 and 19.9% were less than 25 years, 73.4% were Saudi. The females who participated in the study included housewives (238, 46.5 %), those employed outside the home (205, 40.0%), those with a university education or higher (341, 66.6%), and those who attend high school education (126, 33.6%). The majority of the participants (90.8%) were non-smokers and (65.6%) from group monthly income more than 8000 SR, more than two third reported that their husband were employed (68.8%) , with university degree or higher (69.9%). (Table 1)

Out of the 512 postpartum females 128 (25.0%) reported medical problem, 40 (7.8%) reported Previous psychological problems and 143 (27.9%) reported family history of PPD . (Table 2)

Out of the 512 postpartum females 225 (43.9%) planned for pregnancy, 190 (37.1%) reported medical problems during pregnancy , those who had Marital problems numbered 99(68.3%), those who suffered from depression during last pregnancy at least for one semesters numbered 314 (61.3%). Out of the 512 postpartum females 368 (71.9%) delivered in private hospital and 136 (26.6%) delivered in governmental hospital, those who spent Puerperal duration in her family house numbered 215 (42%), most of the female delivered Spontaneously and from them only 93 (25.8%) received epidural analgesia, 407 (79.5%) reported that baby gender not as they wish, 102 (19.9%) reported medical problems during delivery and 91 (17.8%) had complications after delivery. Half of the

women (253-50.4%) had baby girl ,252 (49.2%) had baby boy and 2 (0.4%) had both, only 15 (2.9%) baby reported medical problem, 46.1% reported both kind of feeding . (Tables 3 ,4&5)

The EPDS mean score was 12.7 ± 5.8 rang (0-30) and was divided into two categories with cut off > 13 , of the 512 mothers, 257 (50.5%) had depressive symptoms (EPDS score > 13), and 255 (49.5%) did not have depressive symptoms (EPDS scores ≤ 13). (Table 6)

The results showed significant association between PPD and the following sociodemographic and medical characteristics (maternal age, maternal education ,maternal occupation, monthly income , husband occupation and education level, medical problems , baby health, planning pregnancy , Medical problem during pregnancy and delivery , complication and semester depression , family history of PPD and previous psychological problems) where advanced age , lower level of education, working mother , lower monthly income, husband level of education, working husband , positive medical problems before-during pregnancy and during and after delivery , positive family history of PPD and previous psychological problems and un planning pregnancy showed higher scores in EPDS (p=0.02, p<0.0001, p<0.0001, p<0.0001, p<0.0001, p<0.0001, p=0.04, p=0.03, p=0.04, p=0.03, p=0.04, p=0.01, p=0.04, p=0.01 and p=0.006) respectively. (Table 7)

Discussion:-

Several studies were conducted about the prevalence of PPD and the associated risk factors, where PPD had a big influence on the baby's emotional and social development and this influence continues during teenage and adult years. (3,9) In industrial countries there is rapid screening for PPD so an early intervention can be done to decrease the negative effects of PPD on mothers and babies' lives. (3,10,11) The current study showed that almost half of participants' mothers (49.5%) had depressive symptoms during the post-partum period. Previous studies in Nepal and Saudi Arabia reported the prevalence of PPD 30-33% with a cut-off score ≥ 10 , (2,3) also the results from Pakistan and India studies the prevalence was between 11%-40% , while in other studies with a cut-off ≥ 12 the prevalence was 6%-12% ,(2,12,13) and 15.4% in a Turkish study with a cut-off ≥ 13 , (7) this variability in the prevalence rate could be due to the difference in cut-off, multi-cultural and multi-social factors, sample size and methods. (2,3,7,12,14,15)

The findings of the current study showed that mothers aged more than 40 years are more likely to develop PPD than younger mothers , similar results were found in Singapore, Nepal and Canada studies the authors reported high prevalence of PPD among women aged 35-40 ,(1,2,16) in contrast in Turkey and Canada studies the authors reported high prevalence of PPD among young mothers , (2,7,17,18,19) while in Saudi Arabia study the association was between older and younger age. (3)

Several studies investigated the association between PPD occurrence and sociodemographic data (mother's education and occupation , monthly income and father's education and occupation), (6,20-26) where the results showed contradictory evidence (1,2,3,7), in Nepal ,Singapore, Turkey and Saudi study there was no association between mother's education level, occupation and low monthly income and PPD , (1,2,3,7) while in other studies there was positive association between PPD and mother's lower education , being a housewife , and lower monthly income. (2,3,7 27-32) also in 2007 study the authors reported significant association between lower partner education and occupation and PPD ,(7,33) the current study showed consistent with previous study regarding mother's low educational level and controversial result regarding mother's occupation and monthly income, where the high prevalence of PPD was between working mothers and high monthly income.

The current study findings showed that any medical problems in any time before or during pregnancy , during or after delivery had a strong effect on developing PPD (p=0.03, p=0.004, p=0.03, p=0.01) , this is consistent with previous studies, (1-7, 34-36) in Saudi Arabia study the authors reported significant association between anemia during pregnancy and PPD (3), in Singapore study there was significant association between medical problem during pregnancy such as GDM and hypertension and PPD. (1,37,38)

In addition to that the current studies confirmed previous studies' findings that stressful life such as family problem , weak relation with husband or his family , previous psychological problems especially anxiety , exhaustion , pregnancy depression, tearful and lack of sleep , and family history of PPD either first degree relative or second degree relative , (1-7) in Nepal studies the authors reported that there is relation between PPD and early contractions during pregnancy and maternity blues after seven days from delivery, (2,39) in Turkey study the authors confirmed the relation between PPD and antepartum depressive symptoms which were assessed by HADS-D , and they reported that thinking in committing suicidal during pregnancy is a high risk factor in developing PPD (odds ratio 6.99, CI 2.08-

23.49), (7,40,41) similar results were found in Singapore study where the authors reported high prevalence of PPD among women with previous psychological problems. (1,37,38)

Regarding planning pregnancy and baby gender, the results of the current study showed significant association between developing PPD and unplanned pregnancy ($p=0.01$), this consistent with Turkey study. (7)

Pain during delivery considered as the most severe pain could be experience by some women during their entire life, it is not life-threatening, however it has association with the risk of development post-traumatic stress disorder, mood disorders, weakness of cognitive function and causing post-partum depression. Epidural analgesia was addressed in several studies as an effective way to reduce delivery pain and decreasing the incidence rate of PPD on the Edinburgh Postnatal Depression Scale (EPDS). The new guidelines recommended to use epidural analgesia when mothers ask if there is no medical contraindication, this use affected by several factors such as labor progress, mother condition and preferring. (1, 42-44) In Singapore study the authors reported significant association between the using of epidural analgesia and decreasing the score of Edinburgh Postnatal Depression Scale ($P=0.0078$), (1) similar result was found in Hiltunen et al study (odds ratio [OR] 0.25, 95% confidence interval [CI] 0.09–0.72), (45) and Ding T et al study (OR 0.32, 95% CI, 0.11–0.89, $P = 0.029$), (43) although the current study couldn't establish this relation.

There was no significant difference in the prevalence rate of PPD regarding mode of delivery, smoking and baby gender wishing.

Table (1):-Demographic data:

Variables	N	%
Age		
Less than 25	102	19.9
25-40	342	66.8
More than 40	68	13.3
nationality		
Saudi	376	73.4
Non Saudi	136	26.6
Education level		
Postgraduate	34	6.6
University degree	307	60.0
High school	126	33.6
Intermediate	29	5.7
Elementary or lower	16	3.1
Occupation		
Student	69	13.5
Employee	205	40.0
House wife	238	46.5
Smoking		
Yes	47	9.2
No	465	90.8
Monthly income		
Less than 5000	62	12.1
5000-8000	114	22.3
More than 8000	336	65.6
Husband occupation		
Employee	352	68.8
Business man	134	26.1
Retired	26	5.1
Husband education level		
University degree	336	65.6
Postgraduate	22	4.3
High school	109	21.3
Intermediate	29	5.7
Elementary or lower	16	3.1
Variables	Mean± SD	Rang (Min-Max)
Family members number	5.0±2.0	(3.0-9.0)

Table (2):-Medical characteristics obstetrics (pregnancy and delivery) characteristics

Variables	N	%
Medical problems		
Yes	128	25.0
No	385	75.0
Specify		
Diabetes	21	16.4
Hypertension	27	21.1
Hypothyroidism	28	21.9
Anemia	4	3.1
Others	48	37.5
Family history of PPD		
Yes	143	27.9
No	369	72.1
Who		
Sister	76	51.4
Mother	47	20.4
Aunt	20	28.2
Previous psychological problems		
Yes	40	7.8
No	472	92.2
Specify		
Depression	10	25
Tearful	1	2.5
Anxiety and uncomfortable	2	5
Un mention	27	67.5

Table (3):-Obstetrics (pregnancy) characteristics

Variables	N	%
Prenatal care level		
Excellent	166	32.4
Very good	184	36.0
Good	99	19.3
Average	52	10.2
Poor	11	2.1
Planning pregnancy		
Yes	225	43.9
No	276	53.9
Un mention	11	2.1
Medical problems during last pregnancy		
Yes	190	37.1
No	322	62.9
Personal problems		
Marital problems	99	68.3
Traffic accidents	12	8.2
Losing family member	34	23.5
Depression during current pregnancy		
First semester	172	33.5
Second semester	63	12.3
Third semester	64	12.5
Two semesters	9	1.8
All semesters	6	1.2
No	198	38.7
Variables	Median	quartile (25-75)
Gravidity	2.0	0.0-4.0
Abortion	1.0	0.0-2.0

Table (4):-Obstetrics (delivery) characteristics

Variables	N	%
Birth place		
Governmental hospital	136	26.6
Private hospital	368	71.9
Polyclinics	4	.8
Home	4	.8
Puerperal duration place		
My home	215	42.0
My husband family house	21	4.1
My family house	276	53.9
Postnatal care level		
Excellent	154	30.1
Very good	181	35.4
Good	110	21.5
Average	53	10.2
Poor	14	2.8
Delivery mode		
Spontaneous	360	70.3
Cesarean	152	29.7
Epidural		
Yes	93	25.8
No	267	74.2
Gender baby did not consistent with the wishes of the family or you		
Yes	95	18.6
No	407	79.5
Un mention	10	2.0
Medical problems during last delivery		
Yes	102	19.9
No	410	80.1
Complication after last delivery		
Yes	91	17.8
No	420	82.0
Surgical history		
Yes	41	8.0
No	471	92.0
Variables		
	Median	quartile (25-75)
Labor duration	5.0	2.0-11.0

Table (5):-Neonatal section

Variables	N	%
Baby gender		
Boy	252	49.2
Girl	253	50.4
Both	2	.4
Baby health		
Healthy	497	97.1
Sick	15	2.9
Specify		
Jaundice	2	14.3
Congenital anomalies	6	42.7
Others	7	43.0
Feeding		
Breastfeeding	186	36.3
Bottle	90	17.6
Both	236	46.1

Table (6):-EDP scale:

Variables	Mean± SD	Rang (Min-Max)
*I have been able to laugh and see the funny side of things	1.0±0.8	(0-3)
*I have looked forward with enjoyment to things	1.0±0.8	(0-3)
I have blamed myself unnecessarily when things went wrong	1.6±0.9	(0-3)
*I have been anxious or worried for no good reason	1.5±0.9	(0-3)
have felt scared or panicky for no very good reason	1.5±0.9	(0-3)
Things have been getting on top of me	1.8±0.9	(0-3)
I have been so unhappy that I have had difficulty sleeping	1.7±1.0	(0-3)
I have felt sad or miserable	1.3±1.0	(0-3)
I have been so unhappy that I have been crying	1.3±1.0	(0-3)
The thought of harming myself has occurred to me	1.0±0.7	(0-3)
Total	12.7±5.8	(0-30)

Table (7):-The relation between PPD and demographic data and medical characteristics:

Variables		Mean	±	SD	P value
Age	Less than 25	11.71	±	6.29	0.02*
	25-40	12.76	±	5.69	
	More than 40	13.91	±	5.50	
Education level	Postgraduate	12.64	±	5.63	0.0001*
	University degree	12.83	±	5.98	
	High school	14.00	±	5.38	
	Intermediate	9.89	±	5.32	
	Elementary or lower	14.81	±	4.44	
Occupation	Student	14.52	±	4.16	0.0001*
	Employee	13.260	±	5.46	
	House wife	11.70	±	6.29	
Monthly income	Less than 5000	9.85	±	7.52	0.0001*
	5000-8000	11.76	±	5.78	
	More than 8000	13.56	±	5.23	
Husband educational level	University degree	13.06	±	5.39	0.0001*
	Postgraduate	14.09	±	5.07	
	High school	11.86	±	6.41	
	Intermediate	9.31	±	6.00	
	Elementary or lower	9.56	±	7.30	
Husband occupation	Employee	13.14	±	5.40	0.04*
	Business man	11.17	±	6.23	
	Retired	11.95	±	7.64	
Medical problem	Yes	13.67	±	5.18	0.03*
	No	12.35	±	5.97	
Medical problem during pregnancy	Yes	13.68	±	5.02	0.004*
	No	12.15	±	6.16	
Medical problem during delivery	Yes	13.93	±	5.32	0.03*
	No	12.43	±	6.06	
Complications	Yes	14.13	±	5.03	0.01*
	No	12.41	±	5.92	
Baby health	Healthy	12.61	±	5.82	0.04*
	Sick	15.66	±	5.40	
Planning pregnancy	Yes	12.00	±	5.87	0.01*
	No	13.32	±	5.77	
Family history of PPD	Yes	13.89	±	5.16	0.004*
	No	12.24	±	6.00	
	Yes	15.10	±	4.41	0.006*
	No	12.48	±	5.88	
Semester depression	1 st	14.63	±	5.10	0.03*
	2 nd	13.96	±	4.52	

	3 rd	13.84	±	4.52
	1 st & 2 nd	18.66	±	5.00
	2 nd & 3 rd	6.50	±	4.19
	All	17.16	±	4.57

Conclusion:-

This study highlighted the high prevalence rate of PPD symptoms. Whenever the early detection of the risk factors for PPD, the easier for the doctor to intervene to treat and remedy it and prevent it from getting worse. The current study showed that advanced age, lower educational level for both mother and father were risk factors, however there are many other risk factors couldn't be detected in the current study. Further studies need to be conducted to investigate the relation between PPD and other risk factors in Saudi community, more awareness campaigns need to be held to raise the awareness about PPD among mothers and community, also psychiatrist and social worker should attend a postnatal care unit on a regular base to talk with mothers, advise them and help them in facing their fear.

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