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Women's Adaptation to Pregnancy and Health Practices towards Hyperemesis Gravidarum in Turkey

Öznur Akcayüzlü (MSc)[1], Evsen Nazik (PhD)[2*]

[1] Graduated, Balcalı Hospital, Çukurova University, Adana, Turkey
[2] Professor, Department of Obstetrics and Gynecologic Nursing, Faculty of Health Sciences, Çukurova University, Adana, Turkey

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ABSTRACT

Background & aim: Nausea and vomiting are important pregnancy problems that are common in the first months of pregnancy and affect daily activities and decrease women's quality of life. Assessment of maternal adaptation and health behaviors in pregnancy with hyperemesis gravidarum (HG) is extremely important in terms of raising the quality of care. This study was carried out to measure the adaptation to pregnancy and health practices of women with hyperemesis gravidarum.

Methods: This descriptive study was carried out on 70 women with HG who were selected using simple random sampling between August 2016 and April 2017 in two state hospitals in Adana, Turkey. A demographic questionnaire, the Prenatal Self Evaluation Questionnaire (PSEQ) and the Health Practices Questionnaire in Pregnancy (HPPQ) were used to collect data. The data were evaluated using SPSS 22.0.

Results: The mean total score of PSEQ and HPPQ in women with HG was 149.7±26.8 and 116.0±14.0, respectively. There was a positive correlation between the PCEQ and the HPPQ (P=0.000/ r=-0.386), i.e. with increased women's adaptation to pregnancy, their health practices was improved.

Conclusion: The results suggest that women who are hospitalized with the diagnosis of HG should be assisted with adapting to pregnancy and having routine evaluations of their health practices during pregnancy.

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Introduction

Nausea and vomiting are important problems that are common in the first months of pregnancy, affecting approximately 70% of pregnant women. They affect daily life and diminish women's quality of life (1). Nausea and vomiting generally start in the fifth gestational week and disappear at 16th-20th weeks. The severity of nausea and vomiting ranges from mild nausea to hyperemesis gravidarum (HG) (2). HG is characterized by insufficient nutrition due to nausea and/or vomiting, 5% weight loss, dehydration, deterioration, electrolyte imbalance and ketonuria. Its incidence is said to range from 0.3% to 3% (3, 4). Although the etiology of HG is not fully known, it is reported to be more frequent in young women, and in primiparous and twin pregnancies (4, 5). The diagnosis of HG can include thyrotoxicosis, diabetic ketoacidosis, Addison's disease, hypercalcemia, gastritis, peptic ulceration, pancreatitis, appendicitis, bowel obstruction, hepatitis, urinary tract infection, uremia, drug-induced vomiting, migraines, central nervous system disease and vestibular disease. If not appropriately treated, it can cause severe adverse effects, including neurological disturbances such as Wernicke's encephalopathy and central pontine myelinolysis, and even maternal death (6). Some studies have shown that HG is associated with increased risk of pre-eclampsia, placental abruption and low for gestational age birth weights (7, 8). HG also causes psychological and social problems such as anxiety and depression. It has negative effects on pregnant women's families, social lives and work lives (5, 9).

* *Corresponding author:* Evsen Nazik, Professor, Department of Obstetrics and Gynecologic Nursing, Faculty of Health Sciences, Çukurova University, Adana, Turkey. Tel: 985138591511; Email: talakhadivrad@gmail.com

Pregnancy is a time when physiological, psychological and social adjustment is important. Adaptation is defined as the sequence of methods or processes that individuals use to deal with the changes they encounter and to maintain a satisfactory balance (10). Changes in pregnancy can negatively affect women's physical and mental health, and make adjustment to pregnancy difficult. Nausea and vomiting are important problems in pregnancy adjustment for women who do not know how to stop or manage them. They cause disappointment, hopelessness, weakness and anxiety, making it difficult to adjust to pregnancy and motherhood. Studies in the literature have shown that nausea or vomiting affects adjustment to pregnancy negatively (11-16). Studies have shown that adjustment to pregnancy is at a good level in healthy pregnancies and low in risky pregnancies such as HG.

Healthy pregnancies are only possible if women adapt to pregnancy and engage in proper health practices. Women who adapt to pregnancy are fitter to protect and develop fetal health. In order to maintain a healthy pregnancy and to protect the health of the fetus, it is necessary to engage in proper health practices (17, 18). Considering HG's effects on pregnancy, it is important to determine the adjustment to pregnancy of women who have it (19, 20). Nurses and midwives play important roles in health care services during pregnancy, childbirth and the postnatal period. Assessing women's adaptation to pregnancy and health practices towards HG is extremely important for raising the quality of care. The aim of this study was to measure the adaptation to pregnancy and health practices of women with HG.

Materials and Methods

This descriptive study investigates women's adaptation to pregnancy and health practices in pregnancies with HG. It was conducted from August 2016 to April 2017 in the obstetric services of a university and two state hospitals in the city of Adana, Turkey. The pregnant women diagnosed as HG by a physician and pregnant women hospitalized due to HG between August 2016 and April 2017 were included in the study. The simple random sampling was used to select participants. A total of 70 women with HG who met the inclusion criteria and agreed to participate were included in the study.

The inclusion criteria were being 18-35 years old, being in the first or second pregnancy trimester, having a single fetus, having a HG diagnosis, having no pregnancy complications other than HG and no chronic disease, no psychiatric problems, no communication difficulties, and knowing and speaking in Turkish.

The exclusion criteria were the following: being in the third trimester and being diagnosed with a different disease during hospitalization.

Power analysis was done to determine the sample size. The relationship between the prenatal self-assessment scale and the gestational healthcare scale was negative, r=-0.4, and α=0.05 and power=0.90. The sample size was assumed to be 61, assuming homogeneous distributions of the scales. The study was conducted with 70 women with HG, foreseeing the possibility of participants leaving the research or failing to fill out the questionnaires.

A demographic questionnaire, the Health Practices in Pregnancy Questionnaire (HPPQ) and the Prenatal Self Evaluation Questionnaire (PSEQ) were used to collect data.

The demographic questionnaire had 15 questions about socio-demographic characteristics (age, education, employment status, economic status, family type, etc.) and obstetric characteristics (number of pregnancies, number of living children, current gestational week, etc.).

The Prenatal Self Evaluation Questionnaire (PSEQ) was developed by Lederman in 1979 to evaluate the adaptation to pregnancy of prenatal women. Its Turkish validity and reliability study was conducted by Beydağ and Mete in 2008 (10). It is a 4-point Likert-type scale with 79 items in 7 sub-dimensions: acceptance of pregnancy, acceptance of maternity, relationship with own mother, relationship with husband, preparedness for birth, fear of childbirth, and concern for well-being of self and baby. Each sub-dimension has 10 to 15 items. Its items are reversely scored as follows: 1: does not describe, 2: describes a little, 3: describes partially and 4: describes accurately. The lowest

possible score is 79, and the highest is 316. Low scores indicate good adaptation to pregnancy. The Cronbach's alpha value was 0.81 in the scale's reliability study, and it was 0.90 in this study.

The Health Practices in Pregnancy Questionnaire (HPPQ) was developed by Lindgreen in 2005. Its validity and reliability was determined by Er in 2006 (21). It has a total of 33 items. Items 1 to 16 are scored as follows: never=1, rarely=2, occasionally=3, often=4, and always=5. Items 17 to 33 have other appropriate responses and are also scored from 1 to 5. The sum of all item scores is the total score. The lowest possible score is 33, and the highest is 165. High scores indicate good health practices. In the scale's reliability study, the Cronbach's alpha value was 0.74. In this study, it was 0.78.

The data were collected from August 2016 to April 2017 in face-to-face interviews. The interviews lasted 20-30 minutes depending on the frequency of complaints of nausea and vomiting.

The data were evaluated using SPSS 22.0. Means and standard deviations, medians, minima, maxima, frequencies and ratios were used to evaluate the data. The distribution of the variables was measured using the Kolmogorov-Smirnov test. ANOVA (Tukey test), the independent samples t-test, the Kruskal-Wallis test and the Mann-Whitney U test were used to analyze the independent quantitative data. Spearman's correlation analysis was utilized for correlations, and Cronbach's alpha value was used to determine the internal consistency of the scales. P values of <0.05 were considered statistically significant. It should be noted, we did a pilot study. We sent it to statistics. Power analysis was done based on our own study findings.

This study was approved by the board of ethics within the Faculty of Medicine at Çukurova University (IRB 2016-65/1). The women's verbal and written consent was obtained. The participants were informed about the purpose of the study, and the researchers ensured them that their information would be used solely for scientific purposes, be kept confidential and not be shared with others.

Results

The socio-demographic characteristics of the women with HG are shown in Table 1.

Of them, 35.7% were 26-30 years old, 31.4% were university graduates, and 74.3% were not employed. It was determined that 92.9% of their spouses were employed, and 35.7% of their spouses were university graduates. Of the women, 82.9% had nuclear families, 77.1% had social security, and 44.3% had been married for less than 2 years.

There were no statistically significant differences in the women's age, education levels, employment status, spouse's education level, spouse's employment status, family type, presence of social security, the longest residence, duration of marriage of the pregnant with HG and total PSEQ score ($p>0.05$). There were statistically significant differences in the income status of the pregnant with HG and total PSEQ score ($p<0.05$) (Table 1).

There were statistically significant differences in the women's education levels ($p<0.001$), employment status ($p<0.001$), spouse's education level ($p<0.01$), family type ($p<0.05$), income status ($p<0.001$), having social security ($p<0.05$) and total HPPQ scores. (Table 1).

The obstetric characteristics of the women with HG are shown in Table 2. Of the women with HG, 57.1% were 9 or more weeks pregnant, and 52.9% had had 2 or more pregnancies. Of them, 77.1% had pregnancy intervals of less than 2 years, and 51.4% had a living child. Moreover, 92.9% had no history of abortion, and 65.7% had planned pregnancies.

There were statistically significant differences in the women's only planned pregnancy and total PSEQ scores ($p<0.05$). Additionally, there were statistically significant differences in the women's gestational weeks ($p<0.05$), statuses of having a living child ($p<0.05$), planned pregnancy ($p<0.05$) and total HPPQ scores. (Table 2).

Table 1. Comparison of the average PSEQ and HPPQ scores according to the socio-demographic characteristics of the women with HG

Socio-demographic characteristics	N (%)	PSEQ Mean±SD	Test and P values	HPPQ Mean±SD	Test and P value
Age					
<20	7(10.0)	160.6±36.2	KW=5.545 p= 0.116	111.3±7.4	F=1.689 P=0.178
21-25	21(30.0)	139.0±27.2		115.6±11.8	
26-30	25(35.7)	155.4±20.8		113.4±14.2	
31-35	17(24.3)	149.9±27.7		122.2±17.1	
Level of Education					
Primary school	19(27.1)	158.7±22.9	KW=6.684 P=0.083	107.8±11.7	F=11.327 P=0.001
Secondary school	18(25.7)	154.4±29.1		114.8±8.8	
High school	11(15.7)	151.1±16.6		109.3±12.8	
University	22(31.4)	137.2±28.8		127.4±13.1	
Employment					
Employed	18(25.7)	143.5±27.2	MW-U=-1.042 P=0.298	126.0±17.4	t=3.837 P=0.001
Unemployed	52(74.3)	151.8±26.5		112.5±10.9	
Education Level of Spouse					
Primary school	21(30.0)	151.8±24.6	KW=2,940 P=0.512	109.3v9.2	F=4.862 P=0.004
Secondary school	8(11.4)	161.3±18.4		109.6±16.5	
High school	16(22.9)	147.8±20.4		117.2±11.6	
University	25(35.7)	145.4±33.5		122.9±15.2	
Employment of Spouse					
Employed	65(92.9)	148.9±27.4	MW-U=-1,584 P=0.393	115.9±13.6	t=-0,230 P=0.819
Unemployed	5(7.1)	159.6±15.2		117.4±21.2	
Family Structure					
Nuclear Family	58(82.9)	147.1±27.5	MW-U=-1,878 P=0.083	117.6±14.4	t=2.080 P=0.041
Extended Family	12(17.1)	161.8±19.3		108.5±9.8	
Level of Income					
Income<expenditure	17(24.3)	153.9±27.1	KW=8.358 P=0.011	108.4±9.8	F=14.476 P=0.000
Income=expenditure	47(67.1)	151.6±25.8		115.8±12.8	
Income>expenditure	6(8.6)	122.3±20.4		138.8±9.4	
Social Security					
Yes	54(77.1)	146.8±27.2	MW-U=-1,847 P=0.096	118.1±14.4	t=2.342 P=0.022
No	16(22.9)	159.4±23.6		109.0±10.1	
Residence					
Village	6(8.6)	162.7±22.2	KW=1.574 P=0.455	108.8±7.8	F=1.692 P=0.195
Town	18(25.7)	150.8±24.3		113.1±12.5	
City	46(65.7)	147.5±28.1		118.1±14.9	
Length of Marriage					
Less than 2 years	31(44.3)	153.4±25.5	KW=1.095 P=0.578	117.0±15.0	F=0.200 P=0.819
3-4 years	13(18.6)	140.9±30.1		116.2±13.8	
5 year or more	26(37.1)	149.6±26.6		114.7±13.4	

Table 2. Comparison of the average PSEQ and HPPQ scores according to the obstetric characteristics of the women with HG

Obstetric characteristics	N (%)	PSEQ Mean±SD	Test and P values	HPPQ Mean±SD	Test and P values
Gestational week					
<8 weeks	30(42.9)	150.7±31.8	MW-U=-0516 P=0.606	111.4±9.8	t=- 2.477 P=0.010
≥9 weeks	40(57.1)	148.9±22.6		119.5±15.8	
Number of pregnancies					
1	33(47.1)	145.7±25.1	MW-U=-0.959 P=0.337	119.3±14.9	t=1.892 P=0.063
2 or more	37(52.9)	153.2 ±28.1		113.1±12.7	
Interval between pregnancies					
Less than 2 years	54(77.1)	150.6±25.6	MW-U =-0.189 P=0.850	116.7±14.6	t=0.747 P=0.457
More than 2 years	16(22.9)	146.5±31.0		113.7±12.1	
Having a living child					
Yes	36(51.4)	153.7±29.2	MW-U =-1.087 P=0.277	112.3±13.0	t=2.185 P=0.032
No	34(48.6)	145.9±24.0		119.5±14.3	
History of abortion					
Yes	5(7.1)	164.2±17.6	MW-U =-1.426 P=0.154	106.4±9.9	t=1.604 P=0.113
No	65(92.9)	148.5±27.1		116.7±14.1	
Planned pregnancy					
Yes	46(65.7)	142.6±24.7	MW-U =-2.574 P=0.010	119.0±14.9	t=2.582 P=0.014
No	24(34.3)	163.1±25.0		110.3±10.3	

The lowest and highest possible PSEQ scores, and the women's mean scores on the PSEQ and its subscales are shown in Table 3.

Their mean score on the concern about their health and their child's health subscale was 22.20±5.0. Their mean score on the acceptance of pregnancy subscale was 26.00±7.8, and their mean score on the acceptance of maternity role subscale was 25.80±60. Their mean score on the preparedness for birth subscale was 20.00±4.8, and their mean score on the childbirth fear subscale score was 22.00±5.2. Their mean score on the relationship with their mother subscale score was 15.60±5.5, and their mean score on the relationship with their spouse subscale was 18.10±5.8. Their mean total score on the PSEQ was 149.7±26.8.

Table 3. The PSEQ and subscales scores of the women with HG

PSQE subscales	Number of Question	Lowest and Highest Possible Scores	The Women's Lowest and Highest Scores	Median	Mean±SD
Concern about their health and their child's health	10	10-40	11-35	23	22.20±5.0
Acceptance of pregnancy	14	14-56	14-54	25	26.00±7.8
Acceptance of maternity	15	15-60	16-49	25	25.80±60
Preparedness for birth	10	10-40	10-31	20	20.00±4.8
Fear of childbirth	10	10-40	10-32	22	22.00±5.2
Relationship with own mother	10	10-40	10-34	14	15.60±5.5
Relationship with husband	10	10-40	10-35	18	18.10±5.8
Total	79	79-316	88-235	151	149.70±26.8

The lowest and highest possible scores and the women's mean total score on the HPPQ are shown in Table 4. Their mean HPPQ score was 116.0±14.0.

Table 4. The HPPQ scores of the women with HG

HPPQ	Number of Questions	Lowest and Highest Possible Scores	The Women's Lowest and Highest Scores	Median	Mean±SD	Cronbach's Alpha
HPPQ	33	33-165	88-148	114	116.0±14.0	0.781

There were statistically significant positive correlations between the PSEQ (r=-0.386/p<0.01) and its subscales (acceptance of pregnancy [r=-0.255/p<0.05], acceptance of maternity [r=-0.344/p<0.01], relationship with mother [r=-0.270/p<0.05] and relationship with spouse [r=-0.458/p<0.001]) with the HPPQ (Table 5).

Table 5. The correlations between the PSEQ and its subscales with the HPPQ

PSQE subscales	HPPQ	
	r	p
Concern about their health and their child's health	-0.016	0.897
Acceptance of pregnancy	-0.255	0.033
Acceptance of maternity	-0.344	0.004
Preparedness for birth	-0.211	0.080
Fear of childbirth	-0.127	0.296
Relationship with own mother	-0.270	0.020
Relationship with husband	-0.458	0.001
Total	-0.386	0.001

Discussion

This study's findings concerning the effects of the adaptation to pregnancy and health practices of women with HG are discussed here along with the relevant literature. Low PSEQ scores indicate good adaptation to pregnancy. In this study, the women's mean total PSEQ score indicates that their adaptation to pregnancy was at a moderate level. Findings of this study are similar to those of Demirbaş and Kadıoğlu, Evrenol Öçal and Hadımlı (19, 22, 23). However, study by Bulut, the scale score average is higher (20). The differences in the results of the study may be due to differences in socio-cultural characteristics.

In this study, the women's mean concern for well-being of self and baby subscale score was similar to the results of studies by Demirbaş and Kadıoğlu (22), Paşalak (24), Evrenol Öçal (19) and Hadımlı (23). This mean score suggests that the women were worried about their health and their babies' health. This may be due to both having a risky pregnancy diagnosis and being hospitalized.

In the prenatal period, the expectant mother having difficulty in adopting the role of motherhood has a longer period of acceptance of pregnancy and may have a negative attitude towards pregnancy and the baby due to the physical problems she experiences. In the study, it was found that acceptance of pregnancy and maternity by the pregnant women with HG diagnoses was low. These results are similar to the results of study by Türkmen (25). Studies have shown that as vomiting increases, acceptance of pregnancy decreases (16, 26). In this study, the women's mean score for acceptance of pregnancy was moderate. This result may be due to the intense nausea and vomiting caused by HG.

In our study, the women's mean preparedness for birth subscale score, and their mean fear of childbirth subscale score were similar to the results of Demirbaş and Kadıoğlu (22). Pregnant women experience fear of childbirth due to labor pains, possible harm to themselves or their babies, and loss of control. The women's preparedness for birth and fear of childbirth subscale mean scores were moderate. This may be because their pregnancies were in the first trimester and most of them had experienced labor before.

The women's mean score for relationship with their mothers, and their mean score for relationship with their spouses were moderate. These scores are similar to the results of Demirbaş and Kadıoğlu (22). Good marital relationships are an important factor in adaptation to pregnancy, and good mother-daughter relationships can provide a solid foundation for maternity, and reduce fear and anxiety about childbirth.

In this study, it was found that the women's health practices were good. This study's result is similar to those of other studies (21, 27, 28). This study found that as women's adaptation to pregnancy increased, their health practices improved. Healthy pregnancies are made possible by adaptation to pregnancy. Women who are adapted to pregnancy are better at protecting and improving fetal health. In order to maintain healthy pregnancies and protect the health of fetuses, all aspects of prenatal care should be known well, and proper health practices should be done. Health practices during pregnancy are activities that affect the pregnancy and its outcomes, including the health of the mother, the fetus and the newborn. HG is a complication of pregnancy that cannot be controlled and may cause stress. It is very important to determine the adaptation to pregnancy of women with HG and their health practices during pregnancy to improve the quality of care.

HG negatively affects both maternal and fetal health. Recent studies have shown an association between HG and placental dysfunction disorders, especially in the second trimester (6). Other studies have shown that HG is associated with increased risk of pre-eclampsia, placental abruption and low for gestational age birth weights (7, 8). Although HG is a complex disease that has many negative effects, it is often neglected by healthcare personnel (29, 30). Midwives and doctors have many responsibilities for healthy pregnancies. They should know all the aspects of pregnancy care and implement them correctly. The task of the healthcare personnel is to ensure that pregnant women have healthy prenatal, postpartum and postnatal periods, adapt to

pregnancy and prepare for safe parenting. It is very important to understand the physical and psychological problems experienced by patients admitted to the hospital due to HG, to prevent complications and to improve the quality of care. The care providers of women with HG need to be aware of their needs and suggest lifestyle changes that will ensure their comfort.

The lack of studies that evaluate both the health practices and the adaptation to pregnancy of women with HG using scales constitutes the strong aspect of this study. However, its lack of a control group and inability to report the pregnancy results of the women with HG are important limitations. It is suggested that the pregnancy outcomes of women with HG and good adaptation to pregnancy should be determined. Also, future studies should examine the factors that affect the adaptation to pregnancy and health practices of women with HG with larger samples.

Conclusion

This study found that the health practices of the women with HG were good, but their adaptation to pregnancy was at moderate level. It was found that the health practices of the women with HG are improved as their adaptation to pregnancy increased. These results suggest that women who are hospitalized with the diagnosis of HG should be assisted with adapting to pregnancy and have routine evaluations of their health practices during pregnancy.

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Conflicts of interest

Authors declared no conflicts of interest.

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