Journal of Midwifery & Reproductive Health

JMRH.mums.ac.ir

Investigating the Determinants of Maternal Empowerment During Pregnancy: A Strategy for Prenatal Healthcare Promotion

Narjes Sadat Borghei (PhD)[1], Ali Taghipour (PhD)[2*], Robab Latifnejad Roudsari (PhD)[3], Hadi Jabbari Nooghabi (PhD)[4]

[1] Assistant Professor, Counseling and Reproductive Health Research Center, Department of Midwifery, School of Nursing and Midwifery, Golestan University of Medical Sciences, Gorgan, Iran
[2] Management and Social Determinants of Health Research Center, Department of Biostatistics and Epidemiology, School of Health, Mashhad University of Medical Sciences, Mashhad, Iran
[3] Evidence-Based Care Research Centre, Department of Midwifery, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran
[4] Department of Statistics, Faculty of Mathematical Sciences, Ferdowsi University of Mashhad, Mashhad, Iran

ARTICLEINFO

Article type:
Original article

Article History:
Received: 05- Jul -2016
Accepted: 14- May -2017

Key words:
Empowerment
Power (psychology)
Pregnancy
Prenatal care

ABSTRACT

Background & aim: Empowerment of pregnant mothers promotes their health and pregnancy outcomes. Given the importance of empowerment of women during pregnancy, this study was conducted to determine the level of empowerment during pregnancy and its determinants.

Methods: This cross-sectional study was carried out on 161 pregnant mothers who were selected using random cluster sampling in Gorgan, North East of Iran in 2015. To measure the level and determinants of empowerment, Kameda's prenatal empowerment scale was used. Data analysis was carried out using descriptive and inferential statistical tests including linear regression analysis. P< 0.05 was considered significant.

Results: The regression analysis showed that age at first pregnancy (βeta standardized coefficient (β)=0.474), marital satisfaction (β=0.239) and spiritual support (β=0.227) had the highest coefficient in the regression. However, the age of marriage, the size of family as well as experience of violence had negative impact on prenatal empowerment.

Conclusion: Awareness of determinants of maternal empowerments could help policy makers to develop programs for promotion of mothers' empowerment during pregnancy. It seems that through developing counseling and educational programs with special focus on reducing domestic violence and enhancing marital satisfaction as well as offering spiritual support could promote prenatal empowerment and as a consequence facilitate moving towards safe motherhood.

▶ *Please cite this paper as*:
Borghei NS, Taghipour A, Latifnejad Roudsari R, Jabbari Nooghabi H. Investigating the Determinants of Maternal Empowerment During Pregnancy: A Strategy for Prenatal Healthcare Promotion. Journal of Midwifery and Reproductive Health. 2017; 5 (3): 988-997. DOI: 10.22038/jmrh.2016.7980

Introduction

Promoting empowerment can play an important role in improving prenatal care and pregnant women's health (1). Empowerment in pregnancy allows mothers help themselves, especially at times of hardship, which can be beneficial in future events, as well (2). Empowerment is associated with improving maternal health and pregnancy outcomes and reducing maternal mortality (3).

In the International Conference on Population and Development in 1994 it was proposed that mothers' empowerment is essential for achieving the reproductive health and population goals (4). The World Health Organization has increasingly emphasized on mother and family empowerment to improve maternal and child health (5). Nowadays, the concept of women's empowerment in medical sciences is focused on individual responsibility

* *Corresponding author:* Ali Taghipour, Department of Biostatistics and Epidemiology, School of Health, Mashhad University of Medical Sciences, Mashhad, Iran. Tel: 09372729573; Email: TaghipourA@mums.ac.ir

and the ability of individuals to maintain their health (6).

The ultimate goal of prenatal care is birth of a healthy infant without any harm to the mother's health. In this regard, empowerment of pregnant women, who are the main core of family and vulnerable members of community, is of utmost significance (1). Given that empowerment is a psychological state leading to the effective social relationship of individuals, self-management and participation in self-care (7), and improvement of women's health status, one of the most important tasks of governments is removing the obstacles of women's empowerment and promoting reproductive health in every possible way (8).

A multitude of studies were performed on determinants of empowerment of women who are housewives and heads of household (9-15), but limited studies were conducted on the empowerment of Iranian women during pregnancy. Jahdi et al. in a clinical trial compared the effect of an empowerment program during pregnancy using Kameda's Prenatal Empowerment Scale (1), and Forouzanfar et al. investigated the relationship between empowerment and reproductive behaviors (4). However, to the best of our knowledge, no study has examined the determinants of women's empowerment during pregnancy in Iran. In foreign studies, a study by Santos et al. investigated prenatal empowerment, in which obstetric and demographic factors affecting prenatal empowerment were studied (16).

Exploring the causes of pregnancy mortality in the first six months of 2014 in Iran, Rahimi concluded that the mothers who were considered high-risk during pregnancy, but were prevented to refer to a health center because of opposition of the husband due to illiteracy, lost their lives. Therefore, pregnant women's empowerment is an appropriate approach to avoid death of mothers who are not able to decide for their health (3). Considering the importance of pregnant women's empowerment, this study was performed to determine the predictors of prenatal empowerment.

Materials and Methods

This cross-sectional study was performed on nulliparous pregnant and postpartum women in Gorgan, Iran, 2015. All the subjects were referred to private and public health centers of Gorgan, Iran, and were willing to participate in the study. The research setting was private and public health centers of Gorgan city since the best place for sampling was the places where mothers referred for prenatal care and training.

To determine the sample size, a pilot study was performed; data obtained from 20 samples randomly selected from health centers was entered into SPSS, and using PASS software and assessing the correlation between the aspects of empowerment in Kameda's Prenatal Empowerment Scale in the primary sample, the standard sample size was calculated at 141 (α=0.05, β=0.2). The questionnaire was completed by 161 mothers, two of whom were excluded due to incomplete questionnaires, and finally 159 pregnant women were studied.

All the nulliparous pregnant and postpartum (delivered two months earlier) women, who were residing in Gorgan city and were able to read and write were enrolled in the study, and high-risk women and those who were unwilling to participate in the study were excluded.

The subjects were chosen using cluster random sampling method from the health centers; in doing so, after determining the exact number of available centers and sites, two centers from the eastern, southern, northern, western, and central regions of Gorgan were selected. Then, from each center, proportional to the number of low-risk pregnant and postpartum women, the samples were randomly selected from among the eligible women. Before giving the questionnaire, a consent form was completed by the women. The subjects themselves filled out the questionnaire. All the data was entered into SPSS 16 and statistical analysis was performed.

The scale used for measuring empowerment was designed by Kameda in 2008. This tool contains 27 items and is used for assessing prenatal empowerment. Cronbach's alpha for this scale was calculated as 0.89 and for its subscales between 0.67 and 0.80, approving the internal consistency of

the scale. The scale items are rated using a 4-point Likert scale (1: Strongly disagree, 2: Disagree, 3: Agree, and 4: Strongly agree) (6). Jahdi in Iran (2011) performed a clinical trial on the empowerment of pregnant women, they used Kameda's Prenatal Empowerment Scale and translated it into Farsi and established its validity and reliability (Cronbach's alpha coefficient of 0.8 for self-efficacy, 0.74 for future image, 0.79 for self-esteem, 0.81 for support and assurance from others and encouragement, and 0.8 for enjoy of an addition to the family) (1). The researchers in this study calculated the Cronbach's alpha coefficient of Kameda's Prenatal Empowerment Scale as 88.58% and its subscales as 79.92% for self-efficacy, 61.26% for future image, 70.12% for self-esteem, 68.98% for support and assurance from others and encouragement, and 73.21% for enjoy of an addition to the family.

Based on the study by Jasinski in 2004 (17), violence experienced during pregnancy was categorized behavioral, physical, verbal, and sexual, and was evaluated using four-point Likert scale (0= never, 1= rarely, 2= Often, and 3= always). The score of women's experience of domestic violence was obtained through the sum of the scores from the four categories of violence that ranged from 0 to 12.

Meanwhile, marital satisfaction of the subjects during pregnancy according to the principles of marital satisfaction in the study of Locke and Wallace (18) was quantitatively summarized using the three items: "I am satisfied with my marital relationship"," my husband and I are love one another", and "my husband understands me well". The mothers were asked to assess their marital satisfaction during pregnancy based on a four-point scale (1= never, 2= rarely, 3= often, and 4= always); thus, the score of maternal marital satisfaction was obtained through the sum of scores from the three items that ranged from 4 to 12.

According to the principles of spiritual support during pregnancy (19), the feeling of maternal spiritual support during pregnancy was summarized in four statements: "I always see myself in the presence of God", "I trust God in all my works and I consented to his rules", "I resort to Imams to meet my needs", and "I believe that God examines humans in difficulties". The mothers were asked to rate their sense of spiritual support during pregnancy using a four-point scale (1= never, 2= rarely, 3= often, 4= always). Therefore, the score of spiritual support of mothers was obtained through the sum of scores from the four items. In this study, score of 1 was considered for Persian ethnicity and zero for other ethnicities.

Data analysis

In the current study, descriptive and inferential statistical methods were used to analyze the data. Descriptive statistics were used to determine the level of empowerment and its aspects, and inferential statistical methods were applied to identify the empowerment determinants. Multiple regression was performed to explain the variance of the dependent variable by estimating the contribution of each independent variable, and backward methods was utilized to predict and explain the dependent variable based on the independent variables. Finally, variables playing a significant role in the variance of the dependent variable were identified (20).

Results

Evaluation of characteristics of the participants showed that 129 (81.13%) mothers were housewives and 113 (71.06%) had Persian ethnicity. Moreover, 54 (33.96%) had participated in prenatal education courses and 145 (91.19%) had wanted pregnancy. Other characteristics of mothers are presented in Table 1.

Mean of empowerment based on Kameda scale and its five subscales and the minimum and maximum scores of empowerment are provided in Table 2. As can be noted, by subtracting mean from maximum, the highest empowerment was observed in the subscale of joy of an addition to the family.

A. Pregnancy empowerment related to the subscale of self-efficacy

The variables of marital satisfaction,

Table 1. Characteristics of the subjects

Variables	Mean (±SD)

Age (year)	25.08(±4.79)	Number of family members	2.28(±0.86)
Age at marriage (year)	22.13(±4.46)	Gravidity	1.11(±0.43)
Age of marriage (year)	2.98(±1.76)		

Table 2. Mean of mothers' empowerment based on Kameda's Prenatal Empowerment Scale in general and in the five subscales

Empowerment aspects	Mean	SD	Minimum	Maximum
Self-efficacy	17.596	2.518	10	24
Self-esteem	21.714	2.752	13	28
Future image	16.689	2.154	9	23
Support and assurance from others	12.378	1.616	7	16
Joy of an addition to the family	13.403	1.793	8	16
Total	81.782	8.164	61	106

experiencing violence during pregnancy, and age at first pregnancy were determinants of self-efficacy subscale of empowerment, and with higher maternal age at first pregnancy and marital satisfaction during pregnancy, women's empowerment improved, while with violence during pregnancy, their empowerment declined. In addition, comparison of standardized coefficients in Table 3 reflected that the effect of age at first pregnancy on self-efficacy empowerment was more than the other two variables.

B. Pregnancy empowerment related to the subscale of self-esteem

Marital satisfaction, Persian ethnicity, maternal age, and age of marriage were determinants of self-esteem empowerment. With increasing maternal age at first pregnancy and marital satisfaction during pregnancy and reducing age of marriage, women's empowerment increased. In addition, Persian ethnicity had a positive impact on the subjects' empowerment. Moreover, comparison of standardized coefficients in Table 3 proposed that the effect of maternal age on self-esteem subscales of empowerment was more than the other three variables.

C. Pregnancy empowerment related to the subscale of future image

Participation in prenatal education classes, financial independence, sense of spiritual support, as well as experiencing violence during pregnancy were determinants of future image subscale of empowerment. With increasing participation in prenatal education classes, financial independence, and sense of spiritual support, women's empowerment raised, whereas experiencing violence during pregnancy undermined women's empowerment. Furthermore, comparison of standardized coefficients in Table 3 demonstrated that the effect of participation in prenatal education classes on future image empowerment was more than the other three variables.

D. Pregnancy empowerment related to the subscale of support and assurance from others

Sense of spiritual support, experiencing violence during pregnancy, and family size were determinants of the support and assurance from others subscale of empowerment, and women's empowerment increased with enhanced sense of spiritual support. However, experiencing violence during pregnancy and large family size diminished women's empowerment. What's more, comparison of standardized coefficients in Table 3 presented that the effect of sense of spiritual support was more than the other two variables.

E. Pregnancy empowerment related to the subscale of joy of an addition to the family

Sense of spiritual support, participation in prenatal education classes, and age of marriage were determinants of this subscale of empowerment, which increases with enhanced sense of spiritual support and higher age of marriage. Additionally, comparison of standardized coefficients in Table 3 exhibited that the effect of sense of spiritual support on the joy of an addition to the family subscale was stronger than the other variables.

Total pregnancy empowerment of Kameda

The variables of age at first pregnancy,

marital satisfaction, sense of spiritual support, participation in prenatal education classes, and Persian ethnicity were determinants of total Pregnancy empowerment, which increases with participation in prenatal education classes, increased sense of spiritual support, and longer duration of marriage. In addition, comparison of standardized coefficients in Table 3 pinpointed that the effect of age at first pregnancy on women's empowerment was more than the other four variables. Nonetheless, the variables of age of marriage and experiencing violence in pregnancy had a negative impact on total empowerment.

Table 3. The variables predicting mothers' empowerment using linear regression

Determinants subscale		Non-standardized coefficient	Standard deviation	β Standard coefficient	P-value	Variance inflation factor
Self-efficacy	Marital satisfaction	194.0	0.066	0.225	0.004	1.126
	Violence score	-0.055	0.023	-0.182	0.020	1.171
	Age at first pregnancy	0.023	0.006	271.0	0.000	1.092
				R Square=0.609		
Self-esteem	Marital satisfaction	0.370	0.057	0.454	0.000	1.010
	Persian ethnicity	0.144	0.060	1.171	0.018	1.073
	Maternal age	0.040	0.016	0.481	0.013	7.596
	Age of marriage	-0.033	0.016	-0.375	0.048	7.415
				R Square=0.703		
Future image	Participation in prenatal education classes	0.206	0.056	0.277	0.000	1.051
	Financial autonomy	0.204	0.066	0.232	0.002	1.034
	Sense of moral support	0.141	0.057	0.185	0.015	1.030
	Experiencing violence during pregnancy	-0.041	0.019	-0.163	0.033	1.047
				R Square=0.615		
Support and assurance from others	Sense of spiritual support	291.0	066.0	332.0	0.000	029.1
	Family size	-0.070	033.0	-0.156	0.037	001.1
	Violence score	-0.055	022.0	-0.188	0.013	029.1
	R Square=0.504					
Joy of an addition to the family	Sense of spiritual support	0.424	0.067	0.431	0.000	1.000
	Participation in prenatal education classes	0.214	0.066	0.226	0.001	1.042
	Age of marriage	0.040	0.018	0.157	0.025	0.042
				R Square=0.615		
Total empowerment	Age at first pregnancy	0.029	0.011	0.474	0.008	6.791
	Marital satisfaction	0.149	0.058	0.239	0.012	2.030
	Sense of spiritual support	0.147	0.058	0.227	0.012	1.864
	Persian ethnicity	0.104	0.043	0.163	0.017	1.062
	Participation in prenatal education classes	0.095	0.043	0.150	0.031	1.102
	Violence score	-0.029	0.016	-0.133	0.069	1.227
	Age of marriage	-0.022	0.011	-0.331	0.055	6.791
				R Square=0.645		

Discussion

According to our findings, maternal empowerment can be predictable with individual factors such as maternal age, age at marriage, and age at first pregnancy, age of marriage, family size, Persian ethnicity, financial autonomy, participation in prenatal education classes, and relational factors such as spiritual support, marital satisfaction, and experiencing violence during pregnancy.

Meanwhile, among the five subscales of empowerment, self-esteem and self-efficacy had the highest coefficients in the regression model of pregnant women's empowerment. In the study by Hunter performed in 2013, a strong relationship was noted between empowerment and self-esteem. In fact, all the factors playing a role in empowerment were also associated with self-esteem, indicating a slight overlap between the concepts of empowerment and self-esteem (21). Regarding self-efficacy, it should be stated that individual empowerment is construed as a process in which the person feels high levels of self-efficacy and control (22-25). Conger and Kanungo in 1988 believed that psychological empowerment is a

process that begins with self-efficacy (26) and promotes the autonomy and decision-making power of individuals (27); hence, the subscales with the highest effect on the total empowerment of women are considered the major components of psychological empowerment.

In this study, age at first pregnancy was the most effective factor on self-efficacy empowerment, and maternal age was the most pivotal factor in maternal self-esteem. However, maternal age at marriage had a negative impact on self-esteem subscale and total empowerment. In 2010, Ahmad using logistic regression analysis found a link between empowerment of women and their financial status and educational level, which is controlled by maternal age (28). Moreover, in a study performed in Ghana, the age of pregnant women was suggested as an important factor in their empowerment and the husbands' presence during prenatal care (29). Forouzanfar et al. (2010) in a study on the relationship between empowerment and reproductive behavior concluded that underlying factors such as age, age at marriage, and age at first pregnancy were the factors influencing women's empowerment (4). Ghafari in 2009 also stated that age is one of the factors affecting women's empowerment (9). Likewise, in a study performed in 36 African and South-West Asia countries, it was demonstrated that each year of delay in marriage of girls is associated with one semester increase in their education (30). In the current study, maternal age and age at first pregnancy were the most influential factors on the two subscales of self-efficacy and self-esteem, and maternal age at marriage had an interaction effect on women's empowerment and with increasing maternal age, enhances pregnancy empowerment. In addition, the joy of an addition to the family increased with longer duration of marriage.

In the subscales of self-efficacy, self-esteem, support and assurance from others, and total empowerment, sexual satisfaction was one of the most effective predictors of empowerment of pregnant mothers in this study. As is common knowledge, marital quality is associated with health, and marital satisfaction boosts individuals' health (31). In addition, family disputes are considered as an important risk factor for mental health (32). Jening in 2014 explained marital conflict or negotiation as the family empowerment, or domestic violence is mentioned as a criterion for women's empowerment (33).

In the current study, experiencing violence during pregnancy had a deterrent effect on self-efficacy, future image, and total empowerment subscales of empowerment. In this regard, it is worth mentioning that the rate of violence during pregnancy is highly different depending on culture, but the most important type of violence, mental violence, has not been studied in the majority of studies. Domestic violence is associated with the health of women, and to increase women's psychological health, physical and sexual violence by husband should be prevented (34). In a study carried out in Ghana on empowerment, domestic violence was one of the indicators of pregnant women's empowerment. The authors of that study believed that experiencing emotional, physical, or sexual violence by spouse was one of the aspects of empowerment that was neglected (29). Thus, it can be concluded that with increased marital satisfaction and reduced violence during pregnancy, important steps can be taken towards empowerment during pregnancy.

Another important variable affecting mothers' empowerment in our study was spiritual support, which is a marker of future image, support and assurance from others, joy of an addition to the family, and total empowerment subscales of empowerment in women. Several studies were conducted on the relation of spiritual support and empowerment. In this regard, Kidawai in 2014 believed that there is a relationship between spirituality and distress, and this relationship (positive or negative) is associated with the interpretation of people and their experiences (35). Negative relationship between distress and belief in spirituality among African-Americans and its positive relationship in white Americans confirms this notion. Indeed, belief in spirituality and God vary according to individuals ' religious perspectives and has two aspects of positive or negative religious reconciliation (36, 37). In other words, in those who have a positive attitude towards religion, spirituality leads to a feeling of comfort and psychological relaxation; also, the nations who believed in the omnipotent God, their belief in the power of almighty leads to personal

empowerment (36-40). People believe in divine blessings, experience more peace and less tension and stress. The truth is found in the teachings of Islam; as God in Quran (Surah Ar-Ra'd, verse 28) says: "Indeed, the hearts becomes calm with the name of God" (41). The present study also showed that the subjects who feel spiritual support had more empowerment. Since spiritual support and participation in prenatal education classes are the important modifiable indicators in women's empowerment, it can be concluded that in addition to doing relaxation in each session of pregnancy classes, with emphasis on trust as another relaxation strategy important steps can be taken toward improving spiritual support of mothers during pregnancy to increase women's empowerment.

One other important variable in this study was participation in prenatal education classes, which is a predictor of future image, the joy of an addition to the family, and total empowerment. In 2011, Jahdi in a study on the impact of a training program for pregnant women's empowerment using Kameda's Prenatal Empowerment Scale concluded that training, as one of the dynamics of empowerment, is known as the first major strategy in the formulation, design, and implementation of programs to empower individuals. Thus, training during pregnancy can improve self-care and pregnant women's empowerment (1).

Another study was performed by Santos et al. in 2011 on pregnant women's empowerment during pregnancy. Data was collected using Kameda's Prenatal Empowerment Scale from pregnant mothers in the third trimester of pregnancy. The results showed that pregnant women's empowerment is affected by social and demographic factors and obstetric variables. Researchers concluded that health education is essential during pregnancy and leads to autonomy and empowerment of pregnant women. Furthermore, health care workers play an important role in education during pregnancy (16). Forouzanfar in 2010 found that education is a predictor of maternal empowerment and specific attention to their empowerment is essential. Boosting empowerment and capabilities of women through increasing their knowledge and training was emphasized in that study (4). Similarly, in the study of Gholipour (2009), education was approved as an effective factor in women's empowerment (10).

Financial autonomy was suggested as a potential indicator of empowerment in the subscale of future image. In several studies, employment and economic factors (42, 43), as well as having wealth and assets (44) were associated with maternal empowerment. In fact, there is a strong positive relationship between socioeconomic status and health of pregnant women. Ahmed believed that to improve maternal health in developing countries, women's educational and economic and social status should be increased (28). Odutolu in his study in 2003 proposed that women's education and access to economic resources must be considered as the main factors leading to the empowerment of most women, especially in their reproductive behaviors (45).

Based on the current results, family size had a negative impact on the support and assurance from others subscale of empowerment, and by reducing family size, this dimension of empowerment increased. In addition, people with Persian ethnicity had higher self-esteem than those from other ethnic groups. Several studies demonstrated that diverse ethnic groups, according to the customs of their region, have marked differences in behavior and personality that is influenced by the socio-cultural norms of that area (46). In the present study, it seems that mothers with Persian ethnicity have higher self-esteem. Furthermore, comparison of the levels of maternal empowerment in this study with the empowerment scores in the study of Jahdi performed in Akbarabadi Hospital in southern Tehran showed that the empowerment of mothers participating in the present study was higher (1), which is probably due to the effect of socio-cultural environment in north of Iran compared with the southern region of the capital of Iran.

Conclusion

We can conclude that the age of mother at first pregnancy, sexual satisfaction, and spiritual support had the highest coefficients in the regression model of mothers' total empowerment, and violence during pregnancy

and low age at marriage had a negative impact on their empowerment. Thus, women who had their first pregnancy at an older age experienced higher marital satisfaction and less violence, and through participation in prenatal classes they gained appropriate empowerment.

However, this finding should not convey the impression that increasing age at marriage resolves the problem of women's empowerment, but with empowerment strategies such as training programs based on empowerment and increasing marital satisfaction, reducing violence, and promoting a sense of spiritual support during prenatal education, pregnant women's empowerment should be improved. In this regard, the results of this study can be beneficial to identify the determinants of pregnancy and accordingly develop and implement some strategies to enhance pregnant women's empowerment. The results of this study provide the key factors of empowerment for health policymakers to design and implement effective interventions to enhance empowerment during pregnancy.

Strength and limitations of the study

In the present study, the empowerment of low-risk nulliparous pregnant women was studied; we recommend studying the determinants of empowerment in multiparous and high-risk pregnant women in other research environments with larger sample sizes. Meanwhile, no study examining the determinants of empowerment of Iranian women during pregnancy was found.

Ethical considerations

This article was extracted from a thesis approved by the Ethics Committee of Mashhad University of Medical Sciences with the code of 921488, and all the ethical issues such as informed consent of the mothers participating in the study were met in this study.

Acknowledgements

We wish to thank the Deputy of Research of Mashhad University of Medical Sciences for their approval of this project. We also appreciate the cooperation of pregnant women participating in the study and midwives in health centers of Gorgan, Iran.

Conflicts of Interest

All the authors declare no conflicts of interest

References

1. Jahdi F, Montazeri A, Balouchi M, Behboodi MZ. The impact of group prenatal care on pregnant women empowerment. Payesh. 2014; 13(2):229-234 (Persian).
2. Dumas L. Focus groups to reveal parents' needs for prenatal education. The Journal of Perinatal Education. 2002; 11(3):1-9.
3. Rahimi T. The basic strategies for improving health and reducing maternal mortality. National Congress of strategies for improving health and reducing maternal mortality, Tehran, Iran; 2014. P. 27-28 (Persian).
4. Froozanfar S, Majlessi F, Rahimi FA, Pourreza A. Assesment of the relationship between empowerment and reproductive behavior. Daneshvar Medicine. 2012; 18(99):1-9 (Persian).
5. Abrejo FG, Shaikh BT, Saleem S. ICPD to MDGs: missing links and common grounds. Reproductive Health. 2008; 5(1):4.
6. Kameda Y, Shimada K. Development of an empowerment scale for pregnant women. Journal of the Tsuruma Health Science Society Kanazawa University. 2008; 32(1):39-48.
7. Small N, Bower P, Chew-Graham CA, Whalley D, Protheroe J. Patient empowerment in long-term conditions: development and preliminary testing of a new measure. BMC Health Services Research. 2013; 13(1):263.
8. United Nations Population Fund. Working to end gender inequality. Women empowering. New York: United Nations Population Fund; 2007.
9. Ghafari R, Darabi H, Jahangiri P. An overview with emphasis on the empowerment of female-headed households. Second Conference on Women's Empowering and the Empowerment of Women Heads of Household, Tehran, Iran; 2010. P. 319-340 (Persian).
10. Gholipour A, Rahimian A. Economic, cultural, and educational factors related to empowerment of head-of-household women. Social Welfare Quarterly. 2011; 11(40):29-62 (Persian).
11. Kimiaee SA. Methods used for empowering head-of-household women. Social Welfare Quarterly. 2011; 11(40):63-92 (Persian).
12. Shady Talab Z. Development and challenges of women in Iran. Tehram: Ghatreh; 2002.
13. Shady Talab Z, Gheraee NeJad A. Poverty in female-headed households. Woman in Culture and Art. 2003; 2(1):49-70 (Persian).
14. Shakouri A, Rafat Jah M, Jafari Mahtash M. Components of women's empowerment and explaining factors affecting it. Woman in Culture

and Art. 2013; 5(1):1-26 (Persian).
15. Shakouri A, Rafat JM, Jafari M. An analysis of factors affecting women's empowerment components. Woman in Development and Politics. 2007; 5(1):1-26 (Persian).
16. Ferreira M, Barroca I, Duarte J. Pregnant women's empowerment during pregnancy surveillance. Oxford, England: Oxford University; 2012.
17. Jasinski JL. Pregnancy and domestic violence A review of the literature. Trauma, Violence, & Abuse. 2004; 5(1):47-64.
18. Locke HJ, Wallace KM. Short marital-adjustment and prediction tests: their reliability and validity. Marriage and Family Living. 1959; 21(3):251-255.
19. Price S, Lake M, Breen G, Carson G, Quinn C, O'Connor T. The spiritual experience of high-risk pregnancy. Journal of Obstetric, Gynecologic, & Neonatal Nursing. 2007; 36(1):63-70.
20. Niromand H. Linear regression analysis. a tool for research. Tehran, Iran: Arsalan; 2009 (Persian).
21. Hunter BA, Jason LA, Keys CB. Factors of empowerment for women in recovery from substance use. American Journal of Community Psychology. 2013; 51(1-2):91-102.
22. Kabeer N. Resources, agency, achievements. Discussing Women's Empowerment. 2001; 3:10-17.
23. Kwaku Kyem PA. Power, participation, and inflexible institutions: an examination of the challenges to community empowerment in participatory GIS applications. Cartographica. 2000; 38(3-4):5-17.
24. Malhotra A, Schuler SR. Women's empowerment as a variable in international development. Measuring Empowerment: Cross-Disciplinary Perspectives. 2005. P. 71-88.
25. Renkert S, Nutbeam D. Opportunities to improve maternal health literacy through antenatal education: an exploratory study. Health Promotion International. 2001; 16(4):381-388.
26. Thomas KW, Velthouse BA. Cognitive elements of empowerment: an "interpretive" model of intrinsic task motivation. Academy of Management Review. 1990; 15(4):666-681.
27. Conger JA, Kanungo RN. The empowerment process: integrating theory and practice. Academy of Management Review. 1988; 13(3):471-482.
28. Ahmed S, Creanga AA, Gillespie DG, Tsui AO. Economic status, education and empowerment: implications for maternal health service utilization in developing countries. PLoS One. 2010; 5(6):e11190.
29. Sipsma H, Ofori-Atta A, Canavan M, Udry C, Bradley E. Empowerment and use of antenatal care among women in Ghana: a cross-sectional study. BMC Pregnancy Childbirth. 2014; 14(1):364.
30. Delprato M, Akyeampong K, Sabates R, Hernandez-Fernandez J. On the impact of early marriage on schooling outcomes in Sub-Saharan Africa and South West Asia. International Journal of Educational Development. 2015; 44:42-55.
31. Robles TF, Slatcher RB, Trombello JM, McGinn MM. Marital quality and health: a meta-analytic review. Psychological Bulletin. 2014; 140(1):140.
32. Choe DE, Stoddard SA, Zimmerman MA. Developmental trajectories of African American adolescents' family conflict: differences in mental health problems in young adulthood. Developmental Psychology. 2014; 50(4):1226.
33. Jennings L, Na M, Cherewick M, Hindin M, Mullany B, Ahmed S. Women's empowerment and male involvement in antenatal care: analyses of Demographic and Health Surveys (DHS) in selected African countries. BMC Pregnancy Childbirth. 2014; 14(1):297.
34. Rahman M, Nakamura K, Seino K, Kizuki M. Intimate partner violence and use of reproductive health services among married women: evidence from a national Bangladeshi sample. BMC Public Health. 2012; 12(1):913.
35. Kidwai R, Mancha BE, Brown QL, Eaton WW. The effect of spirituality and religious attendance on the relationship between psychological distress and negative life events. Social Psychiatry and Psychiatric Epidemiology. 2014; 49(3):487-497.
36. Pargament KI, Koenig HG, Perez LM. The many methods of religious coping: development and initial validation of the RCOPE. Journal of Clinical Psychology. 2000; 56(4):519-543.
37. Pargament KI, Smith BW, Koenig HG, Perez L. Patterns of positive and negative religious coping with major life stressors. Journal for the Scientific Study of Religion. 1998; 37(4):710-724.
38. Ano GG, Vasconcelles EB. Religious coping and psychological adjustment to stress: a meta-analysis. Journal of Clinical Psychology. 2005; 61(4):461-480.
39. Schieman S, Pudrovska T, Milkie MA. The sense of divine control and the self-concept a study of race differences in late life. Research on Aging. 2005; 27(2):165-196.
40. Schieman S, Pudrovska T, Pearlin LI, Ellison CG. The sense of divine control and psychological distress: variations across race and socioeconomic status. Journal for the Scientific Study of Religion. 2006; 45(4):529-549.
41. Holy Qur'an, Trans: Naser Makarem Shirazi. Qom: Sarmayeh Press; 2011. Raad: 28 (Persian).
42. Frankenberg E, Thomas D. Women's health and pregnancy outcomes: do services make a difference? Demography. 2001; 38(2):253-265.
43. Woldemicael G. Do women with higher autonomy seek more maternal health care? Evidence from Eritrea and Ethiopia. Health Care for Women International. 2010; 31(7):599-620.

44. Jejeebhoy SJ. Women's autonomy in rural India: its dimensions, determinants, and the influence of context. New York: Oxford University Press; 2000.
45. Odutolu O, Adedimeji A, Odutolu O, Baruwa O, Olatidoye F. Economic empowerment and reproductive behaviour of young women in Osun state, Nigeria. African Journal of Reproductive Health. 2003; 7(3):92-100.
46. Shahidi S, Aghdak P, Izadi M. Effect of pre-conception care protocol on women's awareness. Iranian Journal of Medical Education. 2011; 10(5):525-532.