

## Related Factors to Paternal Adaptation: A Cross-sectional Study for First-time Fathers

### Abstract

**Background:** Becoming a father challenges men's ability and many men describe fathering as a negative and frustrating experience. This study was designed to determine related factors to paternal adaptation in first-time fathers. **Materials and Methods:** This cross-sectional study was conducted in healthcare centers in Qom and environs, Iran, from July to September 2015. Participants were 572 first-time fathers. Healthcare centers were selected by lottery and sampling was carried out continuously. Data were collected by demographic form and Paternal Adaptation Questionnaire; Spearman's correlation coefficient, Mann-Whitney and Kruskal-Wallis test, and multiple linear regression model were used.  $p < 0.05$  was considered as significant level. **Results:** Participants were first-time fathers with a mean (SD) age of 29.89 (4.45) years. The results indicated that planning for parenting is the most predictive factor in the ability to perform the paternal roles and responsibilities ( $\beta = 2.67, p < 0.001$ ); marital satisfaction is the most predictive factor with regard to perceiving parental development ( $\beta = 3.09, p = 0.001$ ) and stabilization in paternal position ( $\beta = 4.66, p < 0.001$ ). Father's self-employment was the only predictive factor relating to challenges and worries ( $\beta = -1.19, p < 0.001$ ) and marital satisfaction was the most predictive factor for paternal adaptation ( $\beta = 14.68, p < 0.01$ ). **Conclusions:** It appears that the father's occupation, planning for becoming a parent, and marital satisfaction are the most predictive factors for paternal adaptation and its domains, thus by planning appropriate interventions aimed at developing the ability of fathers in these aspects, especially marital satisfaction, it is possible to facilitate men's adaptation to paternal role.

**Keywords:** Adaptation, fathers, parents, paternal behavior, psychological

### Introduction

In the process of becoming a father, which generally occurs by joining a child to the family, numerous adaptations in social activities and personal affairs are needed.<sup>[1]</sup> Paternal adaptation is defined as understanding the fatherhood concept, accepting requirements of fatherhood (attaining paternal attributes and traits and performing roles and duties), and understanding the evolution and changes related to fathering, which will ultimately lead to stability in paternal position concerning self-efficacy and parental satisfaction. More specifically, paternal adaptation can be defined as the ability to perform the paternal roles and responsibilities, perceiving the parental development, stabilization in paternal position, attaining spiritual stability and feeling of internal satisfaction, and eliminating challenges and worries.<sup>[2,3]</sup>

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Childbirth challenges men's abilities and causes the need to learn new skills. Most men are unable to provide sufficient time to acquire these skills. This is despite the fact that new men expect that compared with previous fathers they be more involved in rearing their children. Men believe that becoming a father and learning new skills for child care is an important domain of parenting. Since it is not easy to achieve these goals, many men describe becoming a father as a negative and frustrating experience.<sup>[4]</sup>

Although in recent years family adaptation has attracted the attention of researchers,<sup>[5]</sup> however, most of these studies have focused on mothers and children, and the experiences of fathers after the birth of the child have been less considered. Therefore, there is no information regarding the fathers who have faced disturbances in adapting with their paternal role. For example, the

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present studies evaluated the prevalence of depression in fathers after the childbirth and the results of these studies show that during the first 3 months after the childbirth 4.8% and during 9 months, 28.6% of fathers experience depression.<sup>[6]</sup>

During recent decades, followed by researchers' emphasis on the role of fathers in family health, the number of studies about paternal issues has risen. These studies include men's experiences regarding the confirmation of pregnancy,<sup>[7]</sup> pregnancy period,<sup>[8]</sup> relationship with the fetus,<sup>[9]</sup> childbirth,<sup>[10]</sup> transition to fatherhood,<sup>[6]</sup> and the men's educational needs about pregnancy.<sup>[11,12]</sup>

However, on the conducted search, no study has assessed the paternal adaptation and related factors in Iran or other countries by specific tools. Since assessment of the level of paternal adaptation and related factors can help identify men with impaired paternal adaptation, related factors to paternal adaptation, fathers in need of intervention, and also plan to promote family and men's health, this study was designed to assess the paternal adaptation and related factors in first-time fathers for the first time in Iran and in the world.

## Materials and Methods

This research is a cross-sectional study that was carried out from 23 July to 22 September 2015 in Qom, Iran. The research environment included healthcare centers affiliated to Qom University of Medical Sciences and the participants in the study were men who experienced fathering for the first time. The inclusion criteria for participants were as follows: having one healthy, singleton 1- to 12-month-old infant, parents age 20 years and older, Iranian nationality, ability to understand and speak Persian, interest in participating in the study, and no history of mental or physically disabling diseases in parents and infant. Refusal to participate in the study was considered as exclusion criteria.

To determine the sample size, by considering the standard deviation (0.06) values derived from a pilot study,  $z$  (1-  $\alpha/2$ ) 1.96, and  $d$  (the effect) 0.005, the sample size required for the study (553 fathers) was calculated. Regarding the possibility of not responding or giving incomplete responses to the questionnaires, the researcher decided to distribute questionnaires among 800 fathers. Sampling was carried out continuously for 2 months in 40 healthcare centers in Qom and environs. During this period, there were 87 healthcare centers in Qom and environs; 40 healthcare centers were selected by lottery and 20 questionnaires were devoted to each healthcare centers. During sampling, because of lack of adequate ineligible fathers in some healthcare centers, one more healthcare centers was added to the selected healthcare centers.

After providing an introduction about the study and its method, questionnaires were provided to healthcare

providers. The aims and inclusion criteria of the study were explained to them and they were asked to distribute the questionnaires among eligible fathers. Questionnaires were distributed among fathers referred to the health centers or among mothers who give the questionnaire to their husbands. Questionnaires were completed in healthcare centers or home on fathers' interest. Finally, 572 first-time fathers completed the questionnaires and 228 questionnaires were excluded because they were not answered, answered incomplete, or answered by ineligible fathers.

Data gathering was conducted by demographic form and Paternal Adaptation Questionnaire (PAQ). Demographic form was designed on the opinions of the research team members. PAQ, which was designed by Eskandari and colleagues, has 38 items and 5 subscales (ability to perform the roles and responsibilities, perceiving the parental development, stabilization in paternal position, spiritual stability and feeling of internal satisfaction, and challenges and worries).<sup>[3]</sup> The questionnaire is based on a 5-point Likert scale with points ranging from 1 to 5. The last subscale, challenges and worries, is reversely scored. The score of each subscale is calculated as the sum of the scores of items of that subscale and the total score as the sum of scores of all subscales. Higher score indicates a more paternal adaptation. Psychometric properties of this tool have been assessed and confirmed. The sum of scale's content validity ratio and the sum of scale's content validity index were reported to be 0.68 and 0.92, respectively. Construct validity was evaluated through exploratory factor analysis and 38 items of the questionnaire were classified into five factors, which predicted 52.19% of the observed variance. Questionnaire reliability was confirmed with Cronbach's alpha of 0.89 for internal consistency and correlation coefficient of 0.96 for stability through test-retest method.<sup>[3]</sup>

The collected data were analyzed by SPSS version 21 (IBM Corporation, Armonk NY, USA). Normality of data was assessed by Kolmogorov-Smirnov test. Spearman's correlation coefficient, Mann-Whitney and Kruskal-Wallis test, and multiple linear regression models by stepwise method were used to determine the factors related to paternal adaptation and its subscales. Spiritual stability and internal satisfaction subscale did not include key assumptions (normal distribution of residuals) related to multiple linear regression.  $p < 0.05$  was considered as significant level.

## Ethical consideration

Permission to carry out this study was obtained from Shahid Beheshti University of Medical Sciences ethical committee on 24 January 2013 (sbmuz.rec. 1394.76) and submitted to Qom University of Medical Sciences and the health centers. The aims and processes of the study were explained to the fathers. They were assured of the

confidentiality of collected data and the possibility of withdrawal from the study at any time.

## Results

A total of 572 first-time fathers participated in this study, with a mean (standard deviation) age of 29.89 (4.45) years and range 20–52 years. Table 1 shows the demographic characteristics of fathers participating in the study. According to Kolmogorov–Smirnov test, the normality hypothesis was rejected for all variables. Hence, nonparametric tests (Pearson's correlation coefficient, Mann–Whitney, and Kruskal–Wallis test) were used for data analysis. To determine the factors related to paternal adaptation and its subscales, all demographic variables that according to Pearson's correlation coefficient, Mann–Whitney, and Kruskal–Wallis test [Tables 2 and 3] had a significant relationship with paternal adaptation and its subscales were entered into multiple linear regression model and were analyzed by stepwise method [Table 4]. Assumptions of multiple linear regressions (normal distribution of residuals, linear relationship between the outcome variable and the independent variables, and homoscedasticity) were assessed for paternal adaptation and its subscales. Only spiritual stability and internal satisfaction subscale did not include key assumptions (normal distribution of residuals). Thus, this variable was not entered into multiple linear regression models.

The results of multiple linear regression showed that planning for parenting, child's age, collegiate education of father, marital satisfaction, and smoking are factors that can predict fathers' ability to perform paternal roles and responsibilities, and planning for parenting is the most predictive factor. Marital satisfaction, collegiate education of father, planning for parenting, and drug abuse can predict perceiving the parental development, and moreover marital satisfaction is the most predictive factor. Marital satisfaction, planning for parenting, and alcohol consumption can predict stabilization in paternal position in fathers, and marital satisfaction is the most predictive factor. Father's self-employment is the only predictive factor for challenges and worries. Marital satisfaction and planning for parenting can predict paternal adaptation in fathers and marital satisfaction is the most predictive factor for paternal adaptation.

## Discussion

This study was designed to assess related factors to paternal adaptation in first-time fathers for the first time in Iran and in the world. Findings of this study indicate that individual and demographic factors such as father's educational level, father's occupation, smoking, alcohol consumption, drug abuse, marital satisfaction, wife's educational level, planning for parenting, satisfaction with child's gender, and the child's age are related to paternal adaptation and its subscales including the ability to perform the roles and responsibilities, perceiving the parental development,

**Table 1: Demographic characteristics of fathers**

Demographic characteristic	Number (%)
Educational level	
Illiterate	8 (1.39)
High school diploma and lower degrees	352 (61.53)
Academic degree	188 (32.86)
Clergy degree	22 (3.84)
No answer	2 (0.34)
Total	572 (100)
Occupation	
Unemployed	9 (1.57)
Self-employed	377 (65.90)
Employee	134 (23.42)
Clergy	37 (6.46)
Student	9 (1.57)
No answer	6 (1.04)
Total	572 (100)
Financial situation	
Poor	130 (22.72)
Average	361 (63.11)
Good	77 (13.46)
No answer	4 (0.69)
Total	572 (100)
Resident location	
City	499 (87.23)
Village	70 (12.23)
No answer	3 (0.52)
Total	572 (100)
Ethnicity	
Fars	322 (56.29)
Turk*	202 (35.31)
Lor <sup>#</sup>	15 (2.62)
Arab	2 (0.34)
Other	28 (4.89)
No answer	3 (0.52)
Total	572 (100)
Marital satisfaction	
Yes	540 (94.40)
No	21 (3.67)
No answer	11 (1.92)
Total	572 (100)
Planning for parenting	
Yes	440 (76.92)
No	119 (20.80)
No answer	13 (2.27)
Total	572 (100)
Child gender	
Girl	294 (51.39)
Boy	273 (47.72)
No answer	5 (0.87)
Total	572 (100)

\*A collection of ethnic groups that speak in Turkic language;

<sup>#</sup>Native of Lorestan (a province in Iran)

stabilization in paternal position, spiritual stability and internal satisfaction, and challenges and worries.

**Table 2: Paternal factors related to paternal adaptation and its subscales, on Spearman's correlation coefficient, Mann-Whitney, and Kruskal-Wallis test**

Paternal adaptation and its subscales Demographic characteristics	Ability to perform the roles and responsibilities of becoming a father	Ability to perceive the parental development	Stabilization in paternal position	Spiritual stability and internal satisfaction	Challenges and worries	Paternal adaptation
Father's age						
<i>r</i>	-0.01	0.09	0.02	0.07	0.00	0.05
<i>p</i> <sup>#</sup>	0.702	0.033	0.501	0.077	0.894	0.227
Father's education						
<i>p</i> <sup>s</sup>	0.034	0.026	0.331	0.032	<0.001*	0.167
Father's occupation						
<i>p</i> <sup>s</sup>	0.696	0.109	0.897	0.213	<0.001*	0.876
Financial situation						
<i>p</i> <sup>s</sup>	0.149	0.203	0.009*	0.001*	0.004*	0.005*
Financial adequacy						
<i>p</i> <sup>&amp;</sup>	0.939	0.623	0.577	0.198	0.135	0.602
Resident location						
<i>p</i> <sup>&amp;</sup>	0.120	0.125	0.581	0.727	0.458	0.961
Father's ethnicity						
<i>p</i> <sup>s</sup>	0.410	0.899	0.817	0.396	0.590	0.809
Smoking						
<i>p</i> <sup>&amp;</sup>	0.022*	0.360	0.035*	0.010*	0.374	0.014*
Alcohol consumption						
<i>p</i> <sup>&amp;</sup>	0.038*	0.807	0.021*	0.070	0.660	0.046*
Drug abuse						
<i>p</i> <sup>&amp;</sup>	0.105	0.007*	0.165	0.052	0.437	0.046*
Marital satisfaction						
<i>p</i> <sup>&amp;</sup>	0.002*	0.004*	<0.001*	<0.001*	0.090	<0.001*
Planning for parenting						
<i>p</i> <sup>&amp;</sup>	<0.001*	0.001*	<0.001*	<0.001*	0.102	<0.001*
Satisfaction with child's gender						
<i>p</i> <sup>&amp;</sup>	0.045*	0.599	0.111	0.011*	0.314	0.132

<sup>#</sup>Spearman's correlation, <sup>s</sup>Kruskal-Wallis, <sup>&</sup>Mann-Witney, \**p*<0.05

The findings of this study demonstrated a significant relationship between father's educational level and their ability to perform the paternal roles and responsibilities, and ability to perceive the parental development. Researchers suggest that increase in father's educational level improves the employment status and has an impact on father's empowerment in economic support of family.<sup>[13]</sup> Also, fathers with a higher educational level, because of their strong belief in parental participation and better financial facilities, more actively participate in child nurturing.<sup>[14]</sup> On these findings, facilitation and father's persuasion to education are proposed. On the results of this study, father's self-employment can predict challenges and worries, which may be due to the lack of stability in income or the need for self-employed fathers to devote long hours to work. The results of other studies showed that unemployment in Africa has an impact on the men's ability to deal with problems related to child rearing. Madhavan concluded that the expectation of fathers to play the role of supporter for child caused them to experience discomfort and embarrassment if they failed to provide the necessary

financial resources.<sup>[13]</sup> Fathers assert that it is important to have a good occupation and steady employment, as having a stable job is the main source for providing the family needs<sup>[15]</sup> and helps fathers to paternal adaptation. In this study, economic situation was a predictor for stabilization in paternal position. The results of other studies strongly support that the economic situation of fathers is a reinforcing factor for abilities of men in child rearing<sup>[16]</sup> and reduction in family's income has an impact on emotional adaptation of fathers and prevents the participation of fathers in enjoyable interactions with their child.<sup>[17]</sup>

The results of this study did not show a significant relationship between living in a city or village and subscales of paternal adaptation. Differences in individual and social factors or employment situation between rural and urban fathers may not be noticeable, thus this relationship was not predictive. But the results of other studies stated that due to limited job opportunities in village, rural fathers may have difficulty in finding a suitable job or they have a job with low income and quality. Rural fathers, who do



**Table 3: Maternal and child factors related to paternal adaptation and its subscales, on Spearman's correlation coefficient, Mann-Whitney, and Kruskal-Wallis test**

Paternal adaptation and its subscales demographic characteristics	Ability to perform the roles and responsibilities of becoming a father	Ability to perceive the parental development	Stabilization in paternal position	Spiritual stability and internal satisfaction	Challenges and worries	Paternal adaptation
Mother's age						
<i>r</i>	-0.05	0.06	0.06	-0.009	0.02	0.03
<i>p</i> <sup>#</sup>	0.191	0.130	0.160	0.833	0.625	0.493
Mother's education						
<i>p</i> <sup>#</sup>	0.681	0.003*	0.052	0.001*	<0.001*	0.328
Mother's occupation						
<i>p</i> <sup>#</sup>	0.739	0.063	0.447	0.288	0.147	0.608
Mother's ethnicity						
<i>p</i> <sup>#</sup>	0.506	0.461	0.761	0.592	0.810	0.787
Child's gender						
<i>p</i> <sup>#</sup>	0.151	0.204	0.956	0.205	0.125	0.353
Child's age						
<i>r</i>	-0.15	0.004	-0.04	-0.05	-0.02	-0.08
<i>p</i> <sup>#</sup>	<0.001*	0.930	0.298	0.176	0.544	0.054
A history of infertility						
<i>p</i> <sup>&amp;</sup>	0.244	0.248	0.212	0.443	0.319	0.128
A history of abortion						
<i>p</i> <sup>#</sup>	0.593	0.334	0.397	0.913	0.898	0.272
A history of fetal death						
<i>p</i> <sup>#</sup>	0.039*	0.424	0.739	0.495	0.169	0.384

<sup>#</sup>Spearman's correlation, <sup>&</sup>Kruskal-Wallis, <sup>\*</sup>Mann-Witney, <sup>\*</sup>*p*<0.05

not have control over their occupations, have less paternal interaction with their child; also, they may receive less social support. These factors could have negative impacts on the father's parental role performance,<sup>[18]</sup> and rural fathers need more support, specially economic supports, to adaptation in paternal roles.

In this study, smoking was a predictor factor for the ability to perform the roles and responsibilities and was correlated to spiritual stability and internal satisfaction; alcohol consumption was a predictor factor for stabilization in paternal position; and drug abuse was a predictor factor for ability to perceive parental development. The existing studies show that fathers who smoke feel guilty and believe that they as a father ignore their paternal responsibilities such as support of family and providing the family's requirements.<sup>[19]</sup> High-risk behaviors such as drug abuse have an impact on paternal participation and also addicted fathers have less ability to communicate emotionally with their wife and child.<sup>[20]</sup> On these findings, smoking, alcohol consumption, and drug abuse are factors that can disturb paternal adaptation, and fathers with these disorders need special support to adaptation in paternal roles.

The finding of this study demonstrated that marital satisfaction can predict the ability to perform the roles and responsibilities, ability to perceive the parental development, stabilization in paternal position, and paternal adaptation, and there is a significant relationship between spiritual stability and internal satisfaction subscale and

marital satisfaction. This finding is consistent with the results of other studies which indicated that quality of communication between couples is a principle factor affecting the attachment of father and child,<sup>[17]</sup> and parental performance of men is significantly affected by marital relationships. So disturbance in marital relationships can cause disturbance in father's performance and prevent parental participation.<sup>[1,21]</sup> On these results, empowerment of fathers in marital relationship and supporting them to have a marital satisfaction can facilitate their adaptation in paternal roles.

Planning for parenting can predict the ability to perform the roles and responsibilities, ability to perceive the parental development, stabilization in paternal position, and paternal adaptation, and there is a significant relationship between spiritual stability and internal satisfaction subscale and planning for parenting. Other researchers stated that a smooth transition to paternal role is related to the readiness of men for becoming a father.<sup>[6]</sup> Thus, this is important to prepare sufficient education and contraceptive devices for couples to prevent unwanted pregnancy and unplanned parenting. Also, it is necessary to design parenting education to prepare fathers to parenting.

In our study, there was a significant relationship between satisfaction with child's gender and spiritual stability and internal satisfaction subscale. Parental rejection or acceptance of sons and daughters is under a veil of ambiguity. Some studies indicated higher acceptance

Table 4: Multiple linear regression: Relationship between demographic characteristics and paternal adaptation and its subscales

Paternal adaptation and its subscales demographic characteristics	Ability to perform the roles and responsibilities of becoming a father df* = 563			Ability to perceive the parental development df* = 564			Stabilization in paternal position df* = 566			Challenges and worries df* = 564			Paternal adaptation df* = 565		
	$\beta^{\#}$	CI <sup>s</sup>	P	$\beta^{\#}$	CI <sup>s</sup>	P	$\beta^{\#}$	CI <sup>s</sup>	P	$\beta^{\#}$	CI <sup>s</sup>	P	$\beta^{\#}$	CI <sup>s</sup>	P
Planning for parenting	2.67	1.16-4.19	<0.001	1.40	0.50-2.30	0.002	1.82	0.74-2.90	0.001				6.38	2.60-10.16	0.001
Child's age	-0.27	(-0.41) to (-0.13)	<0.001												
Collegiate education of father	1.84	0.68-3	0.002	1.32	0.58-2.06	<0.001									
Marital satisfaction	3.72	0.94-6.5	<0.001	3.09	1.25-4.93	0.001	4.66	2.68-6.64	<0.001				14.68	8.02-21.34	<0.001
Smoking	1.90	0.18-3.62	0.02												
Alcohol consumption							4.51	0.41-8.61	0.029						
Satisfaction with child's gender															
Drug abuse				3.44	0.28-6.6	0.030									
High school diploma or less education of mother															
Father's self-employment										-1.19	(-1.77) to (-0.61)	<0.001			

\*Degrees of freedom, <sup>#</sup>Beta, <sup>s</sup>Confidence interval

of daughters,<sup>[22]</sup> others reported higher acceptance of sons<sup>[23]</sup> and remaining studies suggested that there is no difference between rejection and acceptance of child based on its gender.<sup>[24,25]</sup> The findings of this study suggest that helping fathers to acceptance and adjustment with child's gender can facilitate father's spiritual stability and internal satisfaction and result in paternal adaptation. Age of a child was a predictor of the ability to perform parental roles and responsibilities. This finding contradicts the results of other studies. The results of other studies indicate that as the child grows, fathers communicate more with their child and discover new ways to communicate with their child.<sup>[15]</sup> On these findings, fathers with smaller child need more support to adaptation with parental roles and responsibilities. In this study, it seems economic and employment difficulties, lack of access to sources of support, and lack of knowledge and skill to play the paternal role are reasons for the increased feeling of inefficiency in the Iranian fathers as a child is growing up. Thus, as a child is growing up, fathers need more support in economic and paternal knowledge domains.

Unwillingness of some fathers to participate in the study, participation of first-time fathers with one healthy child under 1 year old, and cross-sectional design for this study may be considered as limitations of this study.

## Conclusion

Findings of this study say that father's self-employment is the only predictive factor for challenges and worries; planning for parenting is the most predictive factor for ability to perform the roles and responsibilities; and marital satisfaction is the most predictive factor for ability to perceive the parental development, stabilization in paternal position, and paternal adaptation. On these findings, appropriate interventions to improve father's occupational situation and marital satisfaction, and empower fathers in planning for parenting are proposed to facilitate father's adaptation in paternal roles.

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## Conflicts of interest

Nothing to declare.

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