

## EFFECT OF PREGNANT WOMEN'S KNOWLEDGE ABOUT CARE AND INFORMATION ABOUT PREECLAMPSIA ON THEIR LEVEL OF STATE ANXIETY

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### ABSTRACT

*This research was conducted as an experimental study for the purpose of evaluating the effect of knowledge about the illness and care of pregnant women diagnosed with preeclampsia on decreasing their state anxiety.*

*The research sample was composed of 45 pregnant women who were admitted to the hospital with the diagnosis of preeclampsia within the year beginning 01 October 2002. The data were collected using Spielberger's State Anxiety Inventory and analyzed using the SPSS 10.0 packet program.*

*The mean state anxiety score for the pregnant women with preeclampsia was 53.7 before education about the illness and care, and was 37.6 after the education was given. There was a statistically significant difference in the anxiety score values before and after education about the illness and care for pregnant women with preeclampsia ( $p<0.05$ ). The pregnant women's knowledge about care for preeclampsia score mean before the education was 20 and their preeclampsia knowledge score mean was 47.1. The total knowledge score mean was 67.1.*

*After the pregnant women with preeclampsia received education there knowledge scores increased, there was a statistically significant difference between the pre and post education the knowledge score values, and their state anxiety scores decreased.*

**Keywords:** Preeclampsia, education, anxiety, state anxiety

### ÖZET

**Gebelerin Preeklampsi ve Bakımı ile İlgili Bilgi Düzeylerinin Durumluk Anksiyete Üzerine Etkisi**

*Araştırma preeklampsi tanısı konulmuş gebelerde hastalık ve bakım bilgisinin durumluk anksiyeteyi azaltmada etkisini değerlendirmek amacıyla deneysel olarak yapılmıştır.*

*Araştırmanın örneklemini 01.10.2002 tarihinden itibaren bir yıl içinde preeklampsi tanısıyla servise yatan 45 preeklampsili gebe oluşturmuştur. Veriler anket formu ve Spielberger'in Durumluk Anksiyete Ölçeği kullanılarak toplanmış olup SPSS for 10.0 paket programı kullanılarak değerlendirilmiştir.*

*Preeklampsili gebelerin hastalık ve bakım bilgisi eğitiminden önce durumluk anksiyete puan ortalaması 53.7, eğitimden sonraki anksiyete puan ortalaması 37.6 olarak belirlenmiştir. Preeklampsili gebelerin hastalık ve bakım bilgisi eğitiminden önceki anksiyete puan değeri ile sonraki anksiyete puan değerleri arasındaki fark istatistiksel olarak anlamlı bulunmuştur ( $p<0.05$ ). Preeklampsili gebelerin eğitimden sonra hastalığa yönelik bakım puan ortalaması 20'dir. Hastalık bilgi puanı ortalaması 47.1'dir. Toplam bilgi puan ortalaması 67.1'dir.*

*Preeklampsili gebelerin hastalık ve bakım bilgisi eğitiminden önce ve sonra aldıkları puan değerleri arasındaki fark istatistiksel olarak anlamlı bulunmuş ( $p<0.05$ ), bilgi puanları artmış ve durumluk anksiyeteleri azalmıştır.*

**Anahtar Kelimeler:** Preeklampsi, eğitim, anksiyete, durumluk anksiyete

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## INTRODUCTION

According to World Health Organization statistics the maternal death rate in developed countries is 4-10 per 100,000 and in developing countries is 140 per 100,000. The maternal death rate in Turkey is 49 per 100,000 (T.C. Sağlık Bakanlığı 2000), and 23.6% of these deaths occur for reasons related to pregnancy, 47.5% during birth and 28.9% for problems in the early postpartum period (Mirçioğur and Akın 1998). Studies have shown that an average of 10-20% of pregnancies face a risk for maternal death (Buldukoğlu and Terakye 1990, Taşkın 2000, Karanisoğlu 1991).

Various research studies conducted in Turkey have shown that 7-43% of maternal deaths occur because of pregnancy toxemia (Metin et al. 1998, Taner 2002, Özderen et al. 2002, Quemann and Hobbins 1998). Pregnancy toxemia, which is called preeclampsia, is a risky condition that presents with symptoms such as edema, proteinuria, and hypertension (PIH syndrome) (Taner 2002, Vural 1998, Vural 2002). Anxiety and depression are important factors in leading to preeclampsia (Kurki et al. 2000, Cheyne and McQueen 1999, Hibbard 2002, Kaya 2001).

Pregnancy is a conditional stressor because of frequent physical discomforts, hormonal changes and various psychosocial factors. Considering pregnancy from the point of view of a cognitive process, it is a time of questioning and uncertainty. This state can be the cause for anxiety in pregnant woman. In high risk pregnancy this state can cause the mother to come face to face with a major crisis (Buldukoğlu 2002, Özkan 1993).

When individuals cannot cope with anxiety they are unable to perform their activities of daily living and feelings such as worthlessness, guilt, and hopelessness can lead to depression (Buldukoğlu and Terakye 1990, Baltaş and Baltaş 1997). Kurki et al. (2000)

showed that anxiety and depression in pregnancy can increase preeclampsia. Depression and anxiety cause vasoconstriction through the sympathetic nervous system (James et al. 1994, Kurki 2000, Bağ 1998).

The presence of social support factors are very important in ensuring the pregnant woman's psychological wellness during pregnancy (Ladewing et al. 1900). In the antenatal period the nurse/midwife can be effective in decreasing the state anxiety of a pregnant woman through sufficient monitoring and counseling. The nurse/midwife needs to determine and implement the interventions necessary to meet the pregnant woman's needs for information about her illness and how she can meet her daily care needs.

## MATERIAL AND METHOD

### Research Design

This research was conducted as an experimental study for the purpose of evaluating the effect of knowledge about preeclampsia, anxiety and care of hospitalized pregnant women.

### Research Setting

The research was conducted on the obstetric and gynecology wards of Mersin University Medical Faculty Research and Education Hospital (MUH), Mersin Public Hospital Maternity Service (MPH), and Social Insurance Institution Mersin Hospital (SIIMH).

### Research Population and Sample

The research population included in total 118 pregnant women who were admitted to MUH, MPH and SIIMH between the dates of 01.10.2002 - 01.10.2003 with the diagnosis of preeclampsia. The sample was composed of 45 women with the diagnosis of mild and severe preeclampsia who were admitted to MUH (14 women), MPH (17 women) and SIIMH (14 women). The women were included in the study who had mild and severe preeclampsia, had been in the hospital for at least 24 hours,

could read and write, could speak in Turkish, and who agreed to participate in the research.

#### **Data Collection Method and Tools**

For data collection a questionnaire which had questions about the pregnant women's sociodemographic characteristics and questions directed at evaluating their knowledge of the illness and care for preeclampsia and Spielberger's State Anxiety Inventory (SSAI) were used. This tool for measuring state anxiety was adapted for the Turkish population by Öner and LeCompte (1985).

Once permission was obtained to conduct the research from the health science institutions the data collection was started. The nurse/midwives on each ward which was a research site were contacted by phone every evening to check for new admissions of preeclampsia patients.

Patients need some time to adapt the stressors in the hospital environment and their illness. Recommended time for this is 24 hours. After 24 hours had passed, the pregnant women were contacted. The research was conducted in two interviews. In the first interview, permission was obtained from the women to participate in the research and the SSAI was completed. The SSAI was given first, since completing the questionnaire might increase their anxiety. Next a face-to-face interview was conducted for the purpose of obtaining their sociodemographic characteristics and determining their knowledge level. After application of the questionnaire, women's needs for knowledge about preeclampsia and care were detected. Grading the section included information questions of the questionnaire is that; illness knowledge score is 1 point, risk condition knowledge questions is 2 points, care knowledge questions is 3 points, the questions which determine the illness' development

diagnosis and which is accepted as a key is 4 points. The total score is evaluated at 70 points. At once, information was given to them about patient's right, nutrition, weight and edema control, signs of hypertension and eclampsia, medical treatment, stress coping methods and fetal health evaluation. This interview and information took approximately 1.5 hours to complete. Then, 24 hours later the second interview was conducted. This interview determined their knowledge level again and the State Anxiety Inventory was repeated. The second interview took approximately 50 minutes.

The State Anxiety Inventory that was used in this research measures how an individual feels in their current situation. (Example: I'm calm now, I'm very angry now, I'm worried now ) The pregnant women who participated in the research were asked to read the items on the tool and mark the severity of their feelings at that moment by choosing (1) not at all, (2) somewhat, (3) moderately so, and (4) very much so.

There are 10 reversed expression items on this tool (items 1, 2, 5, 8, 10, 11, 15, 16, 19 and 20). In the evaluation of level of state anxiety these items are reversed to calculate the total score. The reversed scores are added to the remaining 10 unchanged items to determine the state anxiety level. The total score can vary between 20 and 80. According to the tool guidelines the individual's anxiety level is considered to be "none" for a score between 0-19, "mild" for a score between 20-39, "moderate" for a score between 40-59, and "severe" for a score between 60-79, and a score of 80 is considered to show very severe anxiety.

#### **Data Analysis**

Data obtained were evaluated on the computer using SPSS 10.0 (Statistical Package for Social Sciences for Windows) packet program. Frequencies, arithmetic means, paired samples t-test

and student's t-test were conducted in the analysis of the data.

#### **FINDINGS AND DISCUSSION**

The pregnant women with preeclampsia who participated in the research were admitted to obstetric and gynecology wards at MUH (31.1%), MPH (37.8%), and SIIMH (31.1%). The majority of the women (64.4%) were between 20-30 years of age, which is considered most appropriate for a healthy pregnancy. There were 15.6% of the women under 20 years old and 35.5% over 35 years old. Studies have shown that pregnant women in the extremes of young and older age categories have higher risks for anemia, chronic hypertensive diseases and preeclampsia (Hacettepe Institute of Population Studies 1998, Göl et al. 2003, Mayor 2004). In this study 75.6% of the women could read and write or were primary school graduates and 82.2% had health insurance. According to the Turkish Population Health Research 1998 data 16.7% of the women in Turkey are illiterate and the percentage of women with middle school or higher education is 18.1%. The majority (68.9%) of the preeclampsia pregnant women in the research did not work outside the home and 40% described their economic status as poor. A low socioeconomic state increases the risk for preeclampsia (Quenman and Hobbins 1998, Kurki et al. 2000, Hacettepe Institute of Population Studies 1998, Kukulü 1991).

More than half (57%) of the pregnancies of the women with preeclampsia were unwanted. Psychosocial factors have been state to be an important role in the development and advancement of preeclampsia. When a pregnant woman is unable to cope with problems, preeclampsia worsens and the fetus and woman's life are at risk (Buldukoğlu and Terakye 1990, Baltaş and Baltaş 1997).

The majority of the women (82.2%) were obese according to their body mass index. Obesity increases the predisposition to preeclampsia. In a study conducted by Üstün et al. (2003) the effect of maternal obesity on preeclampsia was investigated and it was found to be significantly higher than that in the normal group. Having more than four childbirths and having less than two years between pregnancies increases the risk for preeclampsia (Taşkın 2000, Taner 2002). In this study 37.7% of the preeclamptic pregnant women were in their second or third pregnancy. This percentage is lower than the Hacettepe Institute of Population Studies 1998 data.

It was found that 65% of the cases of preeclampsia occur in first pregnancies (Quenman and Hobbins 1998, Tatar 1990). In the current study 40% of the preeclamptic women were in their first pregnancy.

Informed consent is one of the most important dimensions of showing respect for a patient's autonomy (Aydın 2001). In this study in the evaluation of the preeclamptic women's status of receiving health care, it was determined that 93.3% of the women had been admitted for the first time for preeclampsia and the majority (80%) did not know why they had been admitted to the hospital and nearly half (46.7%) had not received information from their physician about the method of delivery. The overwhelming majority of the pregnant women wanted to receive information about their health status but hesitated in asking health care personnel.

Prior to illness and care education, the mean care knowledge score for the preeclamptic pregnant women in the research was 6.3, illness knowledge score was 14.1 and total knowledge mean score was 12. The first scores for knowledge about the illness and the care were so low that it can be assumed the women with preeclampsia and they had not received sufficient

information about their illness and care. It was seen that the total knowledge score increased in the pregnant women who

were given information based on their needs for information about their illness and care.

Table1. Distribution of Mean Knowledge Scores Pre and Post-Education

Illness and Care Knowledge Score	Values Obtained				
	S	X	SS	Min	Max
<b>Pre</b>	45	20.1	11.9	3	53
<b>Post</b>	45	67.1	1.8	65	70
	t= -29.9		p<0.05		

After education the women's knowledge mean score about the care was 20, their illness knowledge mean was 47.1, and their total knowledge mean score was 67.1. A statistically significant difference was found in the knowledge scores before and after preeclampsia related illness and care education ( $p<0.05$ ) (Table 1). Previous research has shown that health education significantly

decreased complications and anxiety levels in patients (Atıcı 2000, Karayurt 1997). Nurse/midwives have key roles in facilitating preeclampsia women's adjustment to the hospital environment, establishing communication with the family and putting them in touch with people who can give them information (Cheyne and McQueen 1999).

Table 2. Distribution of State Anxiety Score Means Pre and Post-Education

State Anxiety Scores	Values Obtained				
	N	X	SS	Min	Max
<b>Preeducation</b>	44	53.7	12.2	26	75
<b>Posteducation</b>	44	37.6	9.5	20	69
	t=13.194		p<0.05		

The mean State Anxiety score for the women with preeclampsia in our research before education about their illness and care was 53.7 which decreased to 37.6 after education. There was a statistically significant difference in the anxiety score values before and after education about the illness and care for the women with preeclampsia ( $p<0.05$ ) (Table 2). Other studies have shown that patients who are given information about their illnesses have decreased in their state anxiety levels (Atıcı 2000, Karayurt 1997). In this study it was determined that explanatory information given to women with preeclampsia about their illness state, bedrest, diet, health of the fetus, and

other subjects about childbirth and pregnancy that they were curious about was effective in decreasing their level of state anxiety.

There was no statistically significant difference found between the knowledge about preeclampsia scores and the state anxiety scores for the women ( $p>0.05$ ). In studies conducted by Yazıcı et al. (2003) and Özatalay (1990) as well the level of knowledge was not found to have an effect on the decrease in anxiety.

A statistically significant difference was found in the first anxiety score mean for the women who had and had not experienced problems with their spouses ( $p<0.05$ ) (Table 3).

Table 3. Distribution of State Anxiety Score Means According to Status of Pregnant Women Experiencing Problems with Spouse

Having a Problem with Spouse	State Anxiety Scores				
	N	$\bar{X}_{pre}$	$\bar{X}_{post}$	SSpre	SSpost
Yes	12	64.0	46.8	11.8	8.5
No	33	51.4	35.6	8.2	8.5
	t= 2.832	p< 0.05	t= 3.373	p< 0.05	

In this study it was determined that 26.6% of the women had experienced problems with their spouses. In a research conducted by Ekşi (1999) it was found that there is a significant

correlation between state anxiety scores and the status of women with risky pregnancies' sharing their thoughts and feelings with their spouses.

Table 4. Distribution of State Anxiety Score Means According to Whether or Not the Pregnancy was wanted

Wanted Pregnancy Status	State Anxiety Scores				
	N	$\bar{X}_{pre}$	$\bar{X}_{post}$	SSpre	SSpost
Wanted	26	50.7	35.8	13.34	10.0
Not wanted	19	57.7	40.0	9.40	8.3
	t: -1.958	p< 0.05	t: -1.475	p> 0.05	

The first anxiety values were lower for preeclamptic women who wanted their pregnancy than for those who did not (Table 4). Keleş et al. (2000)

determined that there is a significant increase in anxiety in women with unwanted pregnancies because of their physical and psychological problems.

Table 5. Distribution of State Anxiety Score Means According to Whether or Not the Pregnant Woman Knew the Reason for Her Hospitalization

Reason for Hospitalization	State Anxiety Scores				
	N	$\bar{X}_{pre}$	$\bar{X}_{post}$	SS pre	SS post
Known	36	54.3	38.1	13.1	10.1
Unknown	9	51.1	35.9	7.8	6.4
	t: 0.173	p< 0.05	t: 0.616	p> 0.05	

In the current study there was a statistically significant difference in the state anxiety mean scores before and after education about the illness and care for women who did and did not know the reason why they had been admitted to the hospital (P<0.05) (Table 5).

The state anxiety scores dropped after illness and care related education for both the women who knew and did not

know the reason why they were admitted to the hospital. However there was no statistically significant difference for the state anxiety mean scores before and after education between those who did and did not know why they had been admitted to the hospital (p>0.05).

Not informing pregnant women with preeclampsia about their illness and reason for hospitalization increases their

anxiety. There need to be informed may not have been met because the women did not know their rights adequately or because they were not able to find health care personnel. It is necessary for nurse/midwives to inform pregnant women within their roles of being a counselor, educator and patient advocate (Cheyne and McQueen 1999, Aydın 2001).

### CONCLUSION AND RECOMMENDATIONS

The majority of the women in the current study did not know the reason why they had been admitted to the hospital and 89.5% had been sent to the hospital by their physician after symptoms of preeclampsia were detected.

The preeclamptic women's level of anxiety decreased after they were given explanatory information about their general condition and care by the researcher.

The first total knowledge score was so low that it can be assumed that health care personnel had not given the pregnant women sufficient information about the illness and care. There was a statistically significant difference in the knowledge value before and after

education was given about their illness and care.

According to the distribution of state anxiety mean scores of the women with preeclampsia before and after education about their illness and care, their preeducation state anxiety score mean was 53.7 (moderate level of anxiety) and their posteducation state anxiety score mean was 37.6 (mild level of anxiety). There was a statistically significant difference in their pre and posteducation state anxiety scores.

Based on these results it is recommended that:

Nurse/midwives provide sufficient antenatal monitoring to be able to make early diagnosis of preeclampsia,

Inpatient and outpatient monitoring to ensure that nurse/midwives provide counseling to women with risky pregnancies to help them cope with their problems,

Pregnant women be informed of their rights,

Continuing education programs be prepared for nurse/midwives for the purpose of developing appropriate communication skills.

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