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Research Article / Araştırma Makalesi

Effect of Pregnancy School on Distress During Pregnancy

Gebe Okulunun Gebelikte Distres Üzerine Etkisi

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Abstract: The aim of this study is to determine the effect of participation in pregnancy school on distress in pregnancy.150 pregnant women who were referred to the Eskişehir Public Hospital Pregnancy School between 31st October 2017 and 31st August 2018 and agreed to participate were included in the study. After obtaining consent, the Determination of Sociodemographic Characteristics form and the Tilburg Pregnancy Distress Scale were completed by the investigator and then pregnancy education began. After completing the education, the Tilburg Pregnancy Distress Scale was filled out again. The Shapiro Wilk test and two-way analysis of variance (single factor repeated) were used for the analysis of data. IBM SPSS Statistics 21.0 was used for statistical analysis. The significance level was set at $p<0.05$. The mean score in the Tilburg Pregnancy Distress Scale had significantly decreased from 15.17 ± 7.03 (before education) to 13.01 ± 7.03 (after education) ($p=0.010$). Moreover, the Tilburg Pregnancy Distress Scale subcategory scores also decreased after education. This study revealed that participation in pregnancy education school has a positive effect on distress in pregnancy. Therefore, it is suggested that pregnancy education schools should be more widespread. Also all expectant parents-to-be should be encouraged to participate.
Keywords: pregnant, school, distress, effect

Özet: Bu çalışma gebe okuluna katılımın gebelikte distres üzerine etkisini belirlemek amacıyla gerçekleştirildi. Bu araştırmanın örneklemini, 3 Ekim 2017 ve 31 Ağustos 2018 tarihleri arasında Eskişehir Devlet Hastanesi Gebe Okulu'na başvuran, çalışmaya dahil edilme kriterlerine uyan ve çalışmaya katılmayı kabul eden 150 gebe oluşturdu. Gebelerin onamları alındıktan sonra Gebe okulu başlangıcında araştırmacı tarafından literatür doğrultusunda hazırlanan Sosyodemografik Özellikleri Belirleme Formu ve Tilburg Gebelikte Distres Ölçeği doldurduldu ardından gebe eğitimlerine başlandı. Eğitimler bittikten sonra Tilburg Gebelikte Distres Ölçeği tekrar dolduruldu. Verilerin analizinde Shapiro Wilk's testi ve iki yönlü varyans analizi (tek faktör tekrarlı) ile kullanıldı. Analizlerin uygulanmasında ise IBM SPSS Statistics 21.0 programından yararlanılmış olup istatistiksel önemlilik için $p<0.05$ değeri kriter kabul edildi. Gebelerin Tilburg Gebelikte Distres Ölçeği toplam puan ortalamalarının 15.17 ± 7.03'den (eğitim öncesi) 13.01 ± 7.03'e (eğitim sonrası) düşerek istatistiksel olarak anlamlı bulundu ($p=0.010$). Tilburg Gebelikte Distres Ölçeği alt boyutları puan ortalamalarının da eğitim sonrasında azaldığı saptandı. Bu araştırma gebe okuluna katılımın, gebelikte distres üzerine etkisine olumlu etkisi olduğunu ve distres düzeyini anlamlı düzeyde azalttığını göstermiştir. Bu nedenle gebe eğitim okullarının yaygınlaştırılması ve ebeveynlerin bu sınıflara katılımının sağlanması önerilmektedir.
Anahtar Kelimeler: gebe, okul, distres, etki

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1. Introduction

The pregnancy period is defined as a process that can lead to physiological and psychological changes in women (1). This particular period can be regarded as a source of joy, happiness, and satisfaction by women; however, it can also be perceived as a stressful period in which negative mood states can be experienced along with anxiety and depression (2). This period can turn into a crisis for the woman and her family unless the woman can adapt to the changes in her body (3).

Mental changes, crying, depression, anxiety disorders, and obsessive-compulsive disorders can be observed during the pregnancy period at varying levels and durations. The important thing here is the effect of these disorders on the lives of women (4-7). It is important to determine how pregnant women cope with stress during pregnancy (8). At this point, pregnant schools can step in. The objective in these schools is to remedy the lack of knowledge on prenatal, delivery and postnatal periods, to ensure adaptation to the pregnancy process, to provide information about baby care and to ensure adaptation to parenthood (9). In line with these objectives, training on preparing for motherhood and parental maturity, the changes in pregnancy and recommendations, and mitigating the fear of childbirth, puerperium and preparation for parenting are provided (10). This training helps the adaptation to pregnancy. Therefore, pregnancy schools are becoming more in demand important and widespread nowadays. Since studies on the effects of pregnancy schools on pregnant women are limited in literature, such studies should also be increased as the number of schools increase.

The aim of this study was to determine the effects of participation in pregnancy school on distress during pregnancy.

2. Materials and Methods

The research was conducted at the Eskişehir State Hospital Pregnancy School between 31st October 2017 and 31st August 2018 after obtaining the ethics committee approval (Anadolu University Health Sciences Scientific Research and Board Ethics Committee dated 02.10.2017 and numbered E.99636) and necessary institution permits.

150 pregnant women who applied to the Pregnant School between the specified dates, who did not have a diagnosed psychiatric disorder, who were pregnant for 24 weeks and over, who agreed to participate in the study, who were aged 18 years or over and had no communication difficulties, were included in the research.

After obtaining the consent of the pregnant women, the Determination of Sociodemographic Characteristics form that was prepared by the researcher in line with literature was completed at the beginning of the pregnancy school. Subsequently, the Tilburg Pregnancy Distress Scale (TPDS) which was developed by Pop, Pommer, Pop-Purceleanu, Wijnen, Bergink, and Pouwer to determine the distress in pregnancy (stress, anxiety, depression) and adapted to Turkish by Çapık and Pasinlioğlu by conducting a validity and reliability study was used. The scale consists of 16 items. It is a 4-point Likert type scale (very often=0 point, quite often=1 point, occasionally=2 points, rarely or never=3 points). It has two subscales, "Negative Affect" and "Partner Involvement". The Negative Affect subscale consists of 11 items. These items are the 3rd, 5th, 6th, 7th, 9th, 10th, 11th, 12th, 13th, 14th, and 16th items. The lowest score that can be obtained from this subscale is 0 and the highest score is 33. The Partner Involvement subscale consists of 5 items. These items are the 1st, 2nd, 4th, 8th, and 15th items. The lowest score that can be obtained from this subscale is 0 and the highest score is 15. The 3rd, 5th, 6th, 7th, 9th, 10th, 11th, 12th, 13th, 14th and 16th items of the scale are reverse scored. The lowest score that can be obtained from the whole scale is 0 and the highest score is 48. The scale is applied to those who are pregnant for 12 weeks or over. There are certain break points of the scale. These breakpoints are 28 and above for the whole scale, 22 and above for the Negative Affect subscale, and 10 and above for the Partner Involvement subscale. The score obtained from the scale above these breakpoints enables the researcher to determine the pregnant women who

experience distress (stress, anxiety, depression). The Cronbach's Alpha value was found as 0.83 in the validity reliability study of the scale (11-12). After these forms were filled in, the pregnancy training was initiated. After the completion of the training, the Tilburg Pregnancy Distress Scale was filled in again.

Pregnancy school training, which is provided routinely, was announced via posters, brochures, and a website 1 month prior to the training. Pregnant school training last for 7 weeks, at 3 hours a day once a week.

Training courses are given on the following topics:

1st Week: Nutrition in pregnancy, Kegel-breathing-warming exercises, and their importance,

2nd Week: Methods of coping with pain during childbirth, fear of childbirth, hormones, bone structure, uterus muscles, Kegel-breathing-warming exercises,

3rd Week: Childbirth bag, birth symptoms, normal delivery, cesarean section, Kegel-breathing-warming exercises,

4th Week: Puerperium, postpartum psychological status, Kegel-breathing-warming exercises,

5th Week: Newborn, breastfeeding, Kegel-breathing-warming exercises,

6th Week: Newborn bath, newborn massage, Kegel-breathing-warming exercises,

7th Week: Family planning, Kegel-breathing-warming exercises

The continuous data were defined as mean + - standard deviation. The categorical data were indicated as frequency and percentage. The suitability of the data to the normal distribution was tested with the Shapiro Wilk's test. The difference between the pre- and post-training levels of the Tilburg Pregnancy Distress Scale according to the demographic characteristics was tested using a two-way variance analysis (single-factor repetition). IBM SPSS Statistics 21.0 (IBM Corp. Released 2012.IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp.) was used for the analysis of the data.

3. Results

The mean age of the pregnant women included in the study was 28.05 ± 5.23. The mean age of their spouses were 33.33 ± 5.23. The mean duration of marriage was 4.17 ± 3.72. It was determined that of the pregnant women who participated in the pregnancy school, 93.3% were living in the city center, 84.7% had a nuclear family, 98.7% had a health insurance(86.0% had SSI, 12.7% had other health insurance), 45.3% had an income between 1501-2250 TL and 36.7% had an income above 2250 TL.

In the research, it was found that of the pregnant women, 44.0% were university graduates and 60.7% were housewives. Of the spouses, 42.7% were determined as high school graduates and 54.7% to be employees (Table 1).

The distribution of the obstetric characteristics of the pregnant women is given in Table 2. It was determined that of the pregnant women who participated in our study, 82.0% had a planned pregnancy, 84.0% had someone to help with infant care at home.

Table 1. Distribution of sociodemographic characteristic of pregnant women and their spouses

Sociodemographic Characteristic		Data of pregnant women		Data of spouses	
		Number	%	Number	%
Educational Level	Primary school	12	8	12	8
	Secondary School	14	9.3	14	9.3
	High school	51	34	64	42.7
	University	66	44	51	34
	Postgraduate	7	4.7	9	6
Working Status	Unemployed	91	60.7	2	1.3
	Civil Servant	26	17.3	23	15.3
	Employee	14	9.3	82	54.7
	Self-Employment	3	2	22	14.7
	Retired	2	1.3	1	0.7
	Student	3	2	3	2
	Other	11	7.3	17	11.3

Table 2. Distribution of obstetric characteristics of pregnant women

Obstetric Characteristics		Number	%
Method of pregnancy	Planned and instinctively	123	82.0
	Unplanned and instinctively	16	10.7
	Insemination	2	1.3
	In vitro fertilization	2	1.3
	Other	7	4.7
Presence of someone to help with infant care at home	No one	24	16.0
	Husband	62	41.3
	Mother	46	30.7
	Mother-in-law	18	12.0

When Table 3 was examined, it was found that the mean total TPDS score of pregnant women decreased from 15.17 ± 7.03 (pre-training) to 13.01 ± 7.03 (post-training) and this change was statistically significant (p=0.010). In addition, it was determined that the mean TPDS subscale scores decreased after the training.

The comparison of the mean total pre-and post-training TPDS scores is given in Table 4. There was a statistically significant decrease in the mean total TPDS scores of the pregnant women who were university graduates (15.97 ± 7.41-7.41 ± 9.79) and who had a higher educational degree (22.14 ± 2.91-2.91 ± 8.57) after the training compared to pre-training ($p<0.05$). It was determined that the training given to pregnant women at pregnancy school positively reduced the distress level both in women who had a planned (instinctively) pregnancy (p=0.007) and who had an unplanned (instinctively) pregnancy (p=0.046) and a statistically significant difference was determined. It was seen that the mean distress score of the pregnant women who did not have someone to get help on infant care at home decreased from 20.29 ± 6.86 to 6.86 ± 9.88 and a statistically significant difference was found (p=0.002).

Table 3. Distribution of the Tilburg Pregnancy Distress Scale (TPDS) and Subscale Scores

Tilburg Pregnancy Distress Scale	Number of Items	Pre-training Mean ± S. Deviation	Post-training Mean ± S. Deviation	p
Negative Affect	11	11.79 ± 6.44	9.95 ± 5.72	0.016
Partner Involvement	5	3.39 ± 2.88	3.06 ± 2.87	0.172
Total	16	15.17 ± 7.03	13.01 ± 7.03	0.010

Table 4. Comparison of Mean Total TPDS Scores of Pregnant Women According to Demographic and Obstetric Characteristics

Demographic and Obstetric Data		Pre-training Mean ± S. Deviation	Post-training Mean ± S. Deviation	p
Educational Level	**Primary school**	12.00 ± 8.40	8.40 ± 9.08	0.415
	Secondary School	13.00 ± 5.36	5.36 ± 7.14	0.345
	High school	14.53 ± 6.32	6.32 ± 11.33	0.821
	University	15.97 ± 7.41	7.41 ± 9.79	0.006
	Postgraduate	22.14 ± 2.91	2.91 ± 8.57	0.027
Method of pregnancy	**Planned and instinctively**	15.64 ± 6.98	6.98 ± 10.20	0.007
	Unplanned and instinctively	16.50 ± 5.33	5.33 ± 8.31	0.046
	Insemination	4.00 ± 0.00	0.00 ± 11.50	0.180
	In vitro fertilization	15.50 ± 0.71	0.71 ± 7.50	0.180
	Other	7.00 ± 6.06	6.06 ± 9.57	0.138
Presence of someone	**No one**	20.29 ± 6.86	6.86 ± 9.88	0.002

to help with infant care at home	**Husband**	14.58 ± 7.02	7.02 ± 9.26	0.055
	Mother	14.11 ± 6.12	6.12 ± 10.00	0.403
	Mother-in-law	13.11 ± 6.86	6.86 ± 12.33	0.619

4. Discussion

No study, conducted in our country, was found in the literature about the effects of training given at pregnancy school on distress due to pregnancy. Therefore, distress levels were discussed in more detail.

When the mean age and educational status of the pregnant women included in the study and their spouses were examined it was seen that the mean age of the women was 28.05 ± 5.23 and the mean age of spouses was 33.33 ± 5.23. Almost half of the pregnant women and their spouses were had graduated from university or further eductation. In this study, the mean age and educational level of the pregnant women and their spouses were found to be high. According to the Turkish Statistical Institute (TURKSTAT) childbirth statistics of 2017, the highest fertility rate is between the ages of 25-27 years in our country (13). According to the Turkish Population and Health Research (TNSA) 2013 statistics, the highest fertility rates in women are between the ages of 25 and 29 years (14). These results have parallels with TURKSTAT (2017), TNSA (2013) and other research results (15-18). As the level of education increase, the fertility age increases, too. In addition, it is thought in our study that high educational level may affect the voluntary, active and intentional participation of expectant mothers and fathers in pregnancy training classes.

More than half of the pregnant women (60.1%) and very few of their spouses (1.3%) did not have an income-generating job. According to TURKSTAT 2017 results, 33.8% of women and 72.1% of men have a job (13). In TNSA 2013 data, it was found that 31.1% of women were occupationally employed (14). The results obtained in the research are in line with TURKSTAT (2017) and TNSA (2013) results. Our research findings support the results of the studies conducted in our country as the data show that women have less responsibility in earning money for the family, concentrate on housework, have limited working areas and that usually, men work more in income generating jobs.

It was determined that almost all of the pregnant women (93.3%) were living in the city center, had a nuclear family (84.7%) and had health insurance (98.7%). These results may enable pregnant women to get more education, support and care from health professionals during pregnancy.

In the previous studies conducted, it has been reported that women experience varying levels of distress due to the physiological and psychological changes in pregnancy and that supporting them in this period is highly important (19-21). During pregnancy, approximately 10-25% of women show depression symptoms and 25-45% show anxiety symptoms (20). Therefore, training on the preparations for childbirth provided at pregnancy schools have an important place in the protection and improvement of the mental health in expectant mothers and help women adapt to this process. (22) In our study, it was seen that women experienced distress during pregnancy. However, the women who participated in pregnancy school were found to experience fewer negative emotions and distress. This situation is important in terms of evaluating the effect of training given in the pregnant school. Due to the positive effect of the training given in the pregnancy school in reducing the distress symptoms experienced by women, it is recommended that pregnant women receive prenatal training.

In our study, it was seen that the total TPDS scores of the pregnant women who were university graduates and who had a postgraduate degree decreased after the training compared to pre-training. In other studies, similar results to this study were found in that the educational level was effective on depression and that depression decreased as the educational level increased (23,24). This can be explained by the fact that the high educational level of expectant

mothers enables them to get more information from the pregnancy school and interpret the written and visual training materials better. Moreover, women with a high educational level can adapt to the physiological and psychological changes in pregnancy more easily.

In each period of pregnancy, social support is very important (25). Women with strong social support systems can adapt to the physical and psychological changes accompanied by pregnancy more easily. In studies conducted, women with good social support systems have been observed to have fewer depression symptoms, anxiety and stress during pregnancy (25). In our study, distress scores of the pregnant women who would not get support on infant care at home were found to decrease significantly with the pregnancy school training.

In our research, it was determined that the training given to the pregnant women at pregnancy school positively reduced the distress level in all expectant mothers who had a planned or unintended pregnancy. This finding is promising for us. It can be said that the training given at pregnancy school leads to positive feelings for women. In addition, it might be due to the effective midwifery and nursing interventions of the researcher at the pregnancy school such as establishing effective communication with women, encouraging them to express their positive and negative emotions, eliminating their lack of knowledge and answering their questions.

5. Conclusion

This study showed that participation in pregnancy school had a positive effect on distress during pregnancy and decreased the distress level significantly. Therefore, it is recommended to extend pregnancy training schools and to ensure expectant parents participate in these classes.

- *150 pregnant women who were referred to the Eskişehir Public Hospital Pregnancy School between 31st October 2017 and 31st August 2018 and agreed to participate were included in the study*

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