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Adaptation to Motherhood and Its Influential Factors in the First Year Postpartum in Iranian Primiparous

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Abstract

Background: Postpartum is a significant transition period for women and could be markedly stressful.
Objectives: Postpartum stress is a well-established risk factor for poor parenting practices and inadequate mother-infant interaction. The present study aimed to assess adaptation to motherhood and its influential factors in the first year postpartum in Iranian women.
Methods: This cross-sectional study was performed in an urban area in the north of Iran. Inclusion criteria were age of more than 18 years, primiparous women, having healthy children in less than one year postpartum, Persian literacy, and willingness to participate in the research. Ill and disabled women, those with a history of depression, and high-risk pregnancies were excluded from the study. Convenience sampling was employed in seven health centers, and 536 subjects were selected. Data were collected using the scale of the experiences of Iranian first-time mothers in maternal role adaptation and demographic questionnaires. Data analysis was performed using descriptive statistics and regression and ordinal logistic regression.
***Results*:** None of the women had poor adaptation to motherhood. In addition, 2.6% of the subjects had average adaptation, 78.8% had good adaptation, and 18.6% had excellent adaptation. According to the logistic regression results, favorable economic status increased the possibility of appropriate adaptation by twice (OR=2.03; CI: 1.3-3.004; P<0.001).
Conclusion: Provision of proper counseling services requires the recognition of the influential factors in adaptation to motherhood. According to the results, adaption of women to motherhood in the first year postpartum largely depends on the economic support of the mother and infant.

Keywords: adaptation, psychological, mother-child interaction, childbirth, primiparous

Introduction

Although the postpartum period is pleasant, it may be considered stressful by primiparous women [1]. Women may face physical, psychological, occupational, and lifestyle changes after childbirth [2]. Furthermore, they may experience some vicissitude in their quality of life, maternal weight gain, and changes in their appearance [3]. In addition to childcare, primiparous women have different roles in home care, care for the spouse, and performing social and professional activities [4].

In order to adapt to motherhood and resolve the related issues, women need to recognize their own needs, as well as their neonates' needs. They can play their maternal role only through adaptation to motherhood and fostering a harmonious environment for the growth and development of their children [5,6]. Adaptation to motherhood may be affected by various personal factors, such as diseases, beliefs and cultures, socioeconomic status, knowledge and readiness, family support, and irritable children [7].

In a study conducted in California (USA), 64% of the women in different age groups recognized their maternal identity within the first four months postpartum, while 4% did not accept their role even after one year [8]. Furthermore, primiparous women reported discomfort and stress not only on days 2-5 postpartum, but also eight months after childbirth. Therefore, they attempted to control the stress associated with the maternal role through planning and organizing [9]. The vulnerability of women to mental disorders increases in the first year postpartum [10]. As such, special attention must be paid to the psychological and social needs of women rather than their physical needs [11].

Contrary to multiparous mothers, primiparous women rely on information sources and recognize childcare as an unexpected, difficult task; this mindset may lead to distress [12]. Challenges after childbirth put women at the risk of several mental disorders [13], including postpartum depression and lack of support after childbirth [2]. Postpartum depression and the subsequent reduction of self-confidence in women may variably affect their maternal role [9,14]. Maternal mental health has a major impact on the mother-infant interaction in the first year postpartum, as well as the physical and emotional development of children [9,15].

Until regaining control of their life and their inner sense of self, the adaptation process cannot be completed in women after childbirth [16]. This process may take up to one year after childbirth [8]. According to statistics, women may return to their former performance within 14-19 months after delivery, which may in turn affect their job satisfaction [17].

The expectations of women regarding their roles vary before and after childbirth [18]. Life is difficult one year after childbirth, brining about numerous challenges that are defined by internal conflicts [1,19]. The expectations of the postpartum period are often consistent with the beliefs of women in this respect; women with optimistic expectations of motherhood tend to experience consistencies between their maternal role and what they observe in this period [18].

In a qualitative study conducted in Tehran and Ahvaz (Iran, despite the appropriate expression of the experiences of two ethnic groups of mothers, the adaptation-related sociodemographic factors were not assessed [18]. In a review study in another country, the experiences of women regarding their maternal role within the first year postpartum were elucidated [1]. Moreover, some studies have been focused on the similar experiences of pregnant women and mothers within 15 weeks and four months after childbirth [16,19].

Adaptation to the maternal role has been defined variably in different countries depending on the time of pregnancy and postpartum. In the foreign studies conducted on women in the postpartum period, many aspects of this stressful period have remained unclear. Women's experiences are influenced by social and cultural factors. Therefore, the studies in other countries may not be applicable to the Iranian population [20].

The present study aimed to assess adaptation to motherhood and its influential factors in the first year postpartum among Iranian women. The findings of this study could be used by healthcare providers in the field of reproductive health for the related consultation, education, and care for women. Moreover, they could improve the midwifery healthcare services provided to mothers and their children.

Methods

This cross-sectional study was conducted in Sari, an urban area in the north of Iran. Sample population consisted of the women referring to the healthcare centers of Sari during 2015-2016. The inclusion criteria of the study were as follows:

1) age of more than 18 years; 2) primiparous women; 3) having healthy children for less than one year; 4) Persian literacy and 5) willingness to participate in the study. The exclusion criteria were ill and disables women, those with a history of depression, and high-risk pregnancies.

Subjects were selected via convenience sampling since there were 13 healthcare centers in Sari city. One center was located in the west, three were in the east, two were located in the north, four were in the south, and three centers were located in the city center. Based on the geographical area and place of residence of the subjects, we selected one healthcare center in the north, two centers in the south, two centers in the east, and one center in the west and city center. Sample size was calculated based on the population proportion (p) at the alpha of 0.05 and estimated error of 0.05. Sample size was calculated to be 536 using the following formula:

$$n \geq \frac{z_{1-\alpha/2}^2 (1-P)}{\varepsilon^2 P}$$

$$\alpha = 0.05 \Rightarrow z_{1-\alpha/2} = 1.96$$

$$P = 0.50$$

$$\varepsilon = 0.05$$

The researcher provided a list of the healthcare centers and obtained the data of the women referring to the selected centers within the past year who were in the postpartum period. Sample size was determined based on a quota assigned to each healthcare center (100 questionnaires for the center located in the north). Due to the similarity of the annual quota allocated to the healthcare centers in the center, south, and east of the city, 120 questionnaires were distributed at each center, and 78 questionnaires were completed in the west center.

Data collection tools were a sociodemographic questionnaire and the scale of the experiences of Iranian first-time mothers in maternal role adaptation. The sociodemographic questionnaire consisted of the data on maternal age, age of the spouse and infant, parental education level, birth weight and gender of the infant, type of pregnancy (wanted/unwanted), mode of delivery, status and duration of breastfeeding, parental occupation status, residence status, economic status (income adequacy), ethnicity, duration of the postpartum period, and status of support from family and friends.

The scale of the experiences of Iranian first-time mothers in maternal role adaptation has been developed by Javadifar et al. (2013) for primiparous women [20]. The face validity of the questionnaire was confirmed through completion by 10 primiparous women, and the content validity was evaluated and confirmed by 10 experts. In addition, the factor structure was identified by principal component analysis, in which seven factors were extracted as the seven domains of the questionnaire. The content validity index of the scale was estimated at 0.956, and the Cronbach's alpha coefficient was estimated at 0.768. The test-retest method was used for the reliability assessment of the questionnaire, with the value calculated to be 0.833 (P<0.001) [20].

The scale of the experiences of Iranian first-time mothers in maternal role adaptation consisted of 33 items and seven domains of ‘support and improving adaptation to the spousal relationship’, ‘emotional development’, ‘performance’, ‘adaptation and social development’, ‘hardship and dissatisfaction’, ‘anxiety’, and ‘dependent children’. The items in each scale were graded within a specific score range. The domain of ‘support and improving adaptation to the spousal relationship’ consisted of six statements (score range: 6-30), the domain of ‘hardship and dissatisfaction’ had seven statements (score range: 7-35), and the other domains consisted of four statements (score range: 4-20).

Each of the items in the scale were responded with five options of "Completely Agree", "Agree", "Do Not Know", "Disagree", and "Completely Disagree". In the positive statements, the lowest score was represented by "Completely Disagree" (code: 1), and highest score was represented by “Completely Agree" (code: 5). This approach was reversed for the negative statements [18,20].

Data analysis was performed in SPSS version 16 and Stata version 13 using descriptive and inferential statistics. The sociodemographic characteristics and adaptation to motherhood were expressed as frequency, percentage, mean, and standard deviation. The scoring of the The scale of the experiences of Iranian first-time mothers in

maternal role adaptation was in percentages; accordingly, scores 33-66 indicated poor adaptation, scores 66-100 denoted moderate adaptation, scores 100-133 showed favorable adaptation, and scores 133-165 indicated excellent adaptation.

Logistic regression analysis was used to identify the correlations between the sociodemographic characteristics of the subjects, and the variables with the significance level of P<0.21 entered the final model [21]. In addition, ordinal logistic regression model was applied to modify the effects of the variables, as well as the most important influential factors in maternal role adaptation (ranking: poor, moderate, favorable, and excellent). In order to use ordinal logistic regression, we initially investigated the assumption that the gap between the ratings was equal, and the test results confirmed the assumption (P=0.080). Considering that the P-value was not significant, the odds ratios (ORs) could be combined. Higher socioeconomic status through stabilizing the effect of variables such as supportive person, age of the infant, and duration of marriage, increased the chance for better maternal role adaptation compared to the consistency at a favorable level. The mentioned variables could predict 3% of the changes in the dependent variables when entered into the model.

Results

In total, 536 questionnaires were distributed among the participants, and 35 questionnaires were excluded due to missing data. No significant differences were observed in the demographic characteristics of the subjects who completed the questionnaires and those with incomplete questionnaires. Finally, 501 questionnaires were included in the data analysis (response rate: 93.4%).

The sociodemographic characteristics of the participants are presented in (Table 1).

Table 1: Demographic Characteristics of Primiparous Women Referring to Healthcare Centers in First Year Postpartum Based on Bivariate Regression Analysis

Variables	Mean±SD	P value
Continues Variables		
Maternal Age (year)	26.6±4.38	0.62
Spouse Age (year)	30.6±4.47	0.33
Duration of Marriage (year)	4.5±2.67	0.1
Discrete Variables	**N (%)**	
Duration of Marriage (year)		0.1
<1	13(2.6%)	
1-5	395(78.8%)	
≥5	93(18.6%)	
Infant Age (month)		0.08
<4	263(52.5%)	
4-8	97(19.4%)	
8-12	141(28.1%)	
Type of Pregnancy		0.9
Wanted	458(91.8%)	
Unwanted	41(8.2%)	
Infant Gender		0.9
Female	257(51.3%)	
Male	244(48.7%)	
Mode of Delivery		0.31
Natural Vaginal	104(20.8%)	
Cesarean Section	397(79.2%)	
Type of Feeding		0.55
Breastfeeding	391(78%)	
Formula	46(9.2%)	
Both	64(12.8%)	

Maternal Occupation		
Housewife	315(62.9%)	0.9
Employee	186(37.1%)	
Paternal Occupation		
Employee	138(27.5%)	
Worker	83(16.6%)	0.97
Unemployed	3(0.6%)	
Self-employed	277(55.3%)	
Economic Status		
Favorable	213(42.6%)	
Moderate	263(52.6%)	0.001
Poor	24(4.8%)	

The mean scores of the domains of scale of the experiences of Iranian first-time mothers in maternal role adaptation are shown in Table 2. According to the information in the table, none of the subjects had poor adaptation to motherhood. Additionally, 2.6% had moderate adaptation, 78.8% had favorable adaptation, and 18.6% had excellent adaptation.

Table 2: Scores of Adaptation to Motherhood and Its Domains in First Year Postpartum

Domains of Adaptation to Motherhood	Minimum	Maximum	Mean	SD	Normal Range
Mother-Infant Attachment	12.00	20.00	18.6647	1.45304	(4-20)
Stress and Anxiety	4.00	17.00	7.9062	2.82651	(4-20)
Hardship and Dissatisfaction	7.00	33.00	20.7285	5.18789	(7-35)
Adjustment and Social Growth	9.00	20.00	16.9741	2.11029	(4-20)
Support and Improvement of Marital Relationships	7.00	30.00	25.0898	3.84629	(6-30)
Performance	6.00	20.00	14.5768	2.73507	(4-20)
Emotional Growth	7.00	20.00	18.0758	1.80395	(4-20)
Total Score of Maternal Role Adaptation	68	154	1.2243E2	11.6141	(100-165)

In the bivariate analysis, the variables of supportive person, economic status, age of infant, and duration of marriage had significant associations with various levels of maternal role adaptation (P<0.2) (Table 3).

Table 3: Separately Listed Variables of Maternal Role Adaptation Level

Variables		Adaptation Status				P value
Paternal Age (year)						
Supportive Person		**Total**	**Moderate**	**Favorable**	**Excellent**	0.005
	Mother	248(49.5%)	5(1.2%)	206(83.1%)	37(14.9%)	
	Spouse	191(38.1%)	3(1.6%)	139(72.8%)	49(25.7%)	
	Friends	4(0.8%)	0(0%)	4(100%)	0(0%)	
	Relatives	37(7.4%)	4(10.8%)	28(75.7%)	5(13.5%)	
	Mother-in-Law	21(4.2%)	1(4.8%)	18(85.7%)	2(9.5%)	
Infant Age (month)	<4	263(52.5%)	3(1.1%)	210(79.8%)	50(19%)	0.08
	4-8	97(19.4%)	6(6.2%)	72(74.2%)	19(19.6%)	
	8-12	141(28.1%)	4(2.8%)	113(80.1%)	24(17%)	

Economic Status	Favorable	213(42.6%)	2(9%)	160(75.1%)	51(23.9%)	0.001
	Moderate	263(52.6%)	8(3%)	214(81.4%)	41(15.6%)	
	Poor	24(4.8%)	3(12.5%)	20(83.3%)	1(4.2%)	
Duration of Marriage (year)	<1	13(2.6%)		13(68.4%)	6(31.6%)	0.109
	1-5	395(78.8%)	6(1.7%)	279(79.7%)	65(18.6%)	
	≥5	93(18.6%)	7(5.3%)	103(78%)	22(16.7%)	

The results of the ordinal regression analysis were expressed with ORs, 95% confidence intervals, and P-values. The OR for economic status was estimated at 2.03, which indicated that higher economic level increased maternal role adaptation by twice (Table 4). The Ors for the other variables are presented in Table 4, indicating no significance in this regard

Table 4: Ordinal Regression Test of Variables for Maternal Role Adaptation Status in Primiparous Women in First Year Postpartum

Demographic Characteristics	Odds Ratio (OR)	95% Confidence Interval (CI)	P value
Supportive Person	1.08	0.9-1.3	0.417
(month) Infant Age	1.07	0.8-1.3	0.594
Economic Status	2.03	1.3-3.004	<0.001
(year) Duration of Marriage	1.4	0.8-2.4	0.187

Discussion

In the present study, adaptation to motherhood in the first year postpartum was desirable. None of the women had poor maternal role adaptation, and many of them had favorable adaptation levels. The mean scores of all the domains of the scale of the experiences of Iranian first-time mothers in maternal role adaptation were within the normal range.

According to the current research, the economic status of the family was the only component associated with maternal role adaptation. Correspondingly, high economical level increased the maternal role adaptation in the women by twice. Similarly, the economic status of the spouses was correlated with depression, marital issues, parental roles, and distress in the relationship and interaction with the infant [22].

In the present study, approximately 86.7% of the women received support from their spouses, while the supportive person was not considered a significant factor. Contrary to our findings regarding the significance of a supportive spouse, the women who received support from their spouses had less difficulty in performing their maternal role [23]. In a study conducted in Australia, social support was reported to have a positive effect on maternal role imprinting [24]. Since the mentioned study was performed within 15 weeks postpartum, the discrepancy with our findings could be attributed to the variations in the culture and needs of children at different ages. For instance, most women accept their maternal role and tasks within one year after childbirth and obtain adequate information on their surroundings, which in turn enhances their adaptation to motherhood [25]. Differences in the findings of the mentioned studies and our research could be due to the variations in the study design and methodologies.

In the present study, the type of breastfeeding had no effect on the adaptation of the subjects to motherhood. On the other hand, the results of another study indicated that the women who performed breastfeeding had higher stress levels compared to those who did not breastfeed [26]. However, another research demonstrated that anxiety significantly reduced in breastfeeding women compared to those who chose feeding with milk bottles within the first few weeks postpartum. In addition, breastfeeding positively influenced the mother-infant interaction [27]. Another study in this regard suggested that frequent breastfeeding resulted in safe attachments, decreasing the rate of attachment disruption [28]. Maternal concerns after childbirth affect the relationship between the mother and infant, while a healthy attachment to the neonate

[29]. The discrepancies between our findings and the previous studies increases the adaptation of women to motherhood in this regard could be due to differences in data collection tools and duration after childbirth.

Satisfaction in the postpartum period is one of the main components of adaptation to motherhood [20]. A study conducted in Norway was focused on maternal satisfaction in the postpartum period, indicating that older age was associated with higher satisfaction with the maternal role, whereas in Sweden, younger age of women was associated with higher maternal satisfaction. This finding shows the variable effect of maternal age on postpartum maternal satisfaction in different cultures [30]. Furthermore, the results of another study indicated that the mothers aged 20-30 years were in the appropriate physiological age and had higher psychological readiness [5]. In the current research, maternal age was not considered to be a significant factor in terms of adaptation to motherhood, which could be due to the differences in methodology and culture.

In the present study, unwanted pregnancy was not considered to be an influential factor in maternal role adaptation. This could be due to the fact that in unwanted pregnancies, mothers are not prepared for pregnancy as a consequence of factors such as job loss or financial issues [31]. According to our findings, few women reported unwanted pregnancies, which could be attributed to their favorable economic status that enhanced their psychological readiness and adaptation.

In the parental process, primiparous women are faced with numerous problems, which undermine their ability to perform their roles as before pregnancy. The limitations imposed by motherhood for those who are dependent on a job or accustomed to their professional role may cause stress and anxiety [32]. Since in the current study a large number of the women were housewives with no experience of psychological stress, they were within the normal range in terms of anxiety, stress, and proper adaptation to their maternal role.

In the current research, mode of delivery was not considered to be an influential factor in the assessment of maternal role adaptation. This is inconsistent with a study in this regard, the results of which indicated that the individuals undergoing cesarean section experience more problems in adapting to childbirth [33]. This discrepancy could be due to the definition of cesarean section in Iranian women since some women believe this delivery mode to be easy and a symbol of higher socioeconomic level.

In general, economic status was considered to be a contributing factor to adaptation with motherhood in the present study. Economic growth and dynamic economical activities by the government play a key role in providing a psychologically safe environment for optimal adaptation to motherhood, as well as the safe interaction of the mother and infant. As such, healthcare providers should consider economic status as a risk factor in this regard and apply alternative strategies to promote maternal psychology along with maternal role adaptation.

One of the limitations of the present study was that due to having children aged less than one year, some of the participants were not able to answer all the questions, and these questionnaires were excluded from data analysis. Moreover, convenience sampling was used until data saturation.

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