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Evaluation of Women's Self-Esteem during Pregnancy and Factors Affecting It

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Abstract

Background: Self-esteem is a key psychological factor that helps facing challenges such as pregnancy and childbirth and can affect maternal and neonatal outcomes. The present study aims to explore self-esteem and factors affecting it in pregnant women.

Methods: This descriptive-analytical cross-sectional study was conducted on 358 pregnant women referred to comprehensive health centers in Qazvin. The data were collected using a demographic-midwifery questionnaire and the Rosenberg Self-Esteem Scale. Besides, as the data were not normally distributed, Spearman, Mann-Whitney U, and Kruskal-Wallis tests were used to analyze the data.

Results: The participants' self-esteem mean score was 25.58 ± 5.97 (out of 30). The participants' self-esteem score had a negative significant correlation with their partner's age ($p = 0.029$), number of pregnancies ($p = 0.004$), and number of children ($p = 0.015$), and a positive significant correlation with the participants' education ($p = 0.019$). Besides, the self-esteem score was related to planned pregnancy reported by the wife ($p = 0.032$) and the partner ($p = 0.044$), and the abortion of the current pregnancy ($p = 0.040$). Moreover, there was a higher level of self-esteem among the women who had no abortion.

Conclusion: The present study showed that there are factors that can affect the self-esteem of pregnant women. Accordingly, women's self-esteem can be improved during pregnancy by providing counseling services by health care providers in clinics and identifying women who have low self-esteem risk factors.

Keywords: Self-esteem, Pregnancy, Women

Introduction

Self-esteem refers to an individual's subjective evaluation of their own worth. Self-esteem is important for one's relationship with oneself and others and affects one's perception and behavior when faced with events (1). Put differently, self-esteem is an individual's capacity to face events in such a way that one's sense of self-worth is retained, enhanced, and preserved. According to this perspective, people with high self-esteem have a strong interest in themselves, making them focus on their positive characteristics and maintain a sense of self-worth in response to events (2).

Pregnancy and childbirth are the most sensitive events in women's lives leading to major changes in physiological, psychological, and socio-familial roles (3). Self-esteem can also affect a pregnant woman's experiences and pregnancy outcomes (4). Since a person's success in facing challenges is directly affected by his/her self-esteem, people with higher self-esteem have a higher chance of success to overcome pregnancy and childbirth challenges (1). As a result, higher self-esteem is associated with a lower perception of stress in pregnancy making pregnant women use more problem-solving strategies when dealing with stress (5). These people secrete less cortisol in response to stressful situations (6). In contrast, people with low self-esteem are prone to psychological disorders such as depression and anxiety (7). As a result, depression, anxiety, and stress in women can lead to adverse pregnancy outcomes (8-10). Self-esteem also affects neonatal outcomes and is directly related to birth height and weight (11). Women's self-esteem during pregnancy is one of the determinants of their use of prenatal care (12). People with low self-esteem are less likely to believe in the use of health care services and are less likely to accept health-promoting interventions (11), leading to the ineffective use of contraceptive methods and the consequent increase in unwanted pregnancies in these women (13). In this study, unintended pregnancy, in turn, has many undesirable consequences during pregnancy (14).

Research has shown that self-esteem decreases with the progress of pregnancy (15). Besides, women's weight gain and the perception of decreased attractiveness are factors that reduce self-esteem during pregnancy (16). Low levels of self-esteem during pregnancy are also associated with various factors such as the couples' low level of education, the women's unemployment, living in large families, low age of marriage, unfavorable marital status, and marital conflicts (17). Furthermore, controllable factors such as the young age of the woman, unwanted pregnancy, lack of support from the partner, and lower number of pregnancies can lead to decreased self-esteem in pregnant women (18). However, these findings have not been confirmed in all studies (1).

The present study aimed to explore the level of self-esteem among pregnant women and to find out the association of demographic and midwifery factors with self-esteem. Although self-esteem is a key factor in psychology, few studies have addressed self-esteem during pregnancy (4) and researchers have often explored other psychological disorders such as depression and stress (19). Moreover, given the relation between self-esteem and psychological disorders, nurses' and midwives' awareness of women's self-esteem levels during pregnancy and identifying pregnant women with low self-esteem can prevent the progression of psychological disorders among these women (4).

Methods

The present study was a cross-sectional descriptive-analytical study conducted based on a research proposal approved under number IR.QUMS.REC.1395.253 by the Ethics Committee of Qazvin University of Medical Sciences. The research population included all pregnant women referred to 7 health centers in Qazvin from late August 2017 to May 2018. The inclusion criteria were being Iranian citizens, having minimum literacy, being 15 to 45 years old, and being at the gestational age of more than 20 weeks based on the first day of the last valid menstruation or the first-trimester ultrasound visit. Women who were not willing to complete the questionnaires were excluded from the study.

In this study, according to the sample size for prevalence equation, considering type 1 error equal to 5%, the prevalence of mental disorders in pregnant women equal to 0.37 according to Meshki et al. (20), and an estimation accuracy of 5%, the least acceptable sample size was 358 people.

To select the participants in the research sample, a specific number of women were selected from each health center. Then the participants were selected from among pregnant women who met the inclusion criteria using purposive sampling.

To comply with the ethical requirements, the objectives of the study were explained to participants before collecting data, and informed consent was obtained. They were also ensured that their information would be kept confidential and they were allowed to leave the study at any stage, if they wished.

The required data were collected through a demographic-midwifery questionnaire and the Rosenberg Self-Esteem Scale. The demographic-midwifery questionnaire consisted of two

sections. The first section assessed the participants' demographic characteristics such as age, education, the partner's occupation, family income assessed by the wife, insurance coverage, and concerns about childbirth costs. The second section measured midwifery data such as planned pregnancy reported by the couple, number of pregnancies, number of live births, history of infertility, neonatal gender, history of adverse consequences in previous pregnancies, complications in current pregnancies, current abortions, the time of receiving the first antenatal care, and the number of antenatal care. The content validity of the researcher-made questionnaire was confirmed through a survey by ten faculty members of Qazvin School of Nursing and Midwifery.

The Rosenberg Self-Esteem Scale is one of the most widely used instruments to measure self-esteem. The scale contains 10 items, with 5 items worded affirmatively and 5 items worded negatively. Each item is scored on a 4-point Likert scale ranging from totally agree (3) to totally disagree (0). The total score on the scale ranges from 0 to 30, with scores above 25 indicating high self-esteem, scores 15-25 indicating moderate self-esteem, and scores below 15 indicating low self-esteem

(21). The reliability of the scale was confirmed with a Cronbach's alpha coefficient of 0.75 (22).

The collected data were analyzed using SPSS software (version 20). The data were summarized through descriptive statistics (mean, standard deviation, frequency, and percentage). The distribution of the data was checked using the Kolmogorov-Smirnov test and non-parametric tests were used as the data were not normally distributed. Spearman rank correlation coefficient was used to assess the relation of quantitative and rank variables with self-esteem. Mann-Whitney U and Kruskal-Wallis tests were used to analyze other data. All statistical procedures were performed at a significance level of 0.05.

Results

A total of 372 questionnaires were completed in this study, of which 14 incomplete questionnaires were excluded. Therefore, the data for 358 participants were used for data analysis. The response rate in the present study was 96%. The mean and standard deviation of self-esteem reported by the participants was 25.58±5.97 (out of 30). The participants' demographic data are shown in Table 1.

Table 1. The participants' demographic data

Variable		Number (%)	Variable		Number (%)
Women's education	Non-academic education	262 (73.19)	Planned pregnancy reported by the women	Yes	304(84.91)
	Academic	96(26.81)		No	54(15.09)
The partner's education	Non-academic education	259(72.34)	Planned pregnancy reported by the partner	Yes	304(84.91)
	Academic	99(27.66)		No	54(15.09)
The woman's occupation	Housewife	313(87.43)	History of infertility	Yes	17(4.74)
	Employed	45(12.56)		No	341(95.26)
The partner's occupation	Employed	352(98.32)	The history of adverse consequences in the previous pregnancy	Yes	35(9.77)
	Unemployed	6(1.67)		No	323(90.23)
Family income reported by the wife	Less than normal	78(21.78)	Neonatal gender	Female	141(39.38)
	Sufficient	219(61.17)		Male	184(51.39)
	Saving	61(17.03)		Both	3(0.83)
Insurance coverage	Yes	304(84.91)	The time of receiving the first antenatal care	The first trimester	310(86.59)
	No	54(15.09)		The second trimester onward	48(13.40)
Childbirth cost concerns	No	201(56.14)	Complications in the current pregnancy	Yes	21(5.86)
	Yes	157(43.86)			
Abortion in the current pregnancy?	Yes	11(3.07)		No	337(94.13)
	No	347(95.93)			
Variable		**Mean ± SD**	**Variable**		**Mean± SD**
Woman's age		27.78 ± 5.39	Number of pregnancies		1.69 ± 0.88
The partner's age		32.29 ± 5.87	Number of live births		0.57 ± 0.72
Number of antenatal care		5.46 ± 6.11			

The data presented in Table 2 indicate that most pregnant women (64.24%) reported a high level of self-esteem.

Spearman correlation coefficient values showed a significant and weak negative linear relation between the partner's age, number of pregnancies, and number of children, and also a positive and significant linear relation between the women's education and self-esteem. Other quantitative or rank variables did not show any positive significant relation with self-esteem as shown in Table 3:

Table 2. Descriptive statistics for self-esteem scores

	Self-esteem		
	Low	Moderate	High
Number (%)	21(5.86)	107(29.88)	230(64.24)

Table 3. The linear relation of self-esteem with quantitative and rank demographic variables

Variable	Spearman correlation	Sig.
Woman's age	-0.059	0.268
The partner's age	-0.116	0.029
Number of pregnancies	-0.153	0.004
Number of live births	-0.129	0.015
Number of antenatal care	0.037	0.483
The woman's education	0.715	0.019
The partner's education	-0.013	0.806
Family income reported by the wife	-0.078	0.138

Moreover, variables such as the women's occupation, insurance coverage, childbirth cost concerns, planned pregnancy reported by the couple, history of infertility, history of adverse consequences in the previous pregnancy, complications in the current pregnancy, time of receiving the first antenatal care and abortion in current pregnancies as dichotomous variables were assessed using Mann-Whitney U test and neonatal gender as a multi-state variable (male, female, and multiple births) were tested using the Kruskal-Wallis test. The results showed a significant relation between the planned pregnancy reported by the woman (p = 0.032) and the partner (p = 0.044) and abortion in the current pregnancy (p = 0.040). It was also shown that the women with a planned pregnancy who did not have an abortion reported higher levels of self-esteem. Table 4 shows the assessment of self-esteem scores in terms of the demographic and midwifery variables:

Table 4. A comparison of self-esteem scores in terms of the demographic and midwifery variables

Variable		Self-esteem	
		SD ± Mean	P-value
The woman's occupation	Housewife	6.06 ± 25.37	0.113
	Employed	4.87 ± 27.00	
The partner's occupation	Employed	5.95 ± 25.57	0.449
	Unemployed	6.22 ± 26.00	
Insurance coverage?	Yes	5.44 ± 26.26	0.223
	No	6.03 ± 25.45	
Childbirth cost concerns?	Yes	5.92 ± 25.26	0.138
	No	5.96 ± 85.25	
Planned pregnancy reported by the women?	Yes	5.42 ± 26.00	0.032
	No	7.94 ± 23.17	
Planned pregnancy reported by the partner?	Yes	5.58 ± 25.91	0.044
	No	7.46 ± 23.69	
History of infertility?	Yes	5.23 ± 26.47	0.463
	No	5.98 ± 25.53	
The history of adverse consequences in the previous pregnancy?	Yes	6.80 ± 24.49	0.547
	No	5.84 ± 25.69	
Complications in the current pregnancy?	Yes	5.88 ± 26.10	0.489
	No	5.95 ± 25.54	
The time of receiving the first antenatal care	The first trimester	5.74 ± 25.68	0.931
	The second trimester onward	7.15 ± 25.90	
Neonatal gender	Female	6.42 ± 25.21	0.544
	Male	5.80 ± 25.84	
	Multiple births	2.51 ± 27.67	
	Not specified	4.67 ± 25.43	
Abortion in the current pregnancy?	Yes	8.77 ± 21.18	0.040
	No	5.80 ± 25.71	

Discussion

The present study showed that a majority of pregnant women had high levels of self-esteem. However, Garrusi et al. who studied pregnant women referred to health centers in Kerman found that 75% of pregnant women had low self-esteem (23). Furthermore, Dolatian et al. showed that 66.4% of pregnant women referred to public hospitals in Tehran had moderate self-esteem (5). Nevertheless, it should be noted that the discrepancy in these findings can be attributed to differences in self-esteem assessments. Dolatian et al. (5) did not report how they assessed self-esteem. Besides, Garrusi et al. (23) considered a score of 25 or higher as high self-esteem and lower scores as a measure of low self-esteem.

The analysis of the demographic and midwifery factors with self-esteem suggested that the partner's age and education had a significant relation with self-esteem. Maçola et al. studied 127 pregnant Brazilian women and also found that higher-educated women had higher self-esteem. (1). This finding has been confirmed in other studies on pregnant women (17, 24, 25). In fact, women with higher levels of education have better body image and, consequently, higher self-esteem (18) and a better understanding of pregnancy and its changes. The only study that explored the relation between self-esteem and the partner's age was conducted by Amel Barez and Maleki on breastfeeding women who visited Mashhad health centers. The authors reported that the partner's age had no significant relation with the woman's self-esteem (26). In contrast, the present study showed a weak and negative relation between the partner's age and the woman's self-esteem during pregnancy, which warrants further studies in this field.

The results of the present study also indicated that planned pregnancy reported by the woman and partner was associated with higher self-esteem. Maçola et al. showed that unwanted pregnancy negatively affected pregnant women's self-esteem, which was attributed to women's health during pregnancy, the end of a relationship with a partner, and the financial impact of pregnancy on the family (1). Similarly, Kameda and Shimada reported that Japanese pregnant women with unwanted pregnancies were less empowered and self-esteem was considered to be associated with

empowerment (27). Furthermore, Makvandi and Etemadi Kermani who studied pregnant women visiting Izeh health centers showed that unwanted pregnancy can increase psychosocial disorders and decrease self-esteem and self-efficacy in women (28). Of course, it is worth mentioning that the mentioned studies addressed unwanted pregnancy from a woman's point of view, and no study examined the relation between self-esteem of pregnant women and planned pregnancy reported by the partner. However, since this issue can affect the mental health of pregnant women, further studies are required to shed light on this issue (29). Family support including spousal support during pregnancy can lead to positive experiences in the woman and thus increase her self-esteem (30).

The present study suggested that multiple pregnancies and the number of live births were negatively associated with the level of self-esteem reported by the pregnant women. In a similar vein, a study by Dias et al. on 560 pregnant women in Brazil showed the number of pregnancies was inversely correlated with self-esteem (25). Contrary to the results of the present study, a systematic review study by Souza and Ferreira reported that women who have more children have higher self-esteem than women without children (31). Accordingly, it seems that changes and problems associated with pregnancy, the greater number of children, and its additional responsibility can negatively affect the women's self-esteem during pregnancy. However, Maçola et al. found no significant relation between these two factors and self-esteem (1).

The results of the present study showed a significant relation between abortion in the current pregnancy and self-esteem. Besides, the women who had an abortion in early pregnancy had lower self-esteem. However, it is not clear whether abortion is not related or is associated with higher self-esteem, as previous studies have reported conflicting findings (32, 33). Nevertheless, there are two things to be noted. Some studies in this area failed to control the confounding factors properly (34). Besides, these studies had focused on women who had had successful abortions. However, the present study focused on women who had unsuccessful abortions early in pregnancy and were surveyed in late pregnancy and reported lower self-esteem.

The present study found that the woman's age, the partner's education, and the woman and husband's employment had no significant relation with the women's reported self-esteem during pregnancy. Many studies have addressed the relation between the age of pregnant women and self-esteem and self-esteem was reported to be lower in younger pregnant women (24, 25). However, unlike other studies, the present study showed that self-esteem decreased with increased age, but the two variables were not significantly correlated. These differences can be attributed to cultural factors because unlike Western communities in which adolescent women are often involved in illegitimate pregnancies not supported by the family (35), adolescent and young pregnant women in the Iranian society are supported by their families, so they consider pregnancy a positive phenomenon that shows women are healthy and fertile, and this, in turn, can increase their self-esteem. This finding was supported by Amel Barez and Maleki's study on Iranian primiparous women (26).

Various studies on women's employment showed a significant relation between women's employment and self-esteem. Besides, unemployment was significantly associated with lower self-esteem (24, 36). However, this relation was not significant in all studies (1, 26). This difference can be attributed to economic, social, and cultural factors. If a woman is the breadwinner of the family, then unemployment can affect the woman's self-esteem. There are very few studies on the relation between partner's employment and education and women's self-esteem during pregnancy. For instance, Gumus et al. showed a significant correlation between spouse education and the pregnant woman's self-esteem (17). However, in line with the present study, Amel Barez and Maleki showed no significant relation between the two factors (26). These differences can be due to the impact of cultural and social issues on demographic issues and their influence on self-esteem. Furthermore, the assessment of economic factors in this study including the women's perception of family income level, insurance coverage, and childbirth cost concerns showed that these factors had no significant relation with self-esteem. However, there is no consensus on the relation between

economic status and women's self-esteem, as some studies have found no significant relation (17, 26) but other studies reported significant and positive associations (25).

The present study found that the history of infertility, the history of adverse outcomes in previous pregnancies, complications in the current pregnancy, time of receiving the first antenatal care, and number of pregnancies during pregnancy were not associated with the levels of self-esteem reported by the women. Low self-esteem has been reported as a consequence of infertility (37). However, Cox et al. found that the history of infertility had no effect on self-esteem during pregnancy, and attributed it to success in conception and having children (38). This finding was confirmed in the present study. Higgins et al. showed that women with higher self-esteem received adequate care (39). However, this finding was not supported in the present study and the observations made by Maçola et al. Research on pregnancy complications has reported that women with high-risk pregnancies had higher self-esteem (1). However, another study reported lower self-esteem among women with high-risk pregnancies (40) and there was no evidence reported in other studies.

The present study showed that neonatal gender had no significant relation with maternal self-esteem. Other studies addressing the impact of physical, psychological, and social factors on neonatal gender indicated the relation between low social status and a higher probability of having a female infant (41) and a higher level of stress among mothers with male infants (42). Gender is one of the issues significantly associated with the cultural and social issues governing the society. Therefore, inconsistent results in different studies can be attributed to these factors.

The multiplicity of factors addressed in this study and insufficient sample size can be the reason for the non-normal distribution of data that has led to the use of non-parametric tests. Thus, it is suggested that future studies be done by incorporating larger samples. Furthermore, given the paucity of research on the relation between the spouse's demographic factors and self-esteem, future studies can explore these factors in detail. Finally, as there are contradictory results on factors affecting

women's self-esteem in pregnancy, review and meta-analysis studies can provide more insights into this field.

Conclusion

The present study showed that there are factors that can be associated with self-esteem in pregnant women. Planned pregnancy, number of pregnancies and children, and deliberate abortion are issues that can affect self-esteem in pregnant women. Accordingly, advice given by health care providers especially midwives in clinics and premarital counseling sessions on the proper use of contraceptive methods can help prevent these issues and thus improve the self-esteem of pregnant women. In contrast, factors such as the age of the partner and the level of

education of women cannot be changed by the health system. However, identifying low-educated women and providing education to their families, increasing social support, and empowering women can reduce the destructive effect of these factors on self-esteem.

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Conflict of interest

The authors declared no conflict of interest in conducting this study.

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