Factors Associated with Postpartum Depression among Saudi Females in Riyadh City

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Abstract: Postpartum depression is one of the major psychological disorders that affect many women from diverse cultures and religion aspects this indicates that postpartum depression is a universal phenomenon and not just limited to industrialized western societies. The aim of this study is to analyze the risk factors contributing to postpartum depression among Saudi mothers; it is descriptive and correlated design. Data was collected using three tools from four hospitals at Riyadh City, Kingdom of Saudi Arabia. Total sample size was 200 mothers drown by randomized sampling. There is a statistical correlation between education and occupation of the father and postpartum depression. Moreover, there is a correlation found between past medical disease of mother, type of last delivery (Caesarian Section), and presence of antenatal depression. Life stressor scale showed that the entire sample had low stress events, instead those women had postpartum depression. *Conclusion:* multiple risk factors for postpartum depression have been present among Saudi mothers how suffer from postpartum depression, therefore, all healthcare providers need to help those mothers who have similar risk factors to pass their maternity cycle within the normal range.

1. Introduction

The postpartum period time of transition in which numerous challenges for new mothers are present. New mothers are coping with physical and emotional postpartum changes, as well as the aspect of previous roles. Prevalence of post-partum depression shows that about 1 in 10 western women experience various degree of post-partum depression[1].

Unfortunately; many women will experience short-or-long term mood disturbances, post partum depression and postpartum psychosis that can transform this period into a nightmare. It often goes unrecognized because many of the usual discomforts of the puerperium (e.g. fatigue, difficulty sleeping, low libido) are similar to symptoms of depression. For these reasons and possibly because of perceived societal expectations of the new mother, postpartum women are often reluctant to complain about their mood. The interaction of genetic susceptibility with major life events and hormonal changes may explain why postpartum depression affects some women and not others[2].

During post partum period nurse is the only health care provider who can detect, observe mother behavioral and mood changes by daily assessment. That is why the nurse/midwife should be trained and delivers evidence-based postnatal advice and support, based up on the woman's description of symptoms[3].
Aim of the Study:

The purpose of this study is to identify factors associated with postpartum depression among Saudi female in Riyadh City.

2. Materials and methods
Study Design:
Descriptive and correlation design.
Settings:
Different hospitals were selected to have the chance to meet mothers from diverse health care facilities, cultural, social, economical and emotional characteristic.
The study was conducted in outpatient clinic in following hospitals:
1. King Abdulaziz Medical City -King Fahad National Guard Hospital in Riyadh.
2. Maternity and Child Care Hospital (Yammamah hospital) affiliate to Ministry of Health
3. Amal Medical Complex for Psychiatric Health Care, affiliated to Ministry of Health.
4. King Khalid University Hospital (KKUH).
Study Subjects:
All Saudi, postpartum mothers (available sample during six months June 2010- November 2010) who already diagnosed by medical physician complaining of postpartum depression symptoms in the selected settings, discharged after a normal or cesarean section delivery with or without alive baby, visiting obstetrics clinic for follow up and treatment after 6 weeks post delivery or psychiatric clinic for follow up an accessed through data collection period will be invited to participate in the study. Non Saudi

mothers, mothers less than 15 years old without companion were excluded from the study. The total sample size was 200 mothers drown by randomize sampling. One month and 2 weeks was spent equally in each hospital the days were randomly allocated for each service during the assigned period. Mothers were interviewed randomly according to the criteria explained for 6 months, 5days a week during official working hours (0800-1600 h) mothers' agreement, explaining and assuring about the interview and study objective ware highly respected, no rejection was found from any mother they were cooperative and supportive.

Study Instrument:

Four instruments where used:

Instrument 1

The socioeconomic class of father was determined according to park & park (1983) [4] socio-economical statues scale which was used by different Saudi researchers, (Hammouda et al., 1989) [5]. The importance of this questioner is to identify father socio-economic status scale that can psychologically affect mother health status according to different researches that support and correlate between them. Scales identified by asking mothers about father (husband) education, occupation and total family income per month and then calculate the result statically by adding the answers to get the result of:

1. Level 1 upper social class = 21/21
2. Level 2 middle social class = 9-20/21
3. Level 3 low social class = 3-8/21

Instrument 2

The first part included questioner to obtain certain socio-demographic and obstetric characteristic such as age, level of education, occupation, present and past obstetric history, number of deliveries, history of still birth and prematurity, low birth weight in addition to birth interval, postpartum depression history for the women and / or her family or any physiological problem during the previous and present pregnancy. The importance of this type of questionnaire is to identify the obstetrics/socio-demographic data that can affect pregnant mother to develop depression during antenatal and or postpartum period, after identifying the percentage of each factor, statically correlation between most frequent factors and post–partum depression will be done.

Instrument 3

Psychological stressor were specially according to life stressors scale [6] this scale assess exposure to the stressor in area such as family, relationship, marital problem, social relationship, housing, financing, the scale contain list of 105 life events associated with stress. Subjects were asked to indicate whether they had experienced any of the listed events during 12 months before the delivery. Score on the scale was computed by adding together the numerical value score of 136 or more indicate exposure to high stressor; less indicate exposure to low stressors while 101-135 is an indicators of intermediate stressors.

Instrument 4

Questionnaire about present diagnosed of depression symptom designed in 21 questions. Subjects were asked to indicate whether they had experienced any of the listed signs and symptoms as always, usually, sometimes, rarely or never. Then correlation between most frequent symptoms and post-partum depression will be done.

Method of Data Collection

All selected setting informed and provided a head of time with study proposal and time scheduling. An official approval to conduct the study was initially obtained from the selected hospitals. Data collection period, place planed for each hospital was discussed and scheduled through collaborative planning with designated department. Data collected through the interview method using the developed instrument, prior to each interview the purpose of the study carefully explained to each subject and verbal agreement to participate in the study obtained from mothers.

Pilot Study

Pilot study of 20 post partum mothers similar to the ones in the study population was carried out in all health care centers; they were not included in the main study

Method of Data Analysis

Data analysis was done by the use of computer. Data analysis were Carried out by using statistical analysis package system (SPSS).

The statistical techniques used included:

1. Descriptive statistics using percentage, mean and stander deviation.
2. Simple frequency of factors related to postpartum depression.
3. Correlation between factors and postpartum depression.

3. Results

Instrument 1

Almost 56.5% of the study sample father education level was intermediate and primary, 43.5% was university and secondary, most of them were Semi-profession or skilled worker 78.0%, the family monthly income of 51.5% of them are 7999 to 5000 Saudi riyal per month (Table 1).

Table (2) shows that most of the fathers (82.0%) lied in middle social class according the scales assumed by this study, while 18.0% of them in upper social class.

Inferential statistics

The results in table (3) revealed that there is statistical correlation between education and occupation of the father and postpartum depression (PPD) were the correlation coefficients reached (0.193, 0.202) respectively with significant level at 0.01 which indicate strong relation between education and occupation of the father and PPD of mothers.

Almost 43.5% of the fathers had university and secondary education, while 32.5% of the mothers had secondary school certificate. Most of them were Semi-profession or skilled workers (78.0%), and more than half of them (51%) are aged 31 year or less. Only 4.0% of the mothers were diagnosed by Diabetics, Anemia and other diseases, and 67.5% of them had family history of PPD.

Also the results revealed that 64.0% of the mothers in their previous deliveries did not suffer from depression, while 36% did. 20% of the mothers had 7 or more pregnancies while those who had only one delivery were 19.5%. 20.0% aborted 2 to 4 times, while 6.5% of them aborted 5 or more times, while 5.5% of them experienced 2 to 4 dead babies. About 45.5% of them had children that encountered health problems.

While 46.5% encountered depression; 23.0% in the 7th to 9th months, 22.5% in the 4th to 6th months and 1.0% At the first three months. Female babies were found to be 55% and males were 45%.

Most of the mothers (62.5%) encounter complications after delivery such as; breast inflammation and feeding problems (54.5%), bleeding after delivery (5.5%) and puerperal fever (2.5%).

The results in table (5) revealed that there is statistical correlation between education and occupation of the father and PPD were the correlation coefficients reached (0.193, 0.202) respectively with significant level at 0.01 which indicate strong relation between education and occupation of the father and PPD of mothers .The results revealed that there is statistical relation between (Mother history of disease and surgical), (Have you been diagnosed with depression post delivery at your previous delivery), (No of dead children), (Type of last delivery), (Do you encounter any problems during the last delivery) and postpartum depression on the other hand, the strongest of these relation is between (Type of last delivery and postpartum depression) were the correlation coefficient reached 0.489 which is positive and direct, at significant level 0.01, followed by (encounter problems during the last delivery) - 0.239 which is negative and indirect, at significant level 0.01, followed by (No of dead children) were

the correlation coefficient reached 0.205 which is positive and direct, at significant level 0.01.

Table (6) shows that all the study sample 200 (100%) has low life stress (100 or less).

Table (7) as we know in table (19) that all the study sample 200 (100%) have low live stress (100 or less), which is the conclusion of 10 scales mentioned in the above table. The results revealed that the scale of attitudes related to giving birth got the highest mean score (18.88), followed by the scale attitudes related to marriage with average mean (17.91), and then the scale of attitudes related to money with average mean (17.11), and the scale of miscellaneous Attitudes with average mean (8.26), followed by the scale of Health Attitudes (8.0), then the scale of Attitudes related to family with lowest average mean (3.02).

Table 1: Frequency distribution of the study sample based on socio-economical characteristics of father (n = 200)

Instrument Variable		No	%
Father education			
	Intermediate and primary	113	56.5
	University and secondary	87	43.5
Father occupation			
	Semi-profession or skilled worker	156	78.0
	Professional or commercial	44	22.0
Family monthly income			
	8000 SR or above	97	48.5
	7999 - 5000 SR	103	51.5

Table 2: Frequency distribution of the study sample according to social levels

Levels	No	%
Level1 (Upper social class)	36	18.0
Level2 (Middle social class)	164	82.0
Level3 (Low social class)	0	0
Total	200	100

Table 3: Correlation between socio-economical of father and Postpartum depression

Variables		Stress score
Education of the father	Pearson Correlation	.193**
	Sig. (2-tailed)	.006
Occupation of the father	Pearson Correlation	.202**
	Sig. (2-tailed)	.004
Family income per month	Pearson Correlation	.048
	Sig. (2-tailed)	.500
** Correlation is significant at the 0.01 level (2-tailed).		
* Correlation is significant at the 0.05 level (2-tailed).		

Table 4: Frequency distribution of the study sample based on socio-demographic and obstetric history characteristics of mother (n = 200)

Variable	No	%
Age		
25 years and less	31	15.5
26-31 yrs	71	35.5
32-37 yrs	74	37.0
38-43 byrs	24	12.0
Marital status		
Married	200	100
Divorced	0	0
Widowed	0	0
Separated	0	0
Variable	**No**	**%**
Mother education		
Elementary	24	15.5
Intermediate	64	32.0
Secondary	65	32.5
University & above	47	23.5
Mother occupation		
Housewife	108	54.0
Employee	92	46.0
Mother resident status		
Flat with husband &children	130	65.0
Villa with husband & children	32	16.0
With husband family	38	19.0
Have you diagnosed by any disease in the past?		
Yes	8	4.0
No	192	96.0
If yes, what is the type of the disease?		
Diabetics	6	3.0
Anemia	1	0.5
Other	1	0.5
Is there anyone in the family depressed post delivery?		
Yes	65	32.5
No	135	67.5
Have you diagnosed by depression post delivery at your previous deliveries?		
Yes	72	36.0
No	128	64.0
Have you diagnosed by any psychological disease		
Yes	0	0
No	200	100
Number of pregnancy		
Once	39	19.5
2-6	121	60.5
7 or more	40	20.0
Number of delivery		
2 or less	70	35.0
3-7	106	53.0
8 or more	24	12.0
Number of abortion		
Once	146	73.0
2-4	41	20.5
Variable	**No**	**%**
5 or more	13	6.5
Number of dead baby		
None	189	94.5

Variable	No	%
1-4	11	5.5
How many mother encounter health problems during last pregnancy and what is the problem		
- *During pregnancy*		
Yes	29	14.5
No	171	85.5
-*Type of problems*		
Anemia	18	62.1
Pregnancy diabetics	7	24.1
Others	4	13.8
How many mother encounter health problems during last delivery and what is the problem		
- *During delivery*		
Yes	104	52.0
No	96	48.0
-*Type of problems*		
Bleeding during delivery	24	23.1
Difficult delivery	79	76.0
Early delivery	1	1.0
How many infant encounter health problem during last pregnancy or after delivery what is the problem		
Yes	90	45.0
No	110	55.0
-*Type of health problems*		
Congenital	20	22.2
Premature	10	11.1
Others	60	66.7
How many mothers encounter depression in last pregnancy/ and in any month is the problem		
Yes	93	46.5
No	107	53.5
-*Months*		
At the first three months	2	1.0
4-6 month	45	22.5
7-9month	46	23.0
Type of delivery		
Normal	95	47.5
Variable	**No**	**%**
Cesarean	105	52.5
Infant weight after delivery		
1000 Mg or less	6	3.0
1100Mg -2100Mg	9	4.5
2200Mg -3200Mg	139	69.5
3300Kg or more	46	23.0
Infant Gender		
Female	110	55%
male	90	45%
Complication after delivery / what is the problem		
Yes	125	62.5
No	75	37.5
Type of complication		
Bleeding after delivery	11	5.5
Puerperal fever	5	2.5
Breast inflammation & feeding problems	109	54.5

Table 5: Correlation between socio-demographic and obstetric history of mothers and postpartum depression

Variables		Stress Score
Age	Pearson Correlation	.065
	Sig. (2-tailed)	.360
Mother education	Pearson Correlation	.031
	Sig. (2-tailed)	.664
Mother occupation	Pearson Correlation	.050
	Sig. (2-tailed)	.480
Mother resident status	Pearson Correlation	.007
	Sig. (2-tailed)	.916
** Correlation is significant at the 0.01 level (2-tailed).		
* Correlation is significant at the 0.05 level (2-tailed).		

Scales		Stress score
Mother history of disease and surgical	Pearson Corr.	0.204**
	Sig. (2-tailed)	.004
Have you infected by any disease in the past?	Pearson Corr.	.005
	Sig. (2-tailed)	.947
Is there anyone in the family depressed post delivery	Pearson Corr.	.126
	Sig. (2-tailed)	.076
Have you infected by depression post delivery at your previous delivery	Pearson Corr.	0.157*
	Sig. (2-tailed)	.026
Number of pregnancy	Pearson Corr.	-.058-
	Sig. (2-tailed)	.412
Number of delivery	Pearson Corr.	.026
	Sig. (2-tailed)	.716
Number of abortion	Pearson Corr.	-.064-
	Sig. (2-tailed)	.371
No of dead children	Pearson Corr.	0.205**
	Sig. (2-tailed)	.004
Have you encounter any health problem during pregnancy?	Pearson Corr.	-.098-
	Sig. (2-tailed)	.169
Does your child encounter health problem during pregnancy?	Pearson Corr.	.055
	Sig. (2-tailed)	.435
Do you incur depression during the last pregnancy?	Pearson Corr.	-.055-
	Sig. (2-tailed)	.439
Type of last delivery	Pearson Corr.	0.489**
	Sig. (2-tailed)	.000
Do you encounter any problems during the last delivery?	Pearson Corr.	-0.239-**
	Sig. (2-tailed)	0.001
Do you encounter any complications :	Pearson Corr.	0.022
	Sig. (2-tailed)	0.757
*. Correlation is significant at the 0.05 level (2-tailed).		
**. Correlation is significant at the 0.01 level (2-tailed).		

Table 6: Frequency distribution of the study sample according to stress levels

Stress levels	No	%
100 or less (low life stress)	200	200
101 to 135 (intermediate stress)	0%	0%
136 or more (high stress)	0%	0%
Total	200	100

Table (7): Correlation between postpartum depression and life stressor scales represented by means score

SN	Scales	Mean	SD
1	Attitudes related to family	3.02	2.45
2	Attitudes related to marriage	17.91	5.45
3	Attitudes related to giving birth	18.88	4.67
4	Health Attitudes	8.00	0.00
5	Attitudes related to social activity	0.00	0.00
6	Attitudes related to study	0.00	0.00
7	Attitudes related to residence	0.00	0.00
8	Attitudes related to law	0.00	0.00
9	Attitudes related to money	17.11	7.26
10	Miscellaneous Attitudes	8.26	6.21

4. Discussion:

The result obtained from sample socio-economical status factors and previous obstetrical history indicated strong relationship between postpartum depression and mothers in middle age group (37%), unemployed (54%), low education level and non-professional (65%). History of previous postpartum depression were found in (64%) of sample. Multi-Para (2-6 pregnancies) was found to be more affected by post partum depression (60.5%), as well as number of abortion (73%) similar findings were found in Africa[7].

So all health care providers should take these results as vital foundation in planning, investigation, assessment, treatment, prevention, research, education and developing of programs and health caring.

Majority of mothers did not diagnosed by antenatal depression during last pregnancy (53.5%) and the rest who diagnosed by antenatal depression (46.5%) were most diagnosed at third trimester (23%). Studies shows that women's classified as having antenatal depression are 12 times more likely to be diagnosed as depressed at 4weeks postpartum and 10 times more likely to be diagnosed as depressed at 8 weeks postpartum than those not classified as having the antenatal depression [8,9].

Type of last delivery indicated that cesarean section were more related to postpartum depression with 52.5%

Research reported that cesarean section was one of several variables considered a significant risk factor for patient with early postnatal depression disorder at 5days after childbirth.

Breast and breastfeeding problems can lead to postpartum depression or postpartum depression can cause breast and breastfeeding problems. Early detection and prevention with breastfeeding education program before pregnancy and after should be applied to all primary health care centers, with support by statistical and data analysis to determine who need more and when [9,10].

Father's low socio-economic (occupation, education, monthly income) status can affect development of postpartum depression in mothers similar results were found in other studies. This result can open eye on how social worker can be involved with health care providers in helping to reduce or solve social related issues, increase father awareness, educational program, and encouraging father to engage in higher educational programs [10].

Life stressor scale shows that all study sample 200(100%) have low stress event; this may indicate a critical issue that post partum depression can develop even in low life stress and it also can indicate that physiological changes and personality type of mothers can more affect in developing of postpartum depression than outside or environmental and social factors [10,11,12].

While postpartum depression usually appears in the first three months postpartum, it can occur any time during the first 12 months after delivery; therefore, screening mechanisms should be available in all health care facilities where new mothers typically may be – including obstetric, neonatal and pediatric settings [13].

Other health care providers are also involved in caring, searching, treatment and family education. Psychosocial services provide a good help in identifying family at risk, socioeconomic status evaluation and family structure examination. Researchers can provide other health team member with the latest research to be updated and familiar with disease, establish groups work to identify most resent idea and issues related to postpartum depression. Others like educator can provide health education and mother class activity or educate other health care providers or public about postpartum depression signs and symptoms and how to prevent or cope with it.

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