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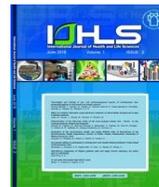
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Self-efficacy in Pregnant Women Referred to Health Centers in Delfan, Iran

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ABSTRACT

Self-efficacy is an inflectional factor in pregnancy, and high self-efficacy can prevent many pregnancy-related health hazards. The present study was an attempt to determine the self-efficacy levels in pregnant women and examine the factors related to self-efficacy in pregnant women who were referred to the health centers in Delfan. The current study is a cross-sectional study carried out on 100 pregnant women in Delfan in 2016, using a multistage sampling procedure. Questionnaires were used to collect demographic and self-efficacy related information. To analyze the collected data, SPSS software version 18, T-test, one-way ANOVA, and Spearman's correlation were employed. The mean age and self-efficacy score in the participants were estimated to be 26.48 ± 6.08 years and 48.12 ± 7.70 (range 17–68), respectively. A statistically significant relationship was found between self-efficacy in pregnant women and the variables of age ($p = 0.04$), educational level ($p = 0.02$), economic status ($p = 0.01$), and educational level of the husband ($p = 0.04$). In the multi-variable regression analysis of self-efficacy, the variables of age ($B = -2.24$, $p = 0.01$), number of children ($B = 0.95$, $p = 0.03$), educational level ($B = 2.03$, $p = 0.02$), employment ($B = 2.08$, $p = 0.01$), and economic status ($B = 2.70$, $p = 0.01$) were significant. Considering various self-efficacy related factors in pregnant women, and the cumulative effects of these factors on self-efficacy, it can be concluded that improving modifiable influential factors, including economic status, educational level, and employment, can have a direct impact on the self-efficacy of pregnant women.

Introduction

Women account for half of the country's population, and they are managers and educators in the family and active participants in society; therefore, promotion of women's health supports an increase in the health of half of the population, and the family and the society in turn. Pregnancy in women has been recognized as a high-risk period and the prevalence of some of the risk factors such as obesity increases up to 9–12% [1,2]. Pregnant women are exposed to physical, mental, and social risks during their pregnancies, and their physical and emotional needs increase as well [3]. Pregnancy and labor are among the most

prevalent causes of mortality, disease, and deficiency in women in developing countries. According to previous research, at least 18% of the health related problems of 15–44 year old women occur during their pregnancies [4].

The health status of the mother can not only influence her quality of life, but the life and health of her fetus as well [3, 4]. Self-efficacy is one of the factors that can greatly influence a woman's health status. As a social learning concept, self-efficacy was first introduced by Bandura in 1997. Self-efficacy is defined as individual's belief in her own capabilities when encountering challenges, and is considered a predictive factor in self-management, whose main purpose is to change

behavior. The greater an individual's understanding of her self-efficacy, the more successful she would be. In fact, self-efficacy is the belief the individual holds of her ability to accomplish a task in a determined time, indicating that she can handle future opportunities [5, 6].

Self-efficacy is an important predictive factor in an individual's decision making regarding her health behavior, and can enable a person to take up health promoting behaviors and reduce harmful ones [7]. Low self-efficacy levels result in emotional and mental statuses such as frustration, anger, and suffering, especially in pregnant women. This, in turn, would lead to a decrease in the person's quality of life.

High levels of self-efficacy result in pursuing further endeavors and exhibiting greater resilience and flexibility. Thus, people with high self-efficacy are positively affected by their life experiences and expect much more success and prosperity. Solhi and colleagues found a significant relationship between public health and self-efficacy levels in women. The results of their study indicated that, according to the self-efficacy theory, intervention in order to promote general health in women is essential [5-7].

Self-efficacy in pregnant women is one of the psychological factors and a valuable framework that predicts the behavior of the mother and increases her confidence and capability levels during pregnancy [8]. Self-efficacy is affected by four fundamental informational levels, namely performance achievements such as previous pregnancies, replacement experience like visiting another pregnant woman, verbal encouragement by others, and physiological responses such as fatigue, stress, anxiety, and sleeping disorders [9,10].

Previous studies indicate that factors which influence self-efficacy during pregnancy consist of demographic factors, income, ethnic, and religious background, social factors including social support, and the mother's psychological variables, such as domestic violence [9, 11]. Some of the psychological factors include depression, anxiousness, stress, and self-respect [8, 12].

Given the importance of self-efficacy, especially during pregnancy, and the role of the various factors that affect it, the present study aimed at investigating some of the self-efficacy related

factors in pregnant women referred to the health centers of Delfan, Iran.

Materials and Methods

The current study implemented a descriptive cross-sectional research design. It was conducted by recruiting 100 pregnant women who were referred to the health centers of Delfan in 2016. A multistage sampling method was employed. The city was divided into three districts: high, middle, and low level. Based on the existing blocks in the three districts, one health center from each district was randomly selected. The pregnant women referred to the selected health centers were asked to fill out the self-efficacy questionnaire. Considering the list of pregnant women referred to each center, the pregnant women were recruited for the purpose of the study using simple sampling and a random table of numbers.

To calculate the necessary number of participants to achieve statistical significance at a 95% confidence level, with a z-value of 1.96 and standard deviation of 10.21, according to similar previous studies, the acceptable error level was determined to be 2 for this study.

The self-efficacy questionnaire employed in the present study included 17 questions whose validity and reliability had been proven in the previous studies. A Likert-scale scoring system was used, in which the options were graded as 1-4 so that the highest possible score was 68. A high score in this questionnaire was indicative of higher self-efficacy, and a low score was indicative of disorders in an individual's self-efficacy [13]. The related proposal for this study was carried out after getting confirmation from the Ethics Committee of Lorestan University, and it covered the ethical issues including confidentiality of the information, anonymity, and the participants' consent. The participants entered the study with full awareness and were not required to write down their name and signature in the consent form.

SPSS software version 18 and descriptive statistics (frequency, mean, and standard deviation) and inferential statistics (T-test, one way ANOVA, and Spearman's correlation coefficient) were used to analyze the data.

Results

The mean age of the pregnant women in this study was 26.48 ± 6.08 years. The means of previous labors, previous pregnancies, and number of children were 1.75 ± 1.06 , 1.97 ± 1.43 ,

and 1.85 ± 1.14 , respectively. The mean score of self-efficacy in these women was 48.12 ± 7.70 (score range: 17–68). Approximately one third (35.71%) of the pregnant women in the present study held a diploma ($n = 35$).

Table 1. Demographic information and its relationship with self-efficacy of the pregnant women in Delfan

Variables	Category	Frequency (%)	Mean and SD self-efficacy	P-value
Age	<20	12(12.37)	8.59±53.25	0.04
	20-25	33(33.04)	6.64±49.54	
	25-30	29(29.9)	9.83± 46.82	
	30-35	9(9.28)	3.53± 47.01	
	35<	14(14.43)	3.45± 43.06	
Education	Illiterate and primitive	15(15.31)	2.11±43.20	0.02
	Guidance	10(10.20)	4.25±45.3	
	High school and diploma	35(35.71)	4.81±48.97	
	Collegiate	38(38.78)	7.38±52.11	
Job	Housewife	74(80.43)	6.07 48.22	0.74
	Student	6(6.5)	10.52± 47.33	
	Employee	12(13.04)	7.15±46.41	
Economic status	Poor	10(10.20)	10(10.20)	0.01
	Moderate	58(59.18)	58(59.18)	
	Good	24(24.49)	24(24.49)	
	Very good	6(6.12)	6(6.12)	
Husband's education	Illiterate and primitive	13(13.40)	13.98±45.92	0.04
	Guidance	17(17.53)	1.67±47.29	
	High school and diploma	24(24.74)	5.84±49.93	
	Collegiate	43(44.33)	6.31±49.11	

The most common age range of the pregnant women who participated in the present study was 20–25 years of age (34.02%), and no significant correlation was found between occupational status and the self-efficacy of the pregnant women. However, the correlations between self-efficacy of these women and their age, education, economic status, and the educational level of their husbands were statistically significant ($p < 0.05$). The self-efficacy of the majority of the participants (57%) in the present study was reported as good or very good. Table 1 shows the correlations between self-efficacy score of the pregnant women and the quantitative variables. Table 2 illustrates the relationship between the self-efficacy of pregnant women and the variables of age, number of labors, previous pregnancies, and number of children. A significant negative relationship was found between self-efficacy and age at a 95% confidence level. As the correlation

coefficiencies indicate, self-efficacy factors have a direct relationship with the age of the pregnant woman. In this table, negative correlations are often indicative of an internal relationship between small scale measures of self-efficacy in pregnant women and their age. Overall, the findings demonstrate that the higher the self-efficacy score of the pregnant women in this study, the lower their age. Table 3 includes the multistage analysis of self-efficacy with other investigated variables in the current study using multi-variable regression analysis. Based on the multi-variable regression model of analysis, variables such as age ($B = -2.24$, $p = 0.01$), education ($B = 2.03$, $p = 0.02$), occupational status ($B = 2.08$, $p = 0.01$), and economic status ($B = 2.70$, $p = 0.01$) were statistically significant; however, the rest of the variables that were added to the regression model were not.

Table 2. Results of Spearman Correlation between self-efficacy and quantitative variables in the pregnant women of Delfan

Variable	statistics	Age	Delivery rate	Pregnancy rate	Siblings rate
Self-efficacy	The correlation coefficient	-0.27	-0.09	-0.19	-0.27
	P-value	0.01	0.01	0.04	0.01

Table 3. Multi- variable regression analysis of self- efficacy and other variables

Variables	B	SE	B Standard	t	p-value
Constant factor	-3.12	0.52	0.29	3.52	0.01
Age	-2.24	0.02	-0.64	-15.3	0.01
Number of children	0.95	0.08	0.24	2.25	0.03
Education I (university /Illiterate and primitive)	2.03	0.79	0.05	2.54	0.02
Education II(high school /Illiterate and primitive)	1.52	0.44	0.14	2.68	0.02
Education III(guidance /Illiterate and primitive)	2.68	1.39	0.06	1.91	0.06
Job I (Homemaker / unemployed)	2.08	0.79	0.05	2.56	0.01
Job II (student /unemployed)	0.63	0.48	0.06	1.30	0.19
Job III (employee /unemployed)	0.86	0.21	0.15	4.08	0.01
Economic status	2.70	0.19	0.42	14.3	0.01

Discussion

The findings of the present study are consistent with the findings of previous studies conducted on determiners of self-efficacy and self-efficacy related factors. Deveries counts residential characteristics, educational level, and ethnicity as the factors influencing self-efficacy [14]. For Campbell, income, and education are among the determiners of self-efficacy [15].

In the present study, self-efficacy levels in all factors were higher compared to the mean scores in the previous studies [8, 9, 13, 15] that demonstrate self-efficacy levels, especially in the first factor. In the study by Bastani et al., about 57% of the pregnant women had high self-efficacy levels and the remainder displayed low self-efficacy [16]. Women with higher educational levels ($p = 0.01$) and employed women ($p = 0.01$) had higher self-efficacy [16], and this is in line with the findings of the present study.

The results of this study indicated that self-efficacy in pregnant women decreased with age. Previous research has shown that self-efficacy in pregnant women varies at different age ranges [7, 9, 13, 17]. The results of Lowe's study also indicated that all self-efficacy factors decreased with age [18].

This may be because other variables such as income, education, and occupational and family status vary at different ages [18, 19].

In the present study, self-efficacy in the pregnant women who were housewives was

higher than in those who were students or employed, though this relationship was not statistically significant. The findings of a study in Turkey demonstrated that employment was correlated with all other self-efficacy related factors in the pregnant women [19]. This could be because the women's occupations and their activities and occupational participation in social events and contact with different people result in an increase in their awareness and a wider perspective compared to unemployed women. This would definitely impact self-efficacy. On the other hand, variation in self-efficacy factors could be predicted, since most of the pregnant women were unemployed [16, 19]. The difference in the findings of the study in Turkey and the present study could be due to differences in culture and beliefs.

Self-efficacy was higher in women with higher education compared to illiterate women. Various studies that have examined the relationship between self-efficacy and education have shown that women with higher education are more active, more confident, and have more health and sanitary awareness [20]. Educated people also enjoy better economic and social status, which is often due to their presence in social and educational environments and obtaining more information, as well as participating in more social and group activities [15, 21]. The results of a study on immigrant women in South Korea indicated that self-efficacy was higher in educated women

[22]. Hassanpour's study in Ahwaz, too, showed that there was a significant relationship between age at pregnancy and education of the participants in the study, which is consistent with the findings of the present study [23].

This study found a relationship between self-efficacy factors and perceived benefits and problems in pregnant women, which accounts for 57% of the variance in the self-efficacy behaviors, along with other variables such as age, educational level, and economic status. The findings also showed that self-efficacy in pregnant women increased with the number of the family members, which could show that the mental, social, and emotional support drawn from large families promotes self-efficacy [23].

One of the limitations of the current study was the unwillingness of some of the pregnant women to participate in the study. The research team tried to clarify the purposes of the study and raise the prospective participants' awareness to obtain their consent to participate in the study. Another limitation is the cross-sectional design of the study that limits the cause and effect interpretation of the findings due to the simultaneous collection of the dependent and independent variables. Since the dependent variable of self-efficacy is covert and mental, qualitative studies are recommended to explore this phenomenon in depth.

Conclusions

Demographic variables exert various effects on self-efficacy factors in pregnant women, although the cumulative effects of multiple variables on the self-efficacy of pregnant women cannot be ignored. Therefore, improvements in modifiable and influential factors such as socio-economic status and increasing educational level are expected to positively influence the self-efficacy of pregnant women. Since pregnant women with higher education have higher self-efficacy, improving the education and training of pregnant women can result in higher levels of self-efficacy.

Improving the socio-economic status of the women and their financial independence also shows a similar effect.

The findings of the present study confirm the

relationship between self-efficacy, perceived benefits, and problems in taking preventive behaviors. These findings could be used in theory-based intervention strategies to change health behaviors that lead to logical selection of success measures.

Finally, a qualitative study is recommended to investigate self-efficacy related factors. Examining the impact of self-efficacy model constructs in the same context or other contexts are also recommended.

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