Original Article

Investigation of the relationship between the level of perceived social support and healthy lifestyle behaviors of pregnant women

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Abstract

Objectives: This study was performed to determine the effects of perceived social support on the healthy lifestyle behaviors of pregnant women.

Methods: This descriptive study was conducted in a gestational outpatient clinic and a non-stress test room at a state hospital in Istanbul. The study sample included 329 literate pregnant women who did not suffer from any psychosocial issues or have any pregnancy related risks. The data were collected in face to face interviews using a Risk Assessment Form of the Turkish Ministry of Health, the Pregnant Women Identification Form, Multidimensional Scale of Perceived Social Support, and the Health Promotion Lifestyle Profile II. Statistical analyses of obtained data were analyzed with the descriptive statistics numbers, percentages and mean and correlation tests.

Results: In the study, 69% of the pregnant women were over 25 years of age, 65.7% had been married for 4 years or more, 56.6% were high school graduates or had a higher level of education, 75.4% had health insurance and 87.5% were unemployed. The mean score for the Multidimensional Scale of Perceived Social Support was 53.86±20.21 and the highest score of 23.06±5.75 was for the familial support subscale. The mean score for the Health Promotion Lifestyle Profile II was 124.44±24.87. The highest score of 25.11±4.63 was on the spiritual growth subscale and the lowest score of 13.08±4.57 on the physical activity subscale. The scores for the Multidimensional Scale of Perceived Social Support and its subscales had a significant positive relation with the scores for Health Promotion Lifestyle Profile II and its subscales (p<0.05).

Conclusion: According to these results, a positive relationship was found between social support and healthy lifestyle behaviors of pregnant women. It can be said that the environment with physicians, nurses, families and friends is effective in developing positive health behaviors. Within the scope of education and consultancy services of nurses; forming this positive relationship is recommended in order for pregnant women to benefit from social support in helping to develop healthy lifestyle behaviors and to conduct intervention studies on the subject.

Keywords: Healthy lifestyle behaviors; pregnancy; social support.

Defined as a development crisis period for women, pregnancy is regarded as an important process that requires physiologic, psychological and social adaptation. Women's health practices are important in terms of maintaining a healthy pregnancy and the performance of a normal delivery. [1,2] Therefore, the presence of an environment that meets the physiologic, psychological, emotional and spiritual needs of a fetus is obligatory and must be a priority.[1]

Health behaviors are defined as the activities that cover the health of pregnant woman, fetus and newborn, and the outcome of the pregnancy.[2] Healthy behaviors are related to positive pregnancy outcomes while risky, unhealthy behaviors

What is known on this subject?

• Women's health practices are important in terms of maintaining a healthy pregnancy and the performance of a normal delivery.

What is the contribution of this paper?

• It emphasizes the importance of social support within the prenatal care services for the healthcare staff and indicates that participation of spouses or other family members in the prenatal training positively affects health behaviors of pregnant women.

What is its contribution to the practice?

• Nurses can have a significant role in strengthening social support of pregnant women by asking for the active support of spouses and other family members for the pregnant women during the prenatal care trainings, thereby yielding positive results for the health of the pregnancy, mother and baby.

are related to negative outcomes.[2,3] Women's health behaviors during pregnancy significantly affect the health of their babies as well as their own during and after the delivery.[1,2,4] Because of this, pregnant women may need to make behavioral changes in their lives. Studies of the relevant literature indicate that behaviors and habits such as having a sufficient and balanced diet,[5–7] exercising,[2,5] paying attention to dressing and body care, and actions of being vaccinated for immunity,[8] avoiding smoking and consuming alcohol and other addictive substances,[1,2] avoiding second-hand cigarette smoke[2,9] and visiting a medical institution for regular prenatal checks[1] positively affect the health of both the pregnant women and their baby. These studies also indicate that the health behaviors of each pregnant woman are different and are impacted by many factors. The factors that affect pregnant women's health behaviors adversely or positively include the age and economic statuses of pregnant women, initial plans for pregnancy, educational level, number of pregnancies, having health insurance and social support.[1,3,10]

Receiving social support during pregnancy facilitates the process of adaptation to pregnancy and helps the woman cope with any problems within this period.[1,2,10] There are national and international studies indicating that social support affects pregnant women's health behaviors at different levels and in different areas. For instance, Cannella[11] (2006) noted that social support positively affected pregnant women's health behaviors. In addition, Fathnezhad-Kazemi and Hajian[12] (2019) reported that family and social support is an important factor that helps pregnant women select and adopt positive health behaviors. Downs and Hausenblas[13] (2004) stated that family support increased the exercising rates of pregnant women. Harley and Eskenazi[14] (2006) indicated that social support helped pregnant women follow a healthier diet, use vitamin supplements and decrease the rate of smoking. Murray and McKinney[15] (2010) reflected that women who received high levels of social support during their pregnancies were happier than those who received less support and that the former had more positive feelings about their pregnancy. The pregnant women in the study by Connelly[16] (2015) reported that women felt safer when their families and relatives accompanied them in the hospital. Wilkinson and Miller[17] (2007) stated that mothers and spouses of pregnant women were the

people who helped them the most during the pregnancy, and that women who had limited support from their families and relatives received insufficient prenatal care. Duncan and Strycker[18] (2005) claimed that friends support had a positive relationship with performing physical activities.

Receiving social support, establishing and maintaining positive relationships with other women during the pregnancy and postnatal period is particularly important for maintaining the health of mothers and their babies.[19] Nurses also have an important role in helping pregnant women utilize the social systems effectively and preparing a suitable environment for pregnant women.[1] Nurses who are in contact with the families can encourage women to follow healthy lifestyle behaviors by determining a woman's prioritized medical needs as well as being able to determine the social support level which is being perceived by the pregnant woman. However, the number of studies that reveal the impact of the level of social support on the healthy lifestyle behaviors of pregnant women is quite limited. Accordingly, this study was performed to determine the effects of the perception of social support by pregnant women on healthy lifestyle behaviors. Efforts were made to answer the following:

1. What is the social support level perceived during pregnancy?

2. What are the healthy lifestyle behaviors during pregnancy?

3. Is there a significant relationship between the perception of social support during pregnancy and healthy lifestyle behaviors?

Materials and Method

Study Ttype

This is a descriptive and correlational study.

Study Design and Participants

The study was performed at pregnancy polyclinics and a non-stress test (NST) room of a public hospital in Turkey between February and May of 2016.

The population was determined through the projection covering 5,193 pregnant women who applied to the pregnancy polyclinic and NST room within the year. The sample size was calculated using the sampling calculation formula after the population was determined. The case prevalence rate (impact of social support on healthy lifestyle behaviors) was accepted as 35% (min: 30% - max: 40%, mean: 35%) considering the relevant studies in the literature. 329 pregnant women were included in the sample.[13,14,20]

Measurement Tools

Risk Assessment Form of the Ministry of Health

The Risk Assessment Form of the Ministry of Health was used

to determine the pregnant women to be included in the sample. It consisted of three sections and 24 items to examine the obstetric history, current progress of the pregnancy and other information, and general medical history of the pregnant women.[21] The pregnant women who answered yes to any item in the form was considered to be within the risk group and included in the sample.

Diagnostic Form for Pregnant Women

This form consisted of 20 items examining sociodemographic characteristics of pregnant women (age, educational status, employment status, size of family, duration of marriage, income level), obstetric history (current and previous pregnancy history, the general medical history of the pregnant women, initial plans for pregnancy, and number of pregnancies) and whether they maintained the self-control during the prenatal period.

Multidimensional Scale of Perceived Social Support

The 12-item Multidimensional Scale of Perceived Social Support (MDSPSS) was developed by Zimet et al. (1988) to measure the social support received from the pregnant woman's family, friends and a special person. The scale was translated into Turkish by Eker, Arkar and Yaldız (2001).[22] Each of the items consists of three sub-dimensions under three groups regarding the source of support from the pregnant woman's family, friends and their special person. Each item in this Likert-type scale is scored with points from 1 (definitely not) to 7 (definitely yes). The total sub-dimension score was calculated by adding the item scores in each sub-dimension, and the total scale score was then calculated by adding the total of theses scores. The lowest score to be obtained from the scale was 12 while the highest was 84. The higher scores indicated higher social support, while lower scores showed that there was minor support perceived or no support was received. The internal consistency coefficient was found to be α=.88 within the original validity and reliability study (.91 for the sub-dimension of the support from a special person, .87 for the sub-dimension of family support, and .85 for the sub-dimension of friends support), and three months later, the test-retest reliability was found to be .75. For the Turkish adaptation study by Eker, Arkar and Yaldız (2001), the internal coefficient value was found to be α=.89 (.92 for the subdimension of the support from the special person, .85 for the sub-dimension of family support, and .88 for the sub-dimension of friends support). The Cronbach's alpha coefficient was 0.952 for the total scale in this study and 0.981 for the sub-dimension of the support from a special person, 0.967 for the sub-dimension of family support, and 0.975 for the sub-dimension of friends support.

Health Promotion Lifestyle Profile II

The Health Promotion Lifestyle Profile (HPLP) II was developed by Walker et al.[23] in 1987 to measure people's behaviors in terms of living a healthy lifestyle and revised in 1996. The Turk-

ish adaptation study was last performed by Akça[24] in 1998. As 22 years have passed since the adaptation of the scale and as the scale can be effectively used to assess the health behaviors of different groups and the usability of planned programs that aim to improve health, there was a social need to adapt the scale to Turkish once again. Bahar et al.[25] (2008) performed the validity and reliability study of HPLP II. The scale had 52 items in total and six sub-factors. The sub-groups consisted of spiritual development, responsibility for health, physical activity, diet, interpersonal relationships and stress management. The total score of the scale reflected the total score from the healthy lifestyle behaviors. All items of this 4-point Likert type scale were positive. One of the following was selected for the items: Never (1), Occasionally (2), Often (3), Regularly (4). The lowest score for the entire scale was 52 while the highest was 208. The Cronbach's Alpha coefficient was 0.92 for the scale, indicating high reliability. The reliability coefficient values for the sub-dimensions were as follows: Responsibility for Health=0.77, Physical Activity=0.79, Diet=0.68, Spiritual Development= 0.79, Interpersonal Relationships=0.80, Stress Management=0.64. Cronbach's Alpha value for the scale in this study was found to be 0.956, while the reliability coefficients for the sub-dimensions were as follows: Responsibility for Health=0.83, Physical Activity=0.837, Diet=0.778, Spiritual Development=0.833, Interpersonal Relationships=0.83, Stress Management=0.78.

Procedure

The Beyoğlu General Secretariat of the Association of Public Hospitals gave the ethical approval for the study (Issue no: 2015.266.IRB3.141) and the pregnant women gave their permission in written form. Preliminary procedures were performed on 30 pregnant women, who constituted approximately 10% of the sample in the pregnancy polyclinic in order to examine the time it took to complete the forms and to test the comprehensibility and usability of the diagnostic form. Following the preliminary procedure, all forms were collected during face-to-face interviews. After the researcher had made all of the necessary explanations, the Risk Assessment Form of the Ministry of Health was administered to the pregnant women who had given their written permissions in the polyclinic or NST room, and those who were under no risks were included in the sample. The participants filled out the "Diagnostic Form for Pregnant Women", "Multi-Dimensional Scale of Perceived Social Support" and "Health Promotion Lifestyle Profile II" in face-to-face interviews, and data collection lasted approximately 23 minutes.

Statistical Analysis

The data were assessed using the Statistical Package for the Social Sciences (SPSS) version no. 21.0 by IBM. In addition to the descriptive statistical methods (percentage, mean and standard deviation) used to examine the study data, a correlation test was used to review the relationship between the parameters. The reliability analysis was used for the validity

and reliability study, and the results were assessed at a 95% confidence interval and 0.05 significance value. The values that were equal to or smaller than 0.05 were accepted to be statistically significant, while the greater values were not considered as so.

Results

The mean age of the pregnant women was 26.96±4.50 years. Of the participants, 37.7% were between the age of 25 and 29,

42.9% were high school graduates, 87.5% were unemployed, and 75.4% had medical insurance. Of the partners of the pregnant women, 43.5% were high school graduates while 34% were primary school graduates. A nuclear family structure was seen in the families of 63.8%. Regarding the perceptions toward the level of income, 78.7% had an income that was equal to their expenses.

The distribution of women's pregnancy-related characteristics is present in Table 1. Of the pregnant women in this study, 80.2% were in their third trimester while 10.6% were in their

Table 1. Distribution of pregnant women's characteristics regarding their pregnancy (n=329)		
Characteristics	n	%
Current gestational week		
First trimester (0-12 weeks)	30	9.1
Second trimester (13-27 weeks)	35	10.6
Third trimester (28 weeks and longer)	264	80.2
Mean current gestational week (min:1, max: 41), Mean±SD	31.28±9.68	
Number of pregnancies		
First	108	32.8
Second	102	31.0
Third	64	19.5
Fourth and more	55	16.7
Mean number of pregnancy (min: 1, max: 4), Mean±SD	2.99±0.88	
The duration between the previous and current pregnancies		
Less than 24 months	66	20.1
More than 24 months	155	47.1
Initial plan regarding the pregnancy		
Planned	235	71.4
Unplanned	90	27.4
Through treatment	4	1.2
The period of receiving prenatal care		
First trimester (0-12 weeks)	302	91.8
Second trimester (13-27 weeks)	16	4.9
Third trimester (28 weeks and longer)	11	3.3
The number of sessions for receiving prenatal care		
Less than 4	85	25.8
4 and more	244	74.2
Mean number of prenatal care sessions based on trimesters		
First trimester (0-12 weeks), Mean±SD	2.36±1.37	
Second trimester (13-27 weeks), Mean±SD	4.37±1.80	
Third trimester (28 weeks and longer), Mean±SD	8.71±3.54	
Mean gestational week of receiving prenatal Care (min: 1, max: 36), Mean±SD	7.13±5.53	
Mean number of sessions for receiving prenatal care (min: 1, max: 20), Mean±SD	7.67±3.89	
The experience of receiving training within the prenatal care		
Yes*	114	34.7
No	215	65.3
Participation to prenatal care activity with the company of a relative		
Yes	213	64.7
No	116	35.3
SD: Standard deviation.		

Table 2. The Distribution of Pregnant Women's Total Scores from Health Promotion Lifestyle Profile II and Their Mean Scores from the Subdimensions (n=329)

Subdimensions of Health Promotion Lifestyle Profile II	Min-Max	Mean±SD
Responsibility for Health	9-36	22.13±5.65
Physical Activity	8-32	13.08±4.57
Diet	9-36	20.11±4.80
Spiritual Development	9-36	25.11±4.63
Interpersonal Relationships	9-36	24.68±4.66
Stress Management	8-32	19.30±4.46
Total Score	52-208	124.44±24.87

SD: Standard deviation.

Table 3. The Distribution of Pregnant Women's Total Scores from Multidimensional Scale of Perceived Social Support and Their Mean Scores from the Subdimensions (n=329)

Subdimensions of Multidimensional Scale of Perceived Social Support	Min-Max	Ort.±SS
Support from a Special Person	4-28	13.45±9.08
Family Support	4-28	23.06±5.75
Friends Support	4-28	17.34±8.87
Total Score	12-84	53.86±20.21

SD: Standard deviation.

second trimester, and 9.1% in the first trimester. In addition, 32.8% of the pregnant women were experiencing pregnancy for the first time, while 31% were pregnant for the second time. Of the pregnant women, 20% stated that the duration between their previous and current pregnancies was shorter than 24 months, and 71.4% had a planned pregnancy. Additionally, 91.8% of the pregnant women started to receive prenatal care in the first trimester. There had been four sessions regarding the receival of prenatal care and were assessed ac-

cording to the criteria of the Ministry of Health. Of the pregnant women, 25.8% were monitored less than four times while 74.2% were monitored more than four times. The mean number of care receiving sessions in the first trimester was 2.36±1.37 while it was 4.37±1.80 in the second trimester and 8.71±3.54 in the third trimester. According to the mean number of care receiving sessions in the prenatal period, pregnant women were found to have received care 7.67±3.89 times. Of the pregnant women in this study, 65.3% stated that they

Table 4. Distribution of the Total Scores from Multidimensional Scale of Perceived Social Support and Health Promotion Lifestyle Profile II, and Mean Scores from Their Subdimensions

Subdimensions of Health Promotion Lifestyle Profile II	Subdimensions of Multidimensional Scale of Perceived Social Support							
	Support from a Special Person		Family Support		Friends Support		MDSPSS Total score	
	r	p	r	p	r	p	r	p
Sağlık Sorumluluğu	0.265	<0.01	0.342	<0.01	0.432	<0.01	0.420	<0.01
Fiziksel Aktivite	0.343	<0.01	0.320	<0.01	0.426	<0.01	0.432	<0.01
Beslenme	0.375	<0.01	0.428	<0.01	0.488	<0.01	0.497	<0.01
Manevi Gelişim	0.270	<0.01	0.390	<0.01	0.445	<0.01	0.423	<0.01
Kişilerarası İlişkiler	0.364	<0.01	0.460	<0.01	0.584	<0.01	0.548	<0.01
Stres Yönetimi	0.300	<0.01	0.393	<0.01	0.468	<0.01	0.445	<0.01
Toplam Puan	0.375	<0.01	0.452	<0.01	0.533	<0.01	0.539	<0.01

r= Spearman Correlation Coefficient.

had not received training during the prenatal care period. The women who said they had received training in the prenatal care period (34.7%) were found to have been trained in terms of breastfeeding, family planning, baby care and postnatal bleeding control. 64.7% of pregnant women participated in prenatal care with a relative.

Table 2 presents the distribution of pregnant women's total scores from HPLP II and their mean scores from the sub-dimensions of this scale. The mean score from HPLP II was 124.44±24.87, while the mean scores from its sub-dimensions were as follows: responsibility for health=22.13±5.65, physical activity=13.08±4.57, diet=20.11±4.80, spiritual development=25.11±4.63, interpersonal relationships=24.68±4.66 and stress management=19.30±4.46. The mean standard deviation values of HPLP II sub-dimensions indicated that the highest values were received from spiritual development, interpersonal relationships, responsibility for health, diet, stress management and physical activity, respectively.

According to Table 3, the mean total score from MDSPSS was 53.86±20.21, while the mean scores from its sub-dimensions were as follows: support from a special person=13.45±9.08, family support=23.06±5.75, and friends support=17.34±8.87. There was at least one pregnant woman who received the lowest and highest scores in each sub-dimension. Of the pregnant women, 16.7% (n=55) received the highest score from the sub-dimension of support from their special person. Moreover, 31.9% (n=105) received the highest score from family support, and 20.4% (n=67) achieved the same from the friends support. The total score obtained from the scale indicated that 14.3% of the pregnant women received the highest score. Regarding the lowest scores, 35.6% of the pregnant women (n=117) received support from a special person, 3% (n=10) received family support, and 20.1% (n=66) received friends support. Of all pregnant women, 2.4% received the lowest score.

Table 4 reflects a statistically significant, positive and moderate-level relationship between the total score from MDSPSS and mean scores from each of its sub-dimensions, and total score from HPLP II and mean scores from each of its subdimensions (r=0.53, p<0.05). As the support from a special person, family support and friends support for pregnant women increased, the number of their health behaviors also increased.

Discussion

This study was performed to determine the effect of pregnant women's perceptions of the received social support on their healthy lifestyle behaviors. The total and mean scores obtained from HPLP II by pregnant women indicate that the highest score was attained from spiritual development, followed by interpersonal relationships, and the lowest mean score was obtained from the physical activity sub-dimension. The results of studies examining the health behaviors of non-pregnant women are similar to what this study found. In those studies,

the highest mean sub-scale score was obtained from spiritual development while the lowest score was achieved from physical activity.[26–28] The studies on improving pregnant women's health behaviors also yielded similar results with the sub-dimension of physical activity having the lowest score while the spiritual development received the highest.[28–30] A qualitative study by Fathnezhad-Kazemi and Hajian[12] reported that pregnant women did not know about the exercises which should be performed during pregnancy and consequently, did not do any. The same study noted that the neighborhoods where some of its participants lived did not have sports fields, and that some women did not do sports activities because they or their husbands simply did not want to. Connelly et al.[16] (2015) reported that pregnant women did not perform any physical activities thinking that their babies might be harmed. The highest score which was obtained from spiritual development can be associated with cultural structures and belief systems, while the lowest score of physical activity can be related to regional differences, traditional and cultural differences, unemployment of most the women, women's activity of spending most of their time at home, and an inadequate number of sports fields in the women's neighborhoods.

The distribution of the pregnant women's total MDSPSS score and their mean scores from its sub-dimensions were examined in this study. Accordingly, the highest scores were obtained from family support, friends support and the support of a special person, respectively. It is fair to state that the level of social support increased as the score obtained from MDSPSS increased. The social support obtained from family and spouse was better than the support of a special person or friends. According to a relevant study, the social support systems of pregnant women consisted mainly of their relatives, and emotional support was generally received from mothers and siblings.[31] Other relevant studies from the literature support the results of this study.[19,32,33] The study by Özdemir et al.[34] (2010) indicated that the highest mean score was achieved from the sub-dimension of support from a special person.

The relationship between the MDSPSS and HPLP II indicate a positive significant relationship between each sub-dimension of MDSPSS and HPLP II. The study conducted by Baheiraei et al. (2014) to examine the impact of sociodemographic characteristics and social support on pregnant women's health behaviors yielded results similar to those of the present study. According to relevant studies, social support significantly affected each sub-dimension of health behaviors, and women with a stronger perception of social support displayed healthier behaviors more frequently.[18,27] Cannella[11] found that social support increased the positive health behaviors while Fathnezhad-Kazemi and Hajian[12] (2019) noted that family and social support are important factors that help pregnant women select and adopt positive health behaviors. Downs and Hausenblas[13] indicated that family support also increased the pregnant women's rate of exercising. The study conducted by Harley and Eskenazi[14] (2006) indicated that social support helped pregnant women follow a healthier diet,

take vitamin supplements and decrease the rate of smoking,[15] while Murray and McKinney[15] (2010) reported that women who received better support during their pregnancies were happier than those who received less, and that the former had more positive feelings about their pregnancy. As the social support perceived by pregnant women increased, the health behaviors were positively affected and increased accordingly. The results of the relevant studies in the literature support the findings of this study.[11–15,27]

The Important Aspects of the Study and Limitations

This study was performed at a public hospital in Istanbul, Turkey. Accordingly, the results can only be generalized to a certain population. However, the high number of samples in this study is an important aspect. The results are based on what pregnant women reported. No educational program was performed to improve pregnant women's health behaviors.

Conclusion

Social support positively affected the healthy behaviors of pregnant women, and practitioners, nurses, family and friends were effective in helping to develop these behaviors.

Pregnant women should be informed about healthy behaviors and social support systems, and training programs should be organized for their families. Accordingly, pregnant women and their partners should be encouraged to participate in these programs. In addition, using the methods such as creating public service announcements and configuring training programs, nurses should take active roles in improving and maintaining the health of pregnant women. Within these trainings, nurses should teach pregnant women what exercises to do while pregnant, show the importance of physical activities in prenatal classes, and inform them that physical activities are positive health behaviors and are important in developing and maintaining their health. No studies indicating how social support affected the health behaviors of pregnant women were found in Turkey. As the number of studies in the international literature was limited, descriptive and interventional studies with a broader scope that examine the effect of social support on the health behaviors of pregnant women in different cultures are recommended.

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