Erzincan Üniversitesi
Fen Bilimleri Enstitüsü Dergisi
2022, 15(3), 987-995
ISSN: 1307-9085, e-ISSN: 2149-4584
Araştırma Makalesi

Erzincan University
Journal of Science and Technology
2022, 15(3), 987-995
DOI: 10.18185/erzifbed.1201964
Research Article

Investigation of the Effects of Distress on Health Practices in Pregnant Women

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Received:09/11/2022, **Revised:** 01/12/2022, **Accepted:** 19/12/2022, **Published:** 30/12/2022

Abstract

This study was conducted to examine the effect of distress on health practices in pregnant women at 12 weeks and over of pregnancy. The universe of this descriptive study consisted of women at 12 weeks and over of pregnancy who were admitted to the Obstetrics and Gynecology Department of a City Hospital. To calculate the minimum sample size to be included in the study, the sample selection formula was used in cases where the number of elements in the universe was unknown, and it was completed with 353 pregnant women. The data of the study were collected between November 2016 and April 2017, using the "Pregnancy Info Form", "Tilburg Pregnancy Distress Scale (TPDS)" and "Health Practices in Pregnancy Questionnaire" (HPPQ). In evaluating the data, the following were used: percentage distributions, averaging, t-test, Kruskall Wallis Variance Analysis, Mann-Whitney U-test, and Correlation Analysis. There is a statistically significant, negative, and low-level correlation between the total HPPQ score, the Spousal Involvement sub-dimension, and the total TPDS score ($p < 0.05$). It was found that increased distress of pregnant women decreases health practices. It is required to identify pregnant women under distress and reduce or eliminate the distress, contributing to mother-child health by increasing health practices accordingly.

Keywords: Pregnancy, health practices, distress

Gebelerdeki Distresin Sağlık Uygulamaları Üzerine Etkisinin İncelenmesi

Öz

Bu araştırma 12 hafta ve üzeri gebelerde distresin gebelikteki sağlık uygulamaları üzerine etkisinin incelenmesi amacı ile yapılmıştır. Tanımlayıcı türde olan bu araştırmanın evrenini bir Şehir Hastanesine bağlı doğum ve kadın hastalıkları polikliniğe başvuran 12 hafta üzeri gebelerden oluşmuştur. Çalışmaya alınması gereken minimum örneklem büyüklüğünü hesaplamak için evrendeki eleman sayısının bilinmediği durumlarda örneklem seçme formülü kullanılmış ve 353 gebe ile tamamlanmıştır. Araştırmanın verileri Kasım 2016-Nisan 2017 arasında, "Gebe Bilgi Formu", "Tilburg Gebelikte Distres Ölçeği (TGDÖ)" ve "Gebelikte Sağlık Uygulamaları Ölçeği"(GSUÖ) ile toplanmıştır. Verilerin değerlendirilmesinde; yüzdelik dağılımlar, ortalama, t testi, Kruskall Wallis Varyans analizi, Mann-Whitney U testi ve Korelasyon Analizi kullanılmıştır. GSUÖ toplam puanı ile Eş Katılımı alt boyutu ve TGDÖ toplam puanı arasında istatistiksel olarak anlamlı, negatif yönlü ve düşük düzeyli ilişki vardır ($p<0.05$). Gebelerin distresin artması sağlık uygulamalarını azalttığı bulunmuştur. Distres altında olan gebeler tespit edilerek distresi azaltmak veya ortadan kaldırmak ve buna bağlı sağlık uygulamalarını artırarak ana çocuk sağlığına katkıda bulunulmalıdır.

Anahtar Kelimeler: Gebelik, sağlık uygulamaları, distres

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1.Introduction

Pregnancy is a natural event that lasts 280 days starting from the first day of the last menstruation [1]. In addition to its joy and excitement, the physiological burden of pregnancy also brings along negative emotions such as an intense sense of responsibility and anxious anticipation [2]. This period can be considered as a crisis period that requires changes in women's lives and adaptation to new roles [3].

Pregnancy can be considered as a stress period in women's lives and is often concomitant with stress and depression [4]. In pregnant women, occasions such as delivering a stillborn baby, difficult birth, birth pain, fear of death, fear of not being a good mother, the mother having to leave her job or take a break after birth, and finally the family being under an economic burden can cause anxiety and stress [5]. Health practices during pregnancy include pregnant, fetus, and newborn health, and affect the course of pregnancy and its outcome [6]. As a result of stress, depression and anxiety experienced in pregnant women, norepinephrine and cortisol levels increase and blood flow to this uterus decreases. In this case, serious obstetric and neonatal consequences occur on both the fetus and the mother [7]. Diego et al. in their study found that women having depression had 13% preterm birth, 15% low birth weight babies, compared to the non-depressed women, and those with a diagnosis of pregnancy depression had a smaller fetus for their current week of gestation and a slower fetal growth rate and finally, the rate of low birth weight babies was higher [8]. The distress experienced during pregnancy is nausea-vomiting, fear of childbirth, cesarean delivery rate, bacterial vaginosis incidence and birth greater need for epidural anesthesia is indicated [9]. It has been reported that the increase in anxiety and depression levels of pregnant women is associated with obstetric complications, preterm labor, and increased need for analgesics during delivery [10]. In the study conducted by Çiçek and Mete, stress, anxiety and depression during pregnancy are shown among the causes of fear of childbirth [11]. We can say that this situation causes anxiety birth smell. In the study conducted by Öznas in 2019, the rate of cesarean section preference was found to be high in those who lived through birth protection [12]. In addition, the intense stress experienced during pregnancy causes an increase in the usual discomforts (nausea, vomiting, bacterial vaginosis, etc.) [13]. Depressed pregnant women receive less care from the healthcare personnel and care less for their own self-care, and as a result of this inadequate care, pregnant women experience more discomfort. In pregnant women with depression, nausea and vomiting, stomach pain, respiratory problems, GI complaints, heart palpitations and dizziness are more common than in pregnant women without depression [4]. In addition to the biological effects of increased stress during pregnancy, unhealthy behaviors such as not going to prenatal controls may occur in mothers [5]. There are studies showing that as a result of distress during pregnancy, changes in sleep, loss of appetite, deterioration in nutrition, decrease in energy, decrease in self-confidence, increase in alcohol and cigarette use, and lack of self-care lead to negative health behaviors [3,14]. In addition, it is stated that the intense stress experienced during pregnancy causes an increase in the usual discomforts (such as nausea, vomiting, gastrointestinal complaints, heartburn, reflux, constipation) [13].

Prevention of problems caused by distress during pregnancy is very crucial for the health of women and children. The occasion of distress in pregnant in Turkey and its preventability make the health practices during pregnancy and the factors influencing them significant. Nurses' awareness of distress should be elevated. Also, it is an important factor in terms of mother and child health for nurses to identify pregnant women at risk of distress and reduce it, facilitating physical and psychological adaptation to these periods.

This study was conducted to determine the effect of distress in pregnant women on health practices.

Research Questions

- Does distress in pregnant women affect health practices?

2. Materials and Methods

Research Type, Place-Time and Universe-Sample

This descriptive study was conducted with pregnant women who were admitted to the Gynecology and Obstetrics Department of the Gynecology and Pediatrics Supplementary Service Building affiliated to a City Hospital between November 2016 and April 2017.

The universe of the study consisted of pregnant of 12 weeks and more who applied to the hospital clinic within the specified time frame. To calculate the sample size, the number of participants was calculated as 384 people using the sample formula used in cases where the number of elements in the universe is unknown, but when the research data reached 353 people, the power of the study was calculated as 0.99. Sampling criteria: Pregnancy of over 12 weeks, availability to communication and cooperation, being primiparous or multiparous, not having a risky pregnancy, and having no diagnosed psychiatric disorder.

Data Collection: The data of the research were collected using face to face interview method. Filling out the forms took an average of 20-25 minutes.

Data Collection Tools: Pregnant Info Form, Tilburg Distress Scale (TPDS) and Pregnancy Health Practices Scale were used.

Pregnant Info Form

This form, prepared in line with the literature [15], consists of questions that can determine the socio-demographic characteristics of pregnant women.

Pregnancy Health Practices Scale

The Health Practices in Pregnancy Scale (GSSS) was developed by Lindgren in 2005 and adapted into Turkish by Er in 2006.

There are 34 items in the original form of the questionnaire. However, since one item was removed in the adaptation study, the Turkey form consists of 33 items. Items 1 to 16 in the questionnaire include 5-point Likert-type responses ranging from “always” to “never”. Never option starts from 1 point. However, items 6, 7, 21, 22, 23, 24, 25, 26, 32 and 33 of the scale

are reverse coded starting from 5 points towards 1. A minimum of 33 and a maximum of 165 points are obtained from the scale, and an increase in the score indicates an increase in health practices. [16]. The internal consistency coefficient of the study was 0.66.

Tilburg Pregnancy Distress Scale (TPDS)

This scale was developed by Pop et al. It was developed by Capık in 2011 and its Turkish adaptation was made by Çapık in 2013[17]. The scale is in 4-point Likert type, and the "very often" option starts with zero (0) points and the "never" option ends with three (3) points. However, items 3, 5, 6, 7, 9, 10, 11, 12, 13, 14 and 16 are reverse scored. t is the cut-off point of the total score that can be obtained from the scale, and a cut-off point of 28 and above determines the pregnant women at risk for distress. The cut-off points for the sub-dimensions are 10 and more for the spousal involvement sub-dimension, and 22 and more for the negative affect sub-dimension. In the validity and reliability study conducted by Çapık (2013), the internal consistency coefficient was found to be 0.83, and in this study, the internal consistency coefficient was found to be 0.70 for the TPDS, 0.78 for the negative affect sub-dimension, and 0.76 for the spousal involvement sub-dimension.

Negative Affect Sub-Dimension: It consists of 11 items and includes items 3,5,6,7,9,10,11,12,13,14 and 16. The minimum 0 maximum score that can be obtained from the sub-dimension is 33.

Spouse Participation Sub-Dimension: Consists of 5 items and includes items 1,2,4,8 and 15. The minimum 0 maximum score that can be obtained from the sub-dimension is 15.

A minimum of 0 and a maximum of 48 points are taken from the total of the scale.

Analysis of Data: The data were analyzed in the SPSS information package, and percentages, numbers, spearman correlation analysis, mean and standard deviations were used in the analysis.

3. Results and Discussion

Table 1. Distribution of Demographic Characteristics of the Pregnants (N=353)

Demographic Characteristics			
		n	%
Education Level	Illiterate	3	0.8
	Literate	6	1.7
	Primary Education	231	65.4
	High School	85	24.1
	University	28	7.9
Place of Residence	Province	44	12.5
	District	257	72.8
	Village-Town	52	14.7
Employment Status	Yes	26	7.4
	No	327	92.6
Health Insurance	Existent	305	86.4
	Nonexistent	48	13.6
Family Type	Nuclear	241	68.3

	Extended			112	31.7
Income status	Low			13	3.7
	Moderate			281	79.6
	High			59	16.7
Spouse Education Level	Illiterate			2	0.6
	Literate			2	0.6
	Primary Education			163	46.2
	High School			140	39.7
	University			46	13.0
Spouse's Employment Status	Employed			332	94.1
	Unemployed			21	5.9
	n	**Min.**	**Max.**	**Avg.**	**SS.**
Age	353	17	40	26.19	4.96
Spouse's Age	353	19	57	31.17	5.61

As seen in Table 1, the mean age of the pregnant women was 26.19±4.96, and the mean age of the spouses was 31.17±5.61. 65.4% of the pregnant women were primary school graduates, 72.8% lived in the district, 92.6% did not use to work, and 86.4% had health insurance. 68.3% of the pregnant lived in a nuclear family, 79.6% of them had a moderate income. The spouses of 46.2% of the pregnant women were primary school graduates, and the spouses of 94.1% were actively working.

Table 2. Distribution of Pregnant Women's Scores from PHPS and TPDS Sub-dimensions (N=353)

SCALES	**n**	**Min.**	**Max.**	**Avg.**	**SS.**
Negative Affect Sub-dimension	353	0	23	5.12	4.42
Spousal Involvement Sub-dimension	353	0	13	5.25	2.59
TPDS	353	0	36	10.37	4.91
HPPQ	353	94	146	121.04	10.32

TPDS Based on Cutoff Points	**Distress Yes**		**Distress No**	
	N	**%**	**N**	**%**
Spousal Involvement Subdimension	16	4.5	337	95.5
Negative Affect Sub-dimension	1	0.3	352	99.7
TPDS	2	0.6	351	99.4

As seen in Table 2, pregnant women scored 5.12±4.42 from the Negative Affect sub-dimension, 5.25±2.59 from the Spousal Involvement sub-dimension, and 10.37±4.91 from the total of TPDS. 0.3% of the pregnant women scored from the Negative Affect sub-dimension

above the cutoff points, and 4.5% from the Spousal Involvement sub-dimension and 0.6% from the total TPDS did so. Pregnant women had 121.04±10.32 points from the total of PHPS.

Table 3 The Correlation Between Total HPPQ Scores and TPDS and its Sub-dimensions (N = 353)

SCALES		HPPQ Total Score
Negative Affect	**r**	0.082
	p	0.126
Spousal Involvement	**r**	-0.377
	p	**0.000**
TPDS Total Score	**r**	-0.138
	p	**0.009**

As seen in Table 3, there is no statistically significant correlation between the total HPPQ scores and Negative Affect sub-dimension scores of the pregnant ($p > 0.05$). There is a statistically significant, negative, and low-level correlation between the total HPPQ score, the Spousal Involvement sub-dimension, and the total TPDS score ($p < 0.05$). As the HPPQ total score increases, the spousal involvement sub-dimension and the TPDS total score decrease. It was found that increasing distress in pregnant women decreases health practices during pregnancy.

In this study, the research conducted with the aim of examining the effects of distress on health practices in pregnant women has been discussed according to the literature.

In this study, the pregnant women scored above the cutoff point from the total TPDS, and 0.6% were found to be distressed. In the study conducted by Bacacı et al. in 2018, it was found that 13.1% of the pregnant women were distressed [18], in the study by Çapık, this rate was 11.9% [19], and in the study by Çiltaş and Köse, 33% were found to be at risk of distress [20]. In the study by Pottinger et al., they determined the rate of depressive disorder during the whole pregnancy as 25% [21]. In the study by Dağlar et al. (2015), it was determined that 50.7% of the pregnant women were at risk of depression [22]. Other studies have also found distress in pregnant women, and we can state that the risk of depression is too high to be underestimated. According to the results of the research, pregnant women with depression and distress risk should be diagnosed early and the risk should be reduced, thus contributing to the improvement of mother-child health.

In the study, no statistically significant correlation was found between HPPQ total score and the TPDS negative affect sub-dimension score, while a statistically significant, negative, and low-level correlation was found between the HPPQ total score, the TPDS spousal involvement sub-dimension, and TPDS total score. As the HPPQ total score increases, the spousal involvement sub-dimension and the TPDS total score decrease. Increasing distress in pregnant women decreases health practices during pregnancy (Table 3). Bacacı et al. (2018) found that as pregnant women felt inadequate in physically and in terms of health, the level of distress increased [18]. In the study conducted by Goodwin in the USA between 2005 and 2014, the smoking in pregnant women with depression was found to be four times higher than in the non-depressed [23]. In a study conducted by Smedberg among European countries, a strong relationship was found between depression and continuation of smoking during pregnancy, and

low education level and inability to attend birth preparation courses were identified as risk factors [24]. De Jesus Silva et al. (2016) found that depression during pregnancy was associated with the number of births, the number of children, the number of pregnancies, family support, the number of cigarettes smoked per day, alcohol consumption, daily drug use, a history of mental disorders, and the presence of remarkable events and the risk was higher for the pregnants in the depression group [25]. Habashneh et al. found a significant relationship between health practices and receiving dental care during pregnancy, and it was found that pregnant women with higher health practices had a higher rate of dental care [26]. Miyake et al. (2015), in their study in Japan, vitamin D intake and depressive symptoms during pregnancy were investigated and vitamin D intake was associated with a lower prevalence of depressive symptoms during pregnancy [27]. Ormsby et al. (2018), In their study with 8 depressed pregnant women in Sydney, Australia who wanted to get acupuncture treatment, they found that acupuncture allowed them to adapt better to the changes brought by pregnancy [28]. Our study is in parallel with other study findings, and it can be concluded that there is a relationship between distress and health practices, and as the level of distress in pregnant women increases, health practices during pregnancy decrease.

4. Conclusion

According to the results of the research, as the distress increases in pregnant women, health practices during pregnancy decrease. In line with this result, prenatal education programs should be made widespread, reducing the stress of pregnant women and spouses and preparing them for the role of parenting. In addition, it is recommended to increase the health practices during pregnancy by determining the factors that may play a role in women experiencing distress during pregnancy and thus to contribute to the overall health of the mother and child.

Ethics in Publishing

Ethics approval (No:2016/40229) from the Ethics Committee of a university and written permission from the Provincial Health Directorate of the province where the research was conducted were obtained in order to conduct the research. To protect the rights of pregnant women within the scope of the research, before starting to collect the research data, the aim and duration of the research were explained to the pregnant women, and care was taken to comply with the principle of "Autonomy" and the principle of " Confidentiality and Protection of Confidentiality". In general, the ethical principles of 'Do No Harm/Beneficence' have been fulfilled.

Author Contributions

DK: Conceptualization, Methodology, Software, Investigation, Formal analysis, Writing - Review & Editing, Data curation, Resources
SKT: Conceptualization, Methodology, Software, Investigation, Formal analysis, Writing - Review & Editing, Data curation, Resources

Acknowledgements

* This study was presented as an oral presentation at the 7th International Congress on Woman and Child Health and Education. 24-25 May 2021 Istanbul; Turkey
** Produced from Master's thesis.
*** This work has not received funding.

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