ORIGINAL ARTICLE

DEVELOPMENT AND VALIDATION OF POSTPARTUM DEPRESSION RISK FACTORS SCALE

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ABSTRACT

OBJECTIVES

Present study aimed to develop indigenous Postpartum Depression Risk Factors Scale (PPDRFS) to assess the risk factors involved in the development of postpartum depression in women in Pakistan. Psychometric properties of the scale i.e., factorial validity and reliability were established.

STUDY DESIGN

Cross sectional

PLACE & DURATION OF STUDY

The study was conducted in different Gynecological departments of Public hospitals in Lahore, Pakistan.

SUBJECTS AND METHODS

Total 64 items pool was generated with the help of 3 clinical psychologists and 10 pregnant and 10 women diagnosed with postpartum depression. Items were validated by 15 experts. For the empirical evaluation, a sample of 100 referred women diagnosed with postpartum depression with mean age of 27.31 (SD = 5.20) were recruited form different hospitals in Lahore, who were further screened out for postpartum depression symptoms by using Edinburgh Postnatal Depression Scale.

RESULTS

Factor analysis clustered total 46 items into nine factors that were labeled as "relationship with in-laws, lack of social support, pregnancy concerns, self-neuroticism, abortion history, difficulties during pregnancy, disturbed marital relations, problem coping, and history of depression". PPDRFS showed highly significant alpha reliability (α = .89) and for its sub-scales it ranged from .50-.90.

CONCLUSION

PPDRFS is a reliable tool to identify risk factors for post-partum depression in women in Pakistan.

KEYWORDS

Risk factors, Post-partum depression

INTRODUCTION

Depression is a disorder that affects person's mood, thoughts and behavior and is characterized by sadness, irritability, somatic complaints and accompanied cognitive changes[1]. The person loses concentration and develops feelings of guilt.[2] Postpartum depression[1] is the type of depression that occurs during pregnancy, after delivery or up to a year after delivery. Many bio-psycho-social factors contribute in the development of the postpartum depression in women resulting postpartum blues, depression and psychosis.[3] Postpartum depression is much more common and prevalent in developing countries like Pakistan because of difficult life situations, stressed life events, lack of social support, low socioeconomic status[4] and gender biasness and dsicrmination.[5]

Researchers have tried to explore risk factors involved in the onset of postpartum depression from using various measures, such as Braverman and Roux Questionnaire, Petrick Checklist, Boyer, Leden and Bacom Checklist, Antenatal Screening Questionnaire, Modified Antenatal Screening Questionnaire, Antepartum Questionnaire, Postpartum Depression Predictor Inventory and Postpartum Depression Predictors Inventory-Revised.[6] These researchers have highlighted many risk factors such as lack of support from husband or in-laws, self-neuroticism etc. All these measures developed in the western societies, therefore couldn't cater a number of important risk factors contributing to the development of postpartum depression in women from developing countries like Pakistan where life of a woman is surrounded by many social, cultural and religious taboos. The marital life is not that easy for them due to interference by husbands' family members and undue demands by in-laws like child birth immediately after marriage and then preference of boy child over girls that might lead women towards depression even before, during and after child birth. Women have to face a constant threat in such situations, which at times may result in the form of divorce and even burnt alive when they give birth to a baby girl.[5,7]

Therefore the major objective of the present study was to develop a valid and standardized indigenous measure to assess the Postpartum Scale Risk Factors (PPDRFS) in women while establishing its construct validity and internal consistency.

METHODS

The present research was carried out in two studies.

Study I: Study 1 was carried out to generate items pool and to estimate content validity of the postpartum depression risk factors scale.

Item-generation process: Semi structure interviews were conducted with 3 clinical psychologists, 10 pregnant women and 10 women diagnosed with postpartum depression. The questions worry asked in the interview were about identifying causes, reasons and risk factors that were contributing in the onset of postpartum depression.

Establishing content validity: All 64 identified risk-factors were reviewed and scrutinized for the clarity of content, relevance to the construct, no repetition and readability/comprehensibility by the research team. A 4 points Likert-scale with the response categories of "never, sometimes, often and always" was selected for the responses with scoring form 1-4.

A try out of the questionnaire was conducted on 5 women for readability and comprehension of the statements.

STUDY-II: CONSTRUCT VALIDITY OF PPDRFS

Participants

Sample comprising 100 women already diagnosed with postpartum depression was recruited from psychiatry/gynecology departments of different hospitals after screened out for depression by using Edinburgh Postnatal Depression Scale. The age range of the sample was 18 to 42 years (M = 27.31, SD = 5.20). Those women were excluded who were suffering from major depression or had comorbidity of other psychological disorders, who had history of depression before pregnancy and who had any physical disability.

MEASURES

A 10 items Edinburgh Postnatal Depression Scale[8] (EPDS; α =.79, .84) was translated into Urdu to screen out patients with postpartum depression. The newly developed PPDRFS was used to identify risk-factors for post-partum depression in women.

PROCEDURE

Permission was obtained from the heads of Psychiatric/Gynecological Departments where the women diagnosed with postpartum depression were approached. The informed consent was taken from the participants before giving instructions for filling in the questionnaires. They were assured about the confidentiality and anonymity of their responses.

Table 1
Demographic Characteristics of the Sample (N = 100).

Variables	*F*	%	Variables	*f*	%
Education			**No. of Pregnancies**		
Illiterate	28	28	1st	28	28
5th-10th	57	57	other	62	62
12th-14th	14	14	**Nature of delivery**		
Masters	01	01	Normal	34	34
Occupation			Caesarian	66	66
Working	90	90	**Children**		
Non-working	10	10	0	2	2
Family system			1-3	68	68
Nuclear	35	35	4-7	30	30
Joint	65	65			

RESULTS

Exploratory Factor Analysis (EFA): EFA with varimax rotation was carried out to identify the factor structure of Risk Factors for Postpartum Depression Scale. Only those factors were retained which had factor loading of .40 or above exclusively on one factor; factors have eigenvalues greater than 1 and are meaningfulness in relation to the underlying construct of the factor. Bartlett's Test of Sphericity was used to check the assumption of normal distribution of responses. Kaiser Meyer Olkin test was employed to check adequacy of sample size.

Table 2
Factor Loadings for EFA of PPDRFS

	Items	Factors								
		1	2	3	4	5	6	7	8	9
2	My in laws/husband/relatives/friends used to express desire of the birth of a son. میرے سسرال والے/شوہر/رشتہ دار/میرے سامنے بیٹا پیدا-----	.62								
3	There had been a quarrel with husband over petty issues. شوہر کے ساتھ معمولی باتوں پر لڑائی----------	.71								
9	My in laws used to beat me for nothing. میرے سسرال والے مجھے بے جا----------	.58								
11	My husband used to beat me at the birth of baby girl.	.47								
23	My in to consider me the reason for the birth of baby girl.	.81								
24	My husband's attitude was completely changed after the birth of a baby girl with me.	.68								
38	My in-laws/husband/relatives used to threaten/harass me for not giving birth to baby boy.	.88								
39	After the birth of daughter, the in-laws attitude changed with me.	.88								
40	My in-laws/husband/relatives used to satirize at the birth of baby girl.	.90								
12	My husband became engaged in extra-marital relations with other women.							.62		
13	There was a decrease/decline in physical/ sexual relation with husband during pregnancy.							.76		
41	In the ninth month of pregnancy, I was worried due to declined/decrease in physical/sexual relations.							.65		
44	I used to shout at my servants (subordinate employees) without any reason.							.76		
46	During pregnancy, my elder children used to help me.							.55		
10	My emotions/feelings were not properly comprehended/understand.				.49					
18	I used to be afraid of increase in responsibilities due to pregnancy.				.80					
19	I used to be afraid of unfavorable circumstances				.66					
20	I used to be angry.				.63					
25	Without having the desire of a baby, pregnancy was a source of distress for me.				.53					
32	Due to pregnancy I always used to be afraid of some mishaps.				.48					
33	Most of the time during pregnancy, my attitude was rude.				.60					

	Items	Factors								
		1	2	3	4	5	6	7	8	9
34	I used to be easily pressurized by my in-laws/husband.				.60					
36	I used to hate myself.				.59					
45	I used to be irritated during pregnancy.				.62					
8	I had to face difficulties in fulfilling the basic necessities.		.41							
15	My in-laws/husband used to look after my diet.		.51							
16	My in-laws/husband did not use to help me in household chores.		.77							
17	My in-laws/husband used to help me at times of need.		.53							
28	There had been continuously quarrels with in-laws.		.66							
31	I used to share my happiness and grieves with my in-laws/husband/friends.		.69							
43	I used to trust on my family/husband/friends in difficult situations.		.71							
7	I used to be worried for breast feeding of an infant.				.45					
14	Before the birth of this child, my pregnancy coincidently aborted.				.50					
27	I used to be worried because of my changed physical condition in pregnancy.				.84					
30	I aborted my pregnancy before the birth of this child.					.91				
42						.89				
4	I used to fall ill during pregnancy.						.86			
26	Complications used to appear during pregnancy.						.86			
21	I used to be worried because of my changed physical condition in pregnancy.								.73	
37									.85	
1	I used to be gloomy before the birth of children.									.77
22	I also used to be sad at the birth of other children.									.74
	Eigen Values	8.59	4.31	3.69	5.62	2.16	2.01	5.68	1.53	1.13
	% of Variance	18.27	9.17	7.85	11.96	4.60	4.27	12.08	3.25	2.41
	α	.87	.78	.60	.76	.90	.83	.50	.72	.50

Note: N = 100. Factor loadings < .40 are suppressed
Factors; 1= Relationships with In-laws; 2= Lack of Social Support; 3= Pregnancy related Concerns; 4= Self Neuroticism; 5=History of Abortion; 6=Difficulties during Pregnancy; 7=Disturbed Marital Relation; 8= Problem Coping, 9=History of Depression

The results of the factor structure indicated that PPDRFS is a 46-items scale with 9 factors cluster structure explaining a total of 73.85% of the variance. The Kiaser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = .64 (moderate value). Bartlett's test of sphericity, x^2 (1081) = 2735.90, p < .001, indicated that correlations between items were sufficiently large for Principal Component Analysis (PCA).All items have shown excellent Chronbach's Alpha if item deleted i.e., .87.

Table 3
Correlations for PPDRFS and EPDS.

Factors/scales	PPD RFS	2	3	4	5	6	7	8	9	EPDS
Total PPDRFS	.73**	.68**	.42**	.83**	.20**	.46**	.56**	.30**	.31**	.37**
1.Relation with in-laws		.47**	.10	.43**	.15	.16	.23*	-.03	.26**	.19*
2.Lack of social support			.20	.45**	.10	.25*	.19*	.17	.19*	.29**
3.Pregnancy Concerns				.36**	-.15	.21*	.14	.12	.10	.09
4.Self-neuroticism					.09	.46**	.39**	.35**	.11	.37**
5.History of abortion						.05	.28**	-.07	.01	.25*
6.Difficult Pregnancy							16	.04	.08	.17
7.Distrurbed marital Re..								.12	.12	.16
8. Problem Coping									.05	.15
9. History of Depression										.17
Total EPDS										

Note: N= 100; *< p.05. **< p .001.

The item analysis depicted that all the retained items showed had significant item-total correlation. Chronbach's alpha for the total scale was highly significant i.e., .87 and for nine subscales it ranged from .50 to 90.

DISCUSSION

The study was aimed to develop a scale which will help to identify risk factors for postpartum depression in women. All the emerged factors were highly pertinent to Pakistani cultural context and these were labeled accordingly. The factors were labeled as "relationships with In-laws" indicating poor relationship with in-laws family, "lack of Social Support" during pregnancy by husband and family members of in-laws, " Pregnancy related Concerns" that women have during pregnancy period. These factors contained items such as "My in-laws/husband used to express desire of the birth of a son" and "There had been continuously quarrels with in-laws" etc., "self-neuroticism" due to spending 9 months periods in fear and apprehension contained items such as "Due to pregnancy I always used to be afraid of some mishaps"; "Abortion History" for which women are always blamed for; "Difficulties during Pregnancy" for which family and husbands are least concerned; "Disturbed Marital Relation" due to husband's demand for baby boys or other marital conflicts contained the items like 'My husband used to beat me at the birth of baby girl", "Problem Coping; coping strategies being used by women to cope with difficulties during pregnancy as well as marital life and "History of Depression" contained "I used to be gloomy before the birth of children" for having multiple pregnancies or other problems in marital life.

The risk factors retained in the form of nine subscales of the PPDRFS were very pertinent to the situation of the women in our socio-cultural context. In Pakistani society women have submissive role and are dependent on the family members even for their personal life decisions; they are considered as a property of the family and later on husband and in-laws.[9] They have to face many issues of gender discrimination at the time of pregnancy and delivery as the families and husband's desire to have baby boy than girls. Women then have to spend period of pregnancy under fear and apprehension that may lead to postpartum depression. These findings are supported by a number of researches[10] that many pregnant women in Pakistan experienced increased risk for major depression during pregnancy and they are also at risk of developing postpartum depression in their sensitive time of postnatal period. The researchers argued[10] that social support from husband and in-laws declined at once when they heard about the news of baby girl in ultrasound scanning as they expect having baby boy to be born especially when the family was experiencing first pregnancy.[10] This factor portrays the culture of Pakistan where initially the women were much concerned about her own physical health and fitness. Later when she achieved the prestigious status of motherhood, she started developing fears of increased responsibilities of washing, cleaning and health issues of their new born. Lack of care, pressure for having a baby boy and domestic home environment were the stressors that set platform for the women to develop postpartum depression in Pakistani women.[4] Previous research[11] also supported that self-neuroticism was the most troublesome and problematic factor involved in the occurrence of postpartum depression. The current findings were correlated with the findings[12] where anxiety during pregnancy was the key feature that leads to the development of depression after baby birth. History of abortion" (fifth subscale) has items that are related to the women history of abortion in women suffering from postpartum depression. Results revealed that women who had history of various abortions either intentional or accidental or due to husband/in-laws pressures have high rate of postpartum depression. During data collection, some of the women reported that they face pressure from in-laws for

the abortion in case of baby girl. This is the dilemma of scientific progress where now parents can know the gender of the baby before birth. It has been happening in many countries like India and China. This issue is also supported by other researchers.[4] Sixth subscale i.e., "Difficulties during Pregnancy" has items that elicit factors that were contributing to the onset of postpartum depression. The items related to the sexual and marital relationships were clustered in seventh subscale were mainly related to disturbed sexual relations with husband. Next subscale was named as "problem coping" included items regarding the coping skills of the women at home and work place Strained home environment and frequent conflicts of women with their in laws on baby's gender issues were reported as life stressors, also the maladjustment with in-laws, husband and mental distress were reported to play key role in developing disorder like postpartum depression in women.[9] All of the nine factors in PPDRFS depicted a complex but true picture of bases of depression in Pakistani women who have to face difficulties at sensitive time of their pregnancy. On the basis of the factorial validity and high reliability depicted by the PPDRFS, it may be concluded that it is a reliable and valid self-report measure to identify risk factors for postpartum depression in women.

IMPLICATIONS OF THE STUDY

The current study had contributed in terms of an indigenous measure in Urdu language which would be used mental health professionals and researchers to identify the risk factors involved in the postpartum depression in women. The clinical psychologists can especially take help from PPDRFS to device intervention plans for the women suffering form postpartum depression.

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