



Depression and Anxiety Disorders in Patients with Hyperemesis Gravidarum and the Effect of This Disease on the Quality of Life

Hiperemesis Gravidarum Hastalarında Depresyon ve Anksiyete Bozuklukları ve Bu Hastalığın Yaşam Kalitesine Etkisi

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Abstract

Aim: Hyperemesis gravidarum can frequently lead to depression or anxiety in pregnant women. This situation can significantly deteriorate the quality of life of the pregnant woman. In our study, it was aimed to investigate the levels of depression and anxiety in patients with hyperemesis gravidarum, and to analyze the effect of hyperemesis on quality of life.

Materials and Methods: The study included 87 patients diagnosed with hyperemesis and 24 patients without hyperemesis admitted to our hospital between the dates of 01.04.2018-01.10.2018. All participants received Beck Anxiety Inventory, Beck Depression Inventory and 12-question quality of life (SF-12) forms.

Results: The mean age of the patients included in the study was 25.4±5.0 years (Age range: 17-39 years). Minimal anxiety and depression were detected in all participants. There was no significant difference between the group of patients diagnosed with hyperemesis and the control group in terms of mean depression score ($p=0.161$) and anxiety score ($p=0.266$). No significant difference was found in terms of the distribution of depression and anxiety levels between the groups ($p=0.46$ and $p=0.557$, respectively).

Conclusion: In conclusion, our findings show that anxiety and depression levels cannot be directly correlated with hyperemesis gravidarum. However, it is necessary to closely monitor the psychological status of pregnant women diagnosed with hyperemesis, to perform the necessary supportive treatments and to improve their quality of life.

Keywords: Hyperemesis gravidarum, Beck anxiety inventory, Beck depression inventory, anxiety, depression, life quality

Öz

Amaç: Hiperemesis gravidarum, hamile kadınlarda ciddi komplikasyonlardan daha sık depresyon veya anksiyete bozukluğuna yol açabilir. Bu durum hamile kadının yaşam kalitesini önemli ölçüde bozabilir. Çalışmamızda hiperemesis gravidarum hastalarında depresyon ve anksiyete düzeylerinin araştırılması ve hiperemesisin yaşam kalitesine etkisinin incelenmesi amaçlanmıştır.

Gereç ve Yöntem: Çalışmaya 01.04.2018-01.10.2018 tarihleri arasında hastanemize başvuran 87 hiperemesis tanısı almış, 24 hiperemesisli hasta dahil edildi. Tüm katılımcılar Beck Anksiyete Envanteri, Beck Depresyon Envanteri ve 12 soruluk yaşam kalitesi (SF-12) formlarını aldı.

Bulgular: Çalışmaya dahil edilen hastaların ortalama yaşı 25,4±5,0 yıl (Yaş aralığı: 17-39) idi. Tüm katılımcılarda mild anksiyete ve depresyon tespit edildi. Hiperemesis tanısı alan hasta grubu ile kontrol grubu arasında ortalama depresyon puanı ($p=0,161$) ve anksiyete puanı ($p=0,266$) açısından anlamlı bir fark yoktu. Gruplar arasında depresyon ve anksiyete düzeylerinin dağılımı açısından anlamlı fark bulunmadı (sırasıyla $p=0,46$ ve $p=0,557$).

Sonuç: Bulgularımız, anksiyete ve depresyon düzeylerinin hiperemesis gravidarum ile doğrudan ilişkili olamayacağını göstermektedir. Ancak hiperemesis tanısı almış gebelerin psikolojik durumlarının yakından izlenmesi, gerekli destek tedavilerinin yapılması ve yaşam kalitelerinin iyileştirilmesi gerekmektedir.

Anahtar Kelimeler: Hiperemesis gravidarum, Beck anksiyete envanteri, Beck depresyon envanteri, depresyon, yaşam kalitesi



INTRODUCTION

Nausea and vomiting during pregnancy is a common condition. Nausea occurs in 50-90% of pregnant women in the first trimester period. It has been reported that the cause of nausea in pregnancy is increased human chorionic gonadotrop hormone (HCG) level.^[1-3] Hyperemesis gravidarum is a stubborn and severe clinical picture with nausea and vomiting. Nutritional disorders, dehydration, electrolyte disorders, weight loss and catatonia can also be added to this manifestation. Hyperemesis gravidarum, which can be seen in 0.5-2% of pregnant women, may be at a grade that may require hospitalization of some patients.^[1-5]

Although it has been stated that factors such as increased beta-HCG level, steroids, multiple pregnancy, increase in body mass index and hyperemesis gravidarum history may play a role in the development of the hyperemesis gravidarum manifestation, the exact cause has not been determined.^[1,5-7] In some cases with severe hyperemesis gravidarum, serious complications such as Wernicke's encephalopathy and thromboembolism can be seen in the mother, and low birth weight, preterm delivery, developmental delay, some anomalies and mortality can be observed in the fetus. Therefore, rapid supportive therapy is important in hyperemesis gravidarum.^[4-7]

Hyperemesis gravidarum can frequently lead to depression or anxiety in pregnant women. This situation can significantly deteriorate the quality of life of the pregnant woman.^[6-8] In our study, it was aimed to investigate the levels of depression and anxiety in patients with hyperemesis gravidarum and to analyze the effect of hyperemesis on quality of life.

MATERIAL AND METHOD

This study was approved by the local ethics committee, and was planned prospectively.

Patients

The study group included 87 patients up to 20 weeks of gestation diagnosed with hyperemesis between the ages of 17 and 39 who applied to the gynecology outpatient clinics of our hospital between April and October 2018. A total of 24 patients without hyperemesis was included in the study as the control group. Pregnant women with single live pregnancy accompanied by ketosis accompanied by recurrent nausea, vomiting, and dehydration findings were included in the study, and those with additional systemic disease, smokers, signs of infection, those with a pre-diagnosis of abortus imminens, and those with fetal congenital malformation were excluded. The gestational age of the patients was determined using the first day of the last menstrual period, and was confirmed by ultrasonography.

Scales

Turkish versions of Beck Depression Inventory and Beck Anxiety Inventory were used to determine the depression and anxiety states of pregnant women. Physical and mental

scoring was done for pregnant women using SF-12 (Short Form 36, Questionnaire of Evaluating Life Quality) life quality form consisting of 12 questions. The status of depression and anxiety was evaluated using the Beck Depression Inventory and Beck Anxiety Inventory^[9,10]

Beck Depression Inventory

Turkish version of Beck Depression Inventory was used to determine the anxiety states of pregnant women. Questionnaire form consisting of 21 questions was used, and scoring between 0-63 was applied. The Beck Depression Inventory, developed by Beck et al.^[9] in 1988, is a self assessment scale that is used to evaluate the findings of depression of individuals. Questionnaire form consisting of 21 questions was used, and scoring between 0-63 was applied. Answers to each question in the Beck Depression Inventory were scored from 0 to 3. The Beck Depression Inventory scores were classified as follows: 0-9 as no or minimal depression, 10-16 as mild depression, 17-23 as moderate depression, and 24-63 as severe depression.^[9]

Beck Anxiety Inventory

Turkish version of Beck Anxiety Inventory was used to determine the anxiety states of pregnant women. Beck Anxiety Inventory, developed by Beck et al.^[10] in 1998, is a self assessment scale that is used to evaluate the findings of anxiety of individuals. Validity and reliability were done by Ulusoy et al. Questionnaire form consisting of 21 questions was used, and scoring between 0-63 was applied. Answers to each question in the Beck Anxiety Inventory were scored from 0 to 3. The Beck Anxiety Inventory scores were classified as follows: 0-7 as no or minimal anxiety, 8-15 as mild anxiety, 16-25 as moderate anxiety, and 24-63 as severe anxiety.^[10]

SF-36 and SF-12 were developed due to its long application time.^[11] While the Physical score -12 (Physical Component Summary Scores) score is obtained from the sub-dimensions of general health, physical functionality, physical role and body pain, the Mental score-12 (Mental Component Summary Scores) score is obtained from the sub-dimensions of social functionality, emotional role, mental health and energy. is obtained. Both Physical score-12 and Mental score-12 scores range from 0 to 100, with higher scores representing better health.^[11]

Statistical Analysis

Statistical analysis was performed using SPSS 21.0 (IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY). Univariate analyses to identify variables associated with anxiety and depression were investigated using appropriate statistical tests such as Student's t-test, the chi-square test and Mann-Whitney U test. The Kruskal-Wallis test was used to compare the anxiety and depression scores between the two groups in terms of different variables. The association between ordinal variables was investigated, and correlation significance was calculated using the Spearman test. A 5% type 1 error was used for the statistical significance.

RESULTS

The mean age of the patients included in the study was 25.4±5.0 years (Age range: 17-39 years). The mean gestational week was 10.3±4.0 weeks (range: 4-27 weeks).

At least minimal anxiety and depression were detected in all participants. No significant differences were found between the hyperemesis and the control groups in terms of mean age ($p=0.194$), gestational week ($p=0.082$), number of gravida ($p=0.506$), number of parity ($p=0.949$), depression score ($p=0.161$), anxiety score ($p=0.266$), physical score ($p=0.684$) and mental score ($p=0.263$) (Table 1).

Table 1. Comparison of mean values of various variables between groups.

	Hyperemesis		Control	p
	Mean±SD	Mean±SD	Mean±SD	
Age	25.8±4.8	24.3±5.4		0.194
Gestational week	10±3.7	11.6±4.9		0.082
Gravida	1.9±0.8	2±1		0.506
Parity	0.7±0.8	0.7±0.8		0.949
Depression score	15.4±9.2	12.4±9.7		0.161
Anxiety score	15.1±9.1	12.7±9.6		0.266
Physical score	42.1±7.7	42.8±9.4		0.684
Mental score	43.1±10.5	45.8±11.3		0.263

*SD: Standard deviation.

Severe depression was detected in seven (8.0%) patients in the hyperemesis group and two (8.3%) patients in the control group. Severe anxiety was detected in 14 (16.1%) patients in the hyperemesis group and in three (12.5%) patients in the control group. No significant difference was found in the distribution of depression and anxiety levels between the groups ($p=0.46$ and $p=0.557$, respectively) (Table 2).

Table 2. Comparison of depression and anxiety severity distributions and the mean scores between groups.

	Hyperemesis		Control		Total		p
	n	%	n	%	n	%	
Depression level							0.46
Minimal	28	32.2	11	45.8	39	35.1	
Mild	24	27.6	7	29.2	31	27.9	
Moderate	28	32.2	4	16.7	32	28.8	
Severe	7	8.0	2	8.3	9.0	8.1	
Total	87	100	24	100	111	100	
Anxiety level							0.557
Minimal	20	23.0	9	37.5	29	26.1	
Mild	32	36.8	7	29.2	39	35.1	
Moderate	21	24.1	5	20.8	26	23.4	
Severe	14	16.1	3	12.5	17	15.3	
Total	87	100	24	100	111	100	

In the correlation analysis, both depression and anxiety scores were found to be negatively correlated with SF-12 mental score ($p<0.001$; $r=-0.538$ and $p<0.001$; $r=-0.539$, respectively) and physical score ($p<0.001$; $r=-0.426$ and $p<0.001$; $r=-0.436$, respectively) in the hyperemesis group (Table 3).

Table 3. Correlation analysis between anxiety and depression scores and SF-12 mental and physical scores in Hyperemesis gravidarum group.

		Depression score	Anxiety score
Physical score	r	-0.426	-0.436
	p	<0.001	<0.001
Mental score	r	-0.538	-0.539
	p	<0.001	<0.001

DISCUSSION

Hyperemesis gravidarum is a clinical picture that can be caused by many endocrinological, psychosocial or biochemical factors. Although it does not occur very frequently in pregnant women, it may be at a grade that affects the quality of life in some pregnant women. Constant and severe nausea and vomiting can make pregnancy much more difficult, which even leads to unusual changes itself.^[1,2,6,8]

It has been reported that pregnant women with hyperemesis gravidarum may develop depression and/or anxiety.^[12-16] However, whether anxiety and depression is the result or cause of the hyperemesis gravidarum picture has not been definitively determined.^[17,18] Aksu et al.^[19] reported that hyperemesis had a psychiatric background in their study. However, London et al.^[1] reported in their extensive meta-analysis that anxiety and depression were not the cause, but the result, of hyperemesis gravidarum. Seng et al.^[12] and Fell et al.^[13] reported that hyperemesis gravidarum was diagnosed with a significantly higher rate of psychiatric disorders in pregnant women. Simpson et al.^[20] also supported this finding and reported that psychiatric disorder resolved with the end of pregnancy. Simsek et al.^[18], Yildirim et al.^[21] and Erginbas-Kender et al.^[14] found significant depression and anxiety scores in pregnant women with hyperemesis gravidarum in their studies conducted in Turkey. Similarly, Özen et al.^[15], Tan et al.^[16] and Kasap^[17] found that hyperemesis gravidarum was associated with depression and anxiety in their studies. Topalahmetoglu et al.^[22] found that mean anxiety and depression scores were significantly higher in the hyperemesis group, and this was attributed to the socioeconomic status and the education level of the family. In our study, no significant difference was found between the groups in terms of the mean scores of both depression and anxiety. These differences among the studies may be due to differences in socioeconomic, educational and social relationship levels between the groups created in some studies. In other words, when the tables of the studies are examined, it can be seen that the groups could not be formed socio-demographically equivalent, and that anxiety and depression may be due to these differences rather than hyperemesis. All these data show that hyperemesis gravidarum can lead to depression and anxiety during pregnancy, but due to the wide range of factors, the situation can be variable in every pregnant woman, and in addition, the situation of depression and anxiety should be monitored carefully in pregnant women without hyperemesis.

According to the findings of the study conducted by Özen et al.^[15], the rate of severe anxiety in pregnant women diagnosed with hyperemesis gravidarum was significantly higher than the control group, and the rate of minimal anxiety level was significantly lower ($p < 0.001$; as the result of statistical analysis performed by us based on the data of that paper). According to the same study data, there was no difference between the groups in terms of distribution of depression levels ($p = 0.06$; as the result of statistical analysis performed by us based on the data of that paper). In our study, the groups were similar in terms of both depression and distribution of anxiety levels. These data show that the presence of anxiety and/or depression may be associated with hyperemesis gravidarum, as well as the level of anxiety and depression may be different in pregnant women with hyperemesis. These findings show that pregnant women with hyperemesis should be closely monitored in terms of the presence of anxiety or depression, as well as the levels of these clinical pictures.

Özen et al.^[15] determined that 96% of pregnant women diagnosed with hyperemesis gravidarum had at least minimal anxiety, and 88% had at least minimal depression. In our study, all pregnant women diagnosed with hyperemesis had at least minimal depression and anxiety. These findings show that the presence of depression and/or anxiety with hyperemesis table does not differ from the control groups, as well as that there are very high rates of depression and anxiety in these pregnant women. Therefore, not only the women with hyperemesis but also all pregnant women should be evaluated in terms of depression and anxiety.

It has been stated that hyperemesis gravidarum may be related with some-sociodemographic characteristics of pregnant woman.^[1,6,23,24] Kamalak et al.^[24], Simsek et al.^[18] and Kasap^[17] found that the number of parity history was significantly lower in pregnant women with hyperemesis compared to the control group. Erginbas-Kender et al.^[14] also found that pregnant women with hyperemesis gravidarum had significantly lower numbers of parity and gravida in their studies. However, Özen et al.^[15], Türkmen et al.^[25] and Beyazit et al.^[26] reported that there was no significant differences between hyperemesis and the control groups in terms of numbers of parity and gravida in their studies. In our study, no significant difference was found between hyperemesis gravidarum and control groups in terms of mean numbers of parity and gravida. These studies show that hyperemesis gravidarum may develop more frequently in those with less pregnancy experience, but that hyperemesis can also be seen frequently in some pregnant women who have more pregnancy experience.

The effect of the hyperemesis gravidarum on the quality of life can also be measured using SF-36 and its shortened version, SF-12, questionnaires, where physical and mental scores can be evaluated.^[26,27] Tan et al.^[28] found the physical and mental scores in all pregnant women in the range of 40-50%, and found that the mean mental score in the hyperemesis group was significantly lower than the control group. Munch et al.^[29]

found mental and physical scores in the range of 35-43% in their studies, and reported a significantly lower mean score in the hyperemesis group compared to the control group. In our study, physical and mental scores in all pregnant women were in the range of 40-50%, and there was no significant difference between hyperemesis and control groups in terms of both physical and mental mean scores. These data show that mental and physical scores are below the middle levels in all pregnant women. However, in the correlation analysis conducted in our study, both depression and anxiety scores were found to be negatively correlated with SF-12 mental and physical scores in the hyperemesis group. This finding shows that as the levels of anxiety and depression increase, the mental and physical score and therefore the quality of life decrease in pregnant women with hyperemesis.

There were some limitations in our study. Since our study was a cross-sectional study, the post-pregnancy status of the pregnant women was not followed, and it was not possible to evaluate whether the hyperemesis gravidarum was related to preterm birth, low birth weight or postpartum depression. In our study, since the hyperemesis level was not classified, it could not be analyzed whether the factors examined had an effect on the hyperemesis level.

In conclusion, our study data show that anxiety and depression levels cannot be directly associated with hyperemesis gravidarum. However, it is necessary to closely monitor the psychological status of pregnant women diagnosed with hyperemesis, to perform necessary supportive treatments and to improve their quality of life.

ETHICAL DECLARATIONS

Ethics Committee Approval: Ethics committee number 602 was taken from Gazi Yaşargil Training and Research Hospital on 16.10.2020.

Informed Consent: All patients signed the free and informed consent form.

Referee Evaluation Process: Externally peer-reviewed.

Conflict of Interest Statement: The authors have no conflicts of interest to declare.

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