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Relationship between social support with anxiety, depression, and stress in pregnant women attending to health care centers in Zanjan-Iran in 2015-2016

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Abstract

Background: Pregnancy is associated with many emotional, physical, and social changes in women's lives which may have an effect on the outcomes of pregnancy, so identifying moderating factors such as social support may have a preventing role on unintended outcomes of pregnancy.

Objectives: The purpose of this study was to determine the relationships between social support with anxiety, depression, and stress in pregnant women.

Methods: In this correlational study 249 pregnant women attending to health care centers in Zanjan-Iran, during 2015-2016 were selected using a multi-stage sampling method. Data was collected using three questionnaires including demographic characteristics, Wax social support (social support from family, friends, and others) and DASS-21 scale. The data were analyzed using descriptive and inferential statistics with SPSS software version 16.

Results: The average age of the participants were 27.57±5.56 years. The average of total perceived social support of pregnant women was 77.42±10.66, among which the most perceived social support was from the family (29.04%). Data analyses revealed weak negative and significant relationship between total social support and depression ($r=-0.17$) and stress (-0.13), as well as between social support from others and depression ($r=-0.14$) in pregnant women ($P<0.05$).

Conclusion: Although, in this study pregnant women received the most social support from the family, only a weak relationship was found between the total score of social support and social support by others with depression and stress. Therefore, it is recommended that more research be done on the type of social support of Azari pregnant women.

Keywords: *anxiety, depression, stress, perceived social support, pregnancy*

Introduction

Many emotional, physical, and social changes occur during pregnancy. Anxiety and depression may have negative effects on mother and fetus during pregnancy and may lead to postpartum depression [1,2]. Besides, concerns and worries during pregnancy can lead to mental illnesses. A study in Sweden has shown that the prevalence of

mental disorders during pregnancy is 14%, among which 3.3% is related to severe depression, 6.9% to mild depression, and 6.6% to anxiety disorders [3]. The prevalence of anxiety in Iranian pregnant women is reported to be 15% [4]. Ahmadzadeh showed that the rate of depression in pregnant women in comparison with not pregnant women is 7-50% higher, indicating that pregnant women

are more likely to develop depression during pregnancy [5]. Depression can lead to the birth of a premature, weak, and restless newborn [6]. Similarly, anxiety during pregnancy causes nausea, severe vomiting in early pregnancy, preeclampsia, and Intra Uterine Growth Restriction (IUGR), cleft lip and cleft palate, increased rate of preterm delivery, stillbirth, and even the death of the newborn after delivery [7]. Stress in pregnancy can be also associated with adverse pregnancy outcomes such as abortion, nausea and vomiting, preeclampsia, preterm delivery, low birth weight, and some degrees of mental disorders [8]. Many factors contribute to the incidence and prevalence of depression including stress and a lower level of social support [9]. Although, removal of all stressors is impossible, a great attention should be devoted to factors which reduce the risk of anxiety and depression during pregnancy. Social support acts as a protector of life pressures [10]. Social support is one of the effective factors in reducing the risk of mental disorders' development [11].

Sarason et al. (1990) define perceived social support as: "the support that people get from others, or the enacted support" [12]. Receiving social support from the people who are part of the social network of an individual's life includes assessment, material, information, and emotional support. Assessment support is to help the individual to better understand and cope with stressful situations. Material support refer to providing financial or commodity support. Information support means offering information related to the stressful event to the individual and finally and emotional support refers to giving comfort and confidence to the individual in stressful situations [11]. In interventional programs, social support can be used as an accessible and appropriate tool to increase the welfare level, especially mental well-being [13].

Studies show that understanding the adequacy, availability, and satisfaction of receiving social support is negatively associated with psychological distress and is helpful in choosing effective methods for enhancing adjustment, self-esteem, and individual skills [14,15]. Besides, social support prevents stress and avoids negative experiences [16]. Therefore, the level of social

support seems to play an important role in predicting the mental status of pregnant women [17].

Although, in many studies social support and its relation to depression, stress, and anxiety have been investigated, the results are contradictory. The results of Salari et al. (2005) study in Sabzevar showed that social support had a negative relationship with depression and anxiety during pregnancy [18]. In addition, Abdullah Zadeh Rafi et al. (2012) showed that increasing or decreasing social support is associated with increase or decrease of depression in the third trimester of pregnancy [19]. Bazarganpour et al. (2008) reports a significant relationship between social support and depression [20]. Glazier et al. (2004), in a study on 2052 pregnant women, showed that receiving high levels of social support would reduce depression and anxiety during pregnancy [21]. On the other hand, the results of Stevenson et al (1999) study on 67 black teenagers in their first pregnancy showed no relationship between anxiety and social support [22]. Moreover, Shishegar et al. (2014) did not find any meaningful relationship between social support and stress during pregnancy [23]. In the study of Masoudnia et al (2011), there was a significant negative correlation between postpartum depression and perceived general social support and support from family, others, and friends [24].

Considering the contradictory results of previous studies, the present study was conducted to determine the relationship between perceived social support with anxiety, depression, and stress in pregnant women attending to Zanzan-Iran health care centers.

Methods

This study was a descriptive correlational research, which conducted at Zanzan health care centers during 2015-2016. Zanzan is the capital of Zanzan Province located in North West of Iran with nearly 520000 people. The protocol of the study was approved by the ethics committee of the Vice-Chancellor of Research, Zanzan University of Medical Sciences, ZUMS.REC.1394.219.

A multi-stage method was used for sampling. In the first stage, the number of health centers in Zanjan was determined. Subsequently, seven centers of 18 centers were selected using simple random sampling. According to the number of pregnant women attending to health care centers, the sample size was determined in each center. At the final stage, the pregnant women in each center were selected using convenience sampling method.

The sample size was determined based on the prevalence of depression in pregnancy of 41% reported in the study of Bazargan Pour et al (2008), a 5% error level, power of 90%, and with a minimum of 10% difference between the depressed and non-depressed groups in terms of social support [20]. Accordingly, the sample size was calculated 253 people.

After receiving the written informed consent from the participants, the questionnaires were distributed and collected after completing using self report method. In order to gain the confidence of the participants, the goals and nature of the research were explained for all the participants, clearly and precisely.

The characteristics of the research participants included the followings: Iranian nationality, aged between 15 to 49 years, gestational age more than 24 weeks, single pregnancy, absence of chronic medical and psychological illnesses or specific pregnancy complications such as preeclampsia and placenta previa, not having handicapped husband or child, not having death experience of a close relative or other stressful events in recent six months, pregnancy without complications such as bleeding, uterine contractions, severe varicose, absence of previous history of abortion, stillbirth, smoking or addiction and having reading and writing skills.

The data collection tool was a three part questionnaire. Part one included demographic data and pregnancy characteristics. Second and third parts were social support questionnaire and DASS-21 scale. The social support questionnaire was developed by Wax et al, in 1986 [25]. This scale has 23 statements consisting of three domains of family (8 items), friends (7 items), and others (8 items). In this study, a modified version by Ebrahimi Ghavam (1371) has been used.

According to Ebrahimi reliability coefficients for undergraduate students was 0.90 and for school students was 0.70 in total scale. Grading of this examination is either zero or one. The range of the questionnaire's scores is between 0–23. Each correct answer is awarded one score. Earning a high score indicates higher social support [26]. In this study the Cronbach's alpha for social support questionnaire was 0.78.

The DASS scale is a collection of three scales for assessing depression, anxiety, and stress, which has been designed by Laveibond and Laveibond in 1995 [27]. Each of the DASS subscales contains seven questions for which the final score is the total score of the related questions. The scores of each question were 0 to 3 and the total score of each subscale is doubled. The range of the questionnaire's scores for each part of DASS is between 0–42. The severity of the symptoms can then be determined by referring to the questionnaire's table. In Iranian context, Sahebi et al. (2006) determined the reliability of this tool by the Cronbach's alpha for depression, anxiety, and stress scale which was reported to be 0.70, 0.67, and 0.49, respectively [28]. The Cronbach's alpha for depression, anxiety, and stress in this study was 0.74, 0.85, and 0.83, respectively.

The economic class of the participants was identified based on the three items: housing situation, home area and vehicle possession. Then the scores for the three variables were summed up. The highest score (higher than 10) was considered as class 1, 9-10 as class 2, 7-8 as class 3, 5-6 as class 4, and the score of 4 or less as class 5 (as the lowest economic class).

Socio economic classes was measured based on economic class, head of household job, and education. Head of household job was divided into 5 groups ranging from 1 to 5 (1 for unemployed, 2 for day laborer, 3 for office worker, teacher, and driver, 4 for supervisors, owners of manufacturing businesses, and shopkeepers, 5 for managers, doctors, professors, and contractors). Head of household educational level was categorized in to 5 grade (1 for illiterate and elementary level, 2 for secondary school, 3 for high school, 4 for undergraduate and a bachelor's degree and 5 for postgraduate degree) [29]. The socio economic classes score in terms of

the total score of the three mentioned items was categorized as follows: grade 1 (score of ≥ 12) as the highest socio economic class, 2 (score of 11-10), 3 (score of 8-9), 4 (score of 6-7) and grade 5 (score of ≤ 5) as the lowest socio economic class.

The descriptive statistics (mean, standard deviation, number and percentage) and inferential statistics (Spearman correlation coefficient) were used to analyze the data.

Non-parametric tests (Spearman test) were used to determine the relationship between variables due to non normal distribution of most of the variables based on Kolmogorov Smirnov test. The data were analyzed using SPSS software version 16. The significance of the tests was considered as $P < 0.05$.

Results

From 253 participants in the study, 4 participants were eliminated because of incomplete answers to the questionnaires. So, the results were reported for 249 participants in the final analysis. The mean age of the participants was 27.57 ± 5.56 . The majority of participants were married (99.6%), housewives (93.6%), from the northwestern region of Iran and had an Azari culture (92.1%). The average school years of the respondents were 10.95 ± 3.87 years. The participants' husband average age and years of study were 32.33 ± 5.73 and 10.9 ± 3.87 years, respectively. Economically, the status of participants was desirable so that the majority of them belonged to the first grade of economical class (35.3%) and minority of them to the fifth economic class (4.8%). However, in terms of the socioeconomic classification, the majority of the participants were from average or less (Table 1).

Table 1: Demographic characteristics of the pregnant women attending to Zanjan healthcare centers during 2015-2016.

Variable	Mean	Standard deviation	
Age (year)	5.56	27.57	
Education (year)	3.85	11.04	
Age of the spouse (year)	5.73	32.32	
Spouse's education (year)	3.90	10.97	
Variable	Percentage	Frequency	
Job	Housewife	93.6	233
	Employed	6.4	16
Ethnicity	Kord	0.8	2
	Fars	6.8	17
	Turkish	92.0	229
	Others	0.4	1
marital status	Married	99.6	248
	Divorced	0	0
	Widow	0.4	1
Economic class	First class (≥ 11)	35.3	88
	Second class (9-10)	24.5	61
	Third class (8-7)	14.9	37
	Fourth class (5-6)	12.4	31
	Fifth class (≤ 4)	4.8	12
Socio-economic class	First class (≥ 12)	8.4	21
	Second class (10-11)	28.1	70
	Third class (8-9)	29.3	73
	Fourth class (6-7)	22.9	57
	Fifth class (≤ 5)	3.2	8

According to table 2 mean and standard deviation of depression, anxiety and stress were 12.19

(4.50), 13.14 (4.82), and 15.45 (4.87) respectively. Moreover, the highest level of social

support perceived by pregnant women was shown to be from the family (Table 2)

Table 2: Mean and standard deviation of social support, depression, anxiety and stress of the pregnant women attending to Zanjan healthcare centers during 2015-2016

Variable	Mean	Standard deviation
Social support from friends	25.19	5.31
Social support from family	29.04	3.99
Social support from others	23.26	3.79
Total social support	77.42	10.66
depression	24.38	9.01
Anxiety	26.29	9.65
Stress	30.91	9.75

Based on Spearman test, there was a significant and negative weak correlation between perceived social support from others and the depression ($p=0.02$, $r=-0.14$), between the total social support

and depression ($p=0.006$ and $r=-0.17$), and total social support and stress ($p=0.04$, $r=-0.13$) in pregnant women (Table 3).

Table 3: Relationship between depression, anxiety and stress with perceived social support of the pregnant women attending to Zanjan healthcare centers during 2015-2016.

Social Support	Depression		anxiety		Stress	
	r**	P value*	r**	P value*	r**	P value*
Friends	-0.115	0.074	-0.046	0.480	0.096	0.137
Family	-0.101	0.117	-0.062	0.338	-0.083	0.196
Others	-0.148	0.022*	-0.076	0.243	-0.124	0.057
Total	-0.178	0.006*	-0.083	0.205	-0.134	0.040*

*P value <0.05

**Spearman correlation coefficient

Discussion

According to the results of this study, the most perceived social support was provided by the family and the least by the others. Moreover, in this study, there was a significant negative correlation between total social support and depression. This finding is consistent with the findings of previous studies [30,31]. These studies have been conducted on students and patients [30]. Examining different dimensions of social support, this study showed that total social support and social support from others had a significant relationship with depression, while there was no significant relationship between social support of family and depression. This can be due to the increased attention and social support of friends and others during pregnancy. In Shiraz, Abdollah Zadeh Rafi et al. (2008) showed that there was a significant negative relationship between friends and others social support and

depression in the third trimester of pregnancy, while there was not significant relationship in case of family social support. They concluded that social support from family is affected by various factors including unwanted pregnancy, dissatisfaction with the child's gender, family preparation for childbirth, and so on [19].

Pregnancy can be a source of anxiety and depression in pregnant women due to changes in the body, mind, and roles and responsibilities of the individuals. Social support is a protective agent against depression and anxiety among pregnant women, which can lead to improved mental health through psychological mechanisms or endocrine systems in the brain systems [3]. It seems the lack of proper social support induced via raising the idea of "being unacceptable" to others, reducing self-worth, and reducing communication with others leads to outbreak of depression signs.

Furthermore, this study revealed a significant negative correlation between stress and social support of pregnant women. The study of Faramarzi and Pasha (2015) confirms this finding [8]. In contrast, Shishehgar et al. concluded that there was no significant relationship between social support and stress in pregnancy [23]. The reasons for the inconsistency of the results in these two studies can be attributed to applying different tools (stress) to examine stress in pregnant mothers as well as different sample sizes. In the study conducted by Shishehgar et al, pregnant women were studied in the first and second trimester of pregnancy; however, in this study, the gestational age was considered at least 24 weeks. Given the fact that the levels of anxiety among mothers in different trimesters are different, the results of these two studies can be justified [32].

Finally, this study found no significant relationship between social support and pregnant women's anxiety. This finding is consistent with the findings of Abdullah Zadeh Rafi et al. (2012) and Stevenson et al. (19,22). However, Salari et al. aimed at investigating the stressors during pregnancy and showed a significant relationship between stress and anxiety scores and social and husband support [18]. This does not consistent with the results of the present study due to the differences in the mean of age and educational level of participants as well as the difference in the anxiety check tool. Salari et al used a semi-structured interview to assess anxiety, while in the present study the standard DASS tool was used. Lack of relationship between anxiety and social support may be due to preference of pregnant women to conceal unwanted conditions or problems related to pregnancy (for example, a positive screening test for Down syndrome), in this cases the response from social networks would not only be a supportive condition but also a source of pressure and stress exacerbation [32].

Conclusion

The results of this study indicated that there was a reverse and weak relationship among social support, depression, and stress in pregnant women. These results can be used by experts, midwives, and nurses who are responsible for

taking care of pregnant mothers. By forming friendships and holding training sessions with the families of pregnant women, these women can receive more support from others. Through increasing the social protection of pregnant women, the complications of depression, anxiety, and stress in mothers and infants can be decreased.

Regarding the results of the self-report questionnaire, it is likely that some research units may have refused to report socially unacceptable stressful events. The physical and psychological conditions of the participants at the time of completing the questionnaire may affect their responses. Furthermore, the convenience sampling method in this study could cause to non-generalizability of the results. The tools used in the study are designed for measuring variables in general population. Therefore, more studies are required to clarify the issue using a larger sample size and more appropriate tools for measuring variables in the pregnant women population.

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