



Association of Maternal Age and Nationality of Mothers with Risk of Developing Post-Partum Depression in Qatar: A Retrospective Study

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Abstract

Introduction: Current prevalence and the factors known to affect Postpartum depression can be just the tip of an iceberg waiting to be explored. It is a need of the hour to conduct more research in this domain. Previous studies have shown that the age and Nationality of the mother can be major determinants for the development of Postpartum Depression (PPD).

Objective: To study the association of maternal age and Nationality with the risk of developing postpartum depression.

Methodology: Present study was a retrospective clinical record-based study, which was conducted at Primary Health Care Corporation in Qatar. About 3096 women attended the postnatal clinic at its primary health care centers between May 2018 and April 2019. These women were contacted personally and administered the Edinburgh Postnatal Depression Scale (EPDS). The current study adopted the same cut off criteria (EPDS 13 or more) for detecting PPD.

Results: It was found that age was statistically non-significantly associated with risk of developing postpartum depression, but Nationality could play a significant role in determining EPDS. The highest prevalence of high risk of developing PPD was in the age group of 40-44 years and 25-29 years. Similarly, the highest prevalence of high risk of developing PPD was seen amongst Egyptians followed by Syrians.

Conclusion: There is a strong association between Nationality and the risk of developing PPD. Age was not found to be associated with risk of developing PPD.

Keywords: Postpartum depression; Edinburgh postnatal depression scale; Age; Nationality

Introduction

Last century has seen a big leap in terms of social development of humans. With an increase in the level of literacy, several social norms and customs have changed over the years. It has been observed that the mean age of mothers at the time of first delivery has increased significantly, compared to what it was in the past [1]. With the advancement in the diagnostic techniques in the field of mental disorders, Postpartum Depression (PPD) has also come up as a significant illness, which affects the health of the mother, child and other family members [2]. Being a major vital event, the childbirth has the potential to cause a severe effect on the mental health of the mother [3]. Along with this, it is also important to

note that social development has been unequal amongst different nations. So, people with different Nationality may face the same health challenges in different severities. Different studies have shown a relationship between maternal age and PPD [4,5]. The researches have also demonstrated that the different ethnicities demonstrate vast variation in the prevalence of PPD [6]. The current study was conducted to explore the association of age of mother and Nationality with PPD.

Methodology

Qatar is a rapidly progressing country located in the middle-east Asian region. It harbors a diverse population which varies vastly in terms of ethnicities. A significant proportion of the working people are expatriates in the country. The Government of Qatar has developed Primary Health Centers all over the country to improve access for the population to its primary health care services. This

was a retrospective study which included all the postnatal women attending primary health care services between May 2018 and April 2019. This data was obtained after due permissions and ethical approval from the concerned authorities. The data included the age and Nationality of postnatal women attending their primary health care facilities.

These women while attending their postnatal clinics were administered The Edinburgh Postnatal Depression Scale (EPDS). EPDS is a 10-item self-report scale, specifically designed to screen for postnatal depression in the community [7]. Each item is scored on a 4 point scale (0 to 3), the minimum and maximum total score ranging from 0 to 30 respectively. The scale rates the intensity of depressive symptoms present within the previous 7 days. Five of the items are concerned with dysphoric mood itself, two with anxiety, and one each with guilt, suicidal ideas and ‘not coping’.

The EPDS cannot confirm a diagnosis of depressive illness but when using a scale of 13 or more as a cut-off level, it has in two different studies [2,8], been shown to have a sensitivity of 86% and 68%, a specificity of 8% and 96%, and a positive predictive value of 73% and 67%. It has also been demonstrated that the women with EPDS of 0-8 have a low risk (close to normal), 9-12 has moderate risk and 13-30 has a high risk of developing PPD. The current study adopted the same risk categories and cut off criteria (EPDS of 13 or more) for PPD.

After approval from the institutional ethics committee and due permission from the concerned authorities, the medical records of the women attending postnatal clinic within the study duration were extracted.

Results and Discussion

Table 1 demonstrates the ethnic profile of patients attending Primary Health Care Centers of Qatar. As expected, it can be seen that majority (19.5%) of the patients were Qatari. This group was followed by Indian (14.1%), Egyptians (9.0%) and Pakistani (7.9%). A major proportion of patients were from a number of other countries together (23.4%) as shown.

Nationality	Frequency	Percentage
Qatari	603	19.5
Indian	435	14.1
Egyptian	280	9.0
Pakistani	245	7.9
Jordanian	140	4.5
Syrian	178	5.7
Yemeni	172	5.6

Sudanese	171	5.5
Filipino	146	4.7
Others	726	23.4
Total	3096	100.0

Table 1: Nationality profile of study participants.

Table 2 depicts the age composition of the study sample. The majority (34.9%) of the antenatal women attending PHCC of Qatar was from the age group of 25-29 years. This was followed by the age group of 30-34 years (31.2%). It was interesting to note that about 2.9% of the women were less than 20 years of age and 8 women were of more than 45 years of age.

Average Age (Years)	(Mean ± SD) 29.63 ± 5.08	
Age Groups	Frequency	Percentage
<20	90	2.9
20-24	413	13.3
25-29	1082	34.9
30-34	966	31.2
35-39	445	14.4
40-44	92	3.0
45 or more	8	0.3
Total	3096	100.0

Table 2: Age profile of study participants.

Table 3 shows the risk profile of postnatal women for developing postpartum depression according to EPDS. Majority of the women were having mild to minimal risk of developing PPD, but still, a major proportion of women had moderate (22.5%) and high (18.4%) risk for the same.

Average EPDS Score	(Mean ± SD) 7.83 ± 5.19	
EPDS (Risk of developing PPD)	Frequency	Percentage
0-8 (Mild-Minimal)	1828	59.0
9-12 (Moderate)	698	22.5
13-30 (High)	570	18.4
Total	3096	100.0

Table 3: Risk of developing PPD.

Upon exploring the association of these two factors with risk of developing PPD, it was found that age had statistically no significant association ($p=0.272$) with EPDS, but Nationality could play a significant role in determining EPDS ($p<0.001$). It was found that the highest prevalence for developing high risk PPD was in the age group of 40-44 years (20.7%) followed by 25-29 years (20.0%). However, the odds ratio suggested more than 5 times risk in the age group of 30-34 years compared to the reference age group of “less than 20 years”. No clear trend could be identified with an increase or decrease in the age of the mother and the risk for developing postpartum depression. A study conducted by Kim and Dee also demonstrated that there was no significant association between the age of the mother and the risk of development of PPD [9]. However, the cut-off for the EPDS was considered as a score of 10 or more in the referred study. However, this finding significantly differs from the results obtained by Muraca and Joseph, who could find a significant association between maternal age and PPD risk [10]. Their sample included only Canadian citizens (Table 4).

Factors	EPDS			Odds Ratio (Confidence Interval)	Chi-Square	p Value
	Mild -Minimal Risk	Moderate Risk	High Risk			
Age Group (Years)						
<20	57 (63.3)	17 (18.9)	16 (17.8)	1	14.66	0.272
20-24	245 (59.3)	92 (22.3)	76 (18.4)	4.05 (0.48-34.4)		
25-29	613 (56.7)	253 (23.4)	216 (20.0)	4.80 (0.59-39.37)		
30-34	565 (58.5)	221 (22.9)	180 (18.6)	5.35 (0.66-43.68)		
35-39	286 (64.3)	97 (21.8)	62 (13.9)	4.96 (0.61-40.54)		
40-44	55 (59.8)	18 (19.6)	19 (20.7)	3.89 (0.48-31.92)		
45 or more	7 (87.5)	0 (0.0)	1 (12.5)	4.70 (0.56-39.88)		
Nationality						
Egyptian	123 (43.9)	65 (23.2)	92 (32.9)	1 (1.08-2.31)	87.980	<0.001
Qatari	383 (63.5)	130 (21.6)	90 (14.9)	1.09 (0.50-1.00)		
Filipino	102 (69.9)	24 (16.4)	20 (13.7)	1.56 (0.33-0.85)		
Indian	262 (60.2)	106 (24.4)	67 (15.4)	14.1 (0.57-1.16)		
Jordanian	77 (55.0)	33 (23.6)	30 (21.4)	4.5 (0.65-1.58)		
Pakistani	130 (53.1)	58 (23.7)	57 (23.3)	0.79 (0.74-1.61)		
Sudanese	121 (70.8)	35 (20.5)	15 (8.8)	0.71 (0.33-0.80)		
Syrian	92 (51.7)	42 (23.6)	44 (24.7)	0.51 (0.76-1.76)		
Yemeni	95 (55.2)	49 (28.5)	28 (16.3)	1.16 (1.08-2.31)		
Others	443 (61.0)	156 (21.5)	127 (17.5)	23.4 (0.56-1.10)		

Table 4: Association of age and Nationality with the risk of developing PPD.

Similarly, the highest prevalence of high risk of developing PPD was seen amongst Egyptians (32.9%), followed by Syrians (24.7%). The Odds ratio suggested more than 14 times higher risk amongst the Indians, compared to the reference group of Egyptians. The present study found less risk of PPD amongst women from Middle-Eastern countries. However, the Bener, et al. found that the women from Middle-Eastern countries were more prone to PPD [11].

Conclusion

There is a strong association between Nationality and the risk of developing PPD. Age was not found to be associated with risk for developing PPD. The age group of 30-34 years has higher odds of developing PPD, compared to other age groups. Indians have higher odds of developing PPD, compared to other ethnic groups.

Limitations of the Study

The study was focussed on the limited number of factors affecting postpartum depression. Therefore, the effect of confounding could not be studied in detail. More researches are required to confirm the findings of the present study.

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