

## Psycho-social Aspects Related to Development of Hyperemesis Gravidarum: A prospective Case Control Study.

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### Abstract

Persistent nausea and vomiting (hyperemesis gravidarum) in early pregnancy remains a significant health problem that result in negative side effects on women and their pregnancy. This study aimed to assess psycho-social aspects related to development of hyperemesis gravidarum.

**Methods:** A case control prospective study was utilized in carrying out this study. The study was conducted at maternity high risk care departments at Mansoura University Hospitals for hyperemesis group & Antenatal Care Clinics at Mansoura University Obstetric and Gynecological Center for healthy group, each group included 50 women. Data were collected by four tools: tool I: structured interviewing questionnaire schedule, tool II: Index of Nausea, Vomiting and Retching (INVR), tool III: modified multidimensional scale of perceived social support and tool IV: The Arabic version of Beck Depression Inventory questionnaire. **Results:** It showed that there were no statistically significant differences in general characteristics among hyperemesis and healthy groups except for consanguinity, educational level and income. Highly statistical significant differences were found in mean and standard deviation regarding nausea, vomiting and retching and total Rhodes index scores among the studied groups ( $p \leq 0.05$ ). Also there were highly statistically significant differences among hyperemesis and healthy groups regarding levels of depression as 32% of women suffered from extreme depression in hyperemesis group compared to 0% in healthy group. **Conclusion:** The study concluded that hyperemesis group suffered from psychosocial problems as depression and decreased social support than healthy group this related to negative effect of hyperemesis gravidarum.

**Key words:** Hyperemesis Gravidarum, Psychological problems, Social aspects

### Introduction

Hyperemesis gravidarum (HG) is a condition described by extreme, persistent nausea and vomiting in early pregnancy and lead to decrease body fluids, ketonuria, fluid and electrolyte imbalances, malnutrition and low body weight (Grooten et al., 2015).

Hyperemesis gravidarum is considered as one of high risk pregnancy, and is a main

source of maternal hospitalization (Gazmararian et al. 2002, Ismail and Kenny, 2007). It influences around 0.3–2% of all pregnancies and turns out to be more serious when existing with the occurrence of trophoblastic disease, multiple pregnancies and different conditions with high levels of human chorionic gonadotropin (Ismail and Kenny, 2007). Results of an Egyptian study carried at the Woman's Health Center, reported that the prevalence of hyperemesis gravidarum was 4.5% (Mahmoud, 2012).

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Hyperemesis gravidarum resulting from the combination of different unrelated factors as genetic, environmental, hormonal and psychiatric disorders (Uguzet al, 2012). Hyperemesis gravidarum lead to hospitalization of women because of serious sickness and diminished body weight during pregnancy, this prompts to intrauterine growth restriction and delivery of low birth weight newborns. Moreover, the severity of nausea and vomiting may affect the physical and emotional status of pregnant women (Bazarganipouret.al., 2015).

According to WHO, social support is a mediating factor, affecting one's emotional status (Solar Orielle & Irwin Alec, 2010). Perceived social support is an individual's perception of the support received from the husband, family, friends and others (Coventry et. al., 2004). Mortality rate decreases among people with an extended social support (Reblin & Uchino, 2008). It is considered that social support lead to social adaptation, appropriate response to life stressors, stress reduction and promotion of physical and psycho-social health (Moak & Agrawal, 2010).

Health care providers are responsible for assessing clinical symptoms of hyperemesis gravidarum (Poursharif et.al., 2008). Although it has been demonstrated that women's own perception of hyperemesis gravidarum is affected by its psychosocial consequences, moreover, psychosocial morbidity is evident even in clinically minor forms of hyperemesis gravidarum (Poursharif et.al., 2008).

### Significance of the study:

Hyperemesis gravidarum is a serious disease associated with severe nausea and vomiting, it has different physical and psychological complications affecting health of the pregnant women (Wegrzyniak et al, 2012). It is associated with increasing the length of hospital stay, high costs of hospital

health care; losses of work time and decrease quality of life during pregnancy (Vilming & Nesheim, 2000). It was estimated that the prevalence of hyperemesis gravidarum in Egyptian hospital rate was 4.5% which is considered a high prevalence rate (Mahmoud, 2012).

Hyperemesis gravidarum affects more than two-thirds of pregnancies, often interfering with daily life activities, impairing social psychological and occupational functioning, disrupting family life and causing absence from work (Poursharif et. al., 2008).

In Egypt there are small studies regarding psychosocial effects of hyperemesis gravidarum. So that, this study was undertaken to assess psycho-social aspects related to development of hyperemesis gravidarum.

### Aim of the Study

Was to assess psycho-social aspects related to development of hyperemesis gravidarum.

### Research hypothesis

What are psychosocial aspects of pregnant women diagnosed with hyperemesis gravidarum?

What are correlations between psychosocial aspects of women and hyperemesis gravidarum?

### Materials & Method

#### Study design:

A prospective case control study was utilized in carrying out this study.

**Setting:**

The study was conducted at maternity high risk care departments at Mansoura University Hospitals for the hyperemesis women & Antenatal Care Clinics at Obstetric and Gynecological Center at Mansoura University Hospitals for the healthy group.

**Type of Sample:**

Purposive sample

**Population & Sample**

The study group included 50 pregnant women diagnosed with hyperemesis gravidarum who were admitted to maternity high risk care departments and 50 healthy pregnant women were admitted to Antenatal care clinics for routine antenatal care without nausea and vomiting considered as healthy control group.

**Inclusion criteria:**

Age 18 years or older; a single viable intrauterine pregnancy, 14 weeks or less. According to hyperemesis group were hospitalized due to severe persistent nausea and vomiting.

**Tools of Data collection**

**Tool I:**

**-Structured interviewing  
Questionnaire:**

It was designed by the researchers after reviewing related literatures to be filled from each pregnant woman included in the study. The questionnaire was in the form of multiple choices (MCQ), closed ended questions. It consisted of 27 questions included two parts:

**Part I:** Socio-demographic Characteristics (name, age, level of

education, occupation, level of income, residence, type of family, consanguinity and body weight.

**Part II:** Obstetrical History as (Gravidity, parity, number of abortions, number of living children, history of hyperemesis gravidarum and desire of the present pregnancy).

**Part III:** History of present pregnancy as (gestational age and desire of present pregnancy)

**Tool II:** Index of Nausea, Vomiting and Retching (INVR) (Rhodes et al, 1996). INVR is a self-report tool consisted of eight-items. A numeric value to each answer was ranged from 0, the least amount of distress, to 4, the most/worst distress. Total symptoms occurrence from nausea, vomiting and retching was calculated by summing the patient's responses to each of the 8 items. Likert scale consisted of three subscales: nausea (range, 0–12), vomiting (range, 0–12), and retching (range, 0–8), provide a total range of 0–32. The range of scores was ranged from 0 to 32. The score of 0 indicated none NVR, 1-8 indicated mild NVR, 9-16 indicated moderate NVR, 17-24 indicated severe NVR, and 24-32 indicated worst NVR.

**Tool III:** Modified multidimensional scale of perceived social support adopted from (Zimet, et. al., 1988). Included 7 items as family stability, husband support, family responsibilities, seeing someone, pressure of life, father's house, depending on friends with a 1–3 scoring system (1= absence of social support item, 2= sometimes presence of social support item and 3= presence of social support item).

**Tool IV:** Arabic version of Beck Depression Inventory Questionnaire:

It is a self-report scale, contains 21 items as mood, pessimism, sense of failure,

self-dissatisfaction, guilt, punishment, self-dislike, self-accusation, suicidal ideas, crying, irritability, social withdrawal, used to assess the intensity of depression in clinical and normal population.

On a 4- point Likert scale, ranging from 0-3. The highest score for each of the twenty-one questions is three, the highest possible score for the whole test would be sixty-three if the patient marked number 3 on all the questions, and the lowest possible score for the test would be zero if the woman marked zero on each question. Variety of researches provided strong support for validity and reliability of BDI (Kliem et al, 2014). This study was conducted using Arabic version of BDI (Fawzi et al, 2012) translated from the original Beck depression inventory (Beck et al., 1996).

**Scoring system of Beck Depression Inventory Scale**

0-9= These ups and downs are considered normal

10-15= Mild mood disturbance

16-23= Moderate depression

24-36= Severe depression

Over 36= Extreme depression

**Written Approval**

A written letter clarifying the title and the aim of the study was directed to Mansoura University Hospitals director. Then the approval was obtained for data collection. The aim and the method of data collection were explained to all women before the study to gain their confidence and cooperation.

**Operational Design:**

The study to be completed has passed through different phases: The preparatory phase, the pilot study, and the fieldwork phase.

**Preparatory Phase:**

**Development of Study**

**Tools Validity:**

Tool I used in the study was developed and adopted by the researchers after reviewing of the current local and international related literatures by the use of books, articles and scientific magazines. This helped them to be acquainted with the research problem, and guided them in designing the tools. Tool II, III & IV were translated into Arabic and reviewed by jury of 5 expertises in the field of the study to test their contents and face validity.

**Reliability:**

Reliability of the study tools were tested using Cronbach's Alpha coefficient test which revealed that reliability of tool II (Index of nausea, vomiting and retching scale) = 0.97, tool III (Modified multidimensional scale of perceived social support)= 0.98, tool IV (Arabic version of Beck Depression Inventory) = 0.85.

**Pilot Study:**

Before embarking on the actual study, a pilot study was done for testing tools. This was done on 10 (10%) women those were not included in the main study sample. Testing the tools was for identifying any ambiguous questions, to assess their relevance, and whether they elicit the type of information sought. It also assisted in the estimation of the time needed to fill in the forms. Necessary modification was done according to the results of the pilot study.

**Field work**

The data collection started from the beginning of November 2015 until the end of February 2016. It included both hyperemesis and healthy group. After securing official permission to carry out the study, according to hyperemesis group, the researcher met each woman included in hyperemesis group at maternity high risk care unit at Mansoura University Hospital, introduced herself and asked questions regarding socio-demographic data as name, age, education, occupation, residence, marital status, and income level. After that the researchers assessed level of nausea, vomiting and retching by using tool II. Items of social support were assessed by using tool III. After that the researcher assessed the level of depression for each woman by using tool IV.

According to healthy group the researchers met each woman alone, obtain

informed consent from each woman and assessed her socioeconomic data as name, age, education, occupation, residence, marital status, and income level. After that the researchers assessed the level of nausea, vomiting and retching by using tool II. Items of social support were assessed by using tool III. After that the researcher assessed the level of depression for each woman by using tool IV.

**Data Analysis:** Data entry and statistical analysis was done using Statistical Packages for Social Science (SPSS) version 16.0. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, means and standard deviations for quantitative variables. Qualitative variables were compared using chi-square test. Quantitative variable were compared using t test. Statistical significance was considered at p-value <0.05(Krzywinski& Altman, 2013).

**Results**

**Table 1: Mean and Standard Deviation of the Studied Groups according to their General Characteristics.**

Items	Hyperemesis group n=50	Healthy group n=50	t-test	P- value
	Mean ± SD	Mean ± SD		
Age	25.46± 5.37	24.72± 4.67	0.74	0.46
Weight	64.84± 7.93	70.52± 11.41	2.89	0.005 *
Height	161.1± 4.39	159.8± 5.02	1.29	0.19
BMI	24.99± 2.97	27.54±4.18	3.52	0.001 *

**Data are mean ± SD Statistically significant if p ≤ 0.05**

Table (1): demonstrates the general characteristics of the studied groups. There were no statistical significant differences regarding age and height among hyperemesis and healthy groups (p > 0.05). While significance differences were found among hyperemesis and control groups related to weight and body mass index (p < 0.05).

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**Table 2: Frequency Distributions of the Studied Groups according to their General Characteristics Continu.**

Items	Hyperemesis group n=50		Healthy group n=50		X <sup>2</sup>	P- value
	No	%	No	%		
<b>Marital status:</b>					-	-
Married	50	100	50	100		
Divorced	0	0	0	0		
Widow	0	0	0	0		
<b>Consanguinity:</b>					4.86	0.03 *
Present	29	58	18	36		
Not present	21	42	32	64		
<b>Residence :</b>					-	-
Rural	27	54	34	68		
Urban	23	46	16	32		
<b>Educational level :</b>					12.20	0.016 *
Illiterate	3	6	2	4		
Preparatory	3	6	10	20		
Secondary	23	46	12	24		
Middle education	11	22	21	42		
Higher education	10	20	5	10		
<b>Occupation:</b>					0.102	0.75
Working	5	10	6	12		
Housewife	45	90	44	88		
<b>Type of housing:</b>					4.21	0.122
-Living with husband and children	25	50	24	48		
-Living with husband's family	25	50	22	44		
-Living with wife's family	0	0	4	8		
<b>Income:</b>					6.72	0.04 *
-500-1000 L. E.	40	80	28	56		
-1200-1500 L. E.	7	14	14	28		
-≥ 1600L. E.	3	6	8	16		
<b>Harmoney with husband:</b>					2.09	0.35
-Yes	49	98	46	92		
-No	1	2	3	6		

*Statistically significant if  $p \leq 0.05$*

Table (2): Shows frequency distributions of the studied groups according to their general characteristics. In relation to consanguinity, 58% of women in hyperemesis group had relative relation with their husbands compared to 36% of women in the healthy group. Also nearly half (46%) of women in hyperemesis group were secondary educated compared to about quarter (24%) of women in the healthy group. Also the majority (80%) of women in hyperemesis group had low income (500-1000 L. E) compared to 56% in healthy group. So statistically significant differences were found among the studied groups ( $p < 0.05$ ).

**Table 3: Frequency Distributions of the Studied Groups according to their Obstetrical History.**

Items	Hyperemesis group n=50		Healthy group n=50		X <sup>2</sup>	P-value
	No	%	No	%		
<b>Gravida:</b>					1.85	0.4
Primi	34	68	33	66		
Multi	16	32	17	34		
<b>Parity:</b>					7.93	0.02 *
Primi	44	88	32	64		
Multi	6	12	18	36		
<b>Birth Space:</b>					0.17	0.91
Less than 2years	24	48	26	52		
2-4 years	23	46	21	42		
≥ 5 years	3	6	3	6		
<b>Abortion:</b>					0.06	0.81
Yes	11	22	10	20		
No	39	78	40	80		
<b>Living Children:</b>					15.01	0.001 *
Non	20	40	18	36		
One	24	48	10	20		
2-3 child	6	12	22	44		
<b>Previous history of hyperemesis gravidarum:</b>					5.87	0.015 *
Yes	20	40	9	18		
No	30	60	41	82		
<b>Effect of previous hyperemesis gravidarum:</b>					2.95	0.086
Yes	14	28	7	14		
No	36	72	43	86		

Statistically significant if  $p \leq 0.05$

Table (2): Shows frequency distributions of the studied groups according to their obstetrical history. According to parity, 88% of women in hyperemesis group were primiparaous compared to 64% of women in healthy group. Nearly half of women (48%) in hyperemesis group had one living child compared to only one fifth (20%) of women in healthy group. Also 40% of women in hyperemesis group reported previous history of hyperememesis compared to only 18% in healthy group. So there were a statistical significance differences among the studied groups( $p < 0.05$ ).

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**Table 4: Frequency Distributions of the Studied Groups according to History of Their Present Pregnancy.**

Items	Hyperemesis group n=50		Healthy group n=50		X <sup>2</sup>	P- value
	No	%	No	%		
<b>Gestational age:</b>					27.45	0.000 *
1st Trimester	23	46	8	16		
2nd Trimester	23	46	14	28		
3rd Trimester	4	8	28	56		
<b>Intended pregnancy:</b>					0.047	0.83
-yes	35	70	34	68		
-No	15	30	16	32		
<b>Presence of hyperemesis gravidarum:</b>					57.55	0.000 *
-yes	49	98	12	24		
-No	1	2	38	76		
<b>Negative effect of hyperemesis gravidarum:</b>					46.72	0.000 *
-yes	35	70	2	4		
-No	15	30	48	96		

**Statistically significant if  $p \leq 0.05$**

Table 4: Reveals highly statistically significance differences according to history of present pregnancy among hyperemesis and healthy groups. The majority of hyperemesis group suffered from severe nausea and vomiting in first and second trimester compared to healthy group (46%, 46% & 16%, 28% respectively). Almost all women in hyperemesis group reported presence of hyperemesis in their previous pregnancies compared to nearly quarter of women in the healthy group (98% & 24% respectively). 70% of women in hyperemesis group reported negative effect of hyperemesis compared to only 4% of women in healthy group. A highly statistically significance differences were found among hyperemesis and healthy groups ( $p= 0.000$ ).

**Table (5) Nausea, Vomiting and Retching Mean and Standard Deviation and Total Rhodes Index Scores among Studied Groups.**

Items	Hyperemesis group n=50		Healthy group n=50		t-test	p-value
	$\bar{x}$	SD	$\bar{x}$	SD		
<b>Nausea</b>	10.02	0.71	3.20	2.38	19.39	0.000 *
<b>Retching</b>	6.56	0.50	1.52	1.28	25.89	0.000 *
<b>Vomiting</b>	10.04	0.81	2.60	1.94	25.06	0.000 *
<b>Total</b>	26.62	1.58	7.32	4.97	26.16	0.000 *

**Statistically significant if  $p \leq 0.05$**

Table (5) reveals that a highly statistical significant differences were found in mean and standard deviation regarding nausea, vomiting and retching and total Rhodes index scores among the studied groups ( $p \leq 0.05$ ).

**Table 6: Frequency Distributions of the Studied Groups according to Levels of Beck Depression Inventory Scale.**

Levels of Depression	Hyperemesis group n=50		Healthy group n=50		X <sup>2</sup>	P- value
	No	%	No	%		
1-Normal	0	0	21	42	39.19	0.000 *
2-Mild mood disturbance.	5	10	8	16		
3-Moderate depression	13	26	8	16		
4-Severe depression	16	32	13	26		
5-Extreme depression	16	32	0	0		

Statistically significant if  $p \leq 0.05$

Table 6: Reveals frequency distributions of the studied groups according to levels of Beck Depression Inventory Scale. There were highly statistically significance differences according to levels of depression among hyperemesis and healthy groups ( $p= 0.000$ ).

**Table 7: Mean and standard Deviation of the Studied Groups according to Total Score of Beck Depression Inventory Scale.**

Items	Hyperemesis group n=50	Healthy group n=50	t-test	p-value
	Mean $\pm$ SD	Mean $\pm$ SD		
Depression	29.34 $\pm$ 11.066	15.48 $\pm$ 8.96	6.88	0.000 *

Statistically significant if  $p \leq 0.05$

Table (7): Shows that mean and standard deviation of total score of Beck Depression Inventory of hyperemesis group were found to be statistically significantly more than those of the healthy group ( $p<0.0.05$ ).

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**Table (8): Frequency Distributions of the Studied Groups in Terms of Social Support Scale.**

Variables	Hyperemesis group n=50						Healthy group n=50						X <sup>2</sup>	P-value
	yes		To some extent		No		yes		To some extent		No			
	No	%	No	%	No	%	No	%	No	%	No	%		
<b>Family stability</b>	5	10	7	14	38	76	43	86	4	8	3	6	60.78	0.000 *
<b>Husband Support</b>	4	8	11	22	35	70	37	74	7	14	6	12	47.96	0.000 *
<b>Family responsibilities</b>	6	12	4	8	4	8	44	88	4	8	2	4	63.26	0.000 *
<b>Seeing someone from husband's family</b>	8	16	9	18	33	66	34	68	9	18	7	14	33.01	0.000 *
<b>Stressors of life</b>	5	16	3	6	42	84	45	90	3	6	2	4	68.36	0.000 *
<b>Father's house</b>	7	14	4	8	39	78	40	80	6	12	4	8	52.06	0.000 *
<b>Depending on Friends</b>	3	6	2	4	45	90	31	62	9	18	10	20	49.79	0.000 *

**Statistically significant if  $p \leq 0.05$**

Table (8): reveals frequency distributions of the studied groups in terms of social support scale. It was found that the majority of women in healthy group ( 90%, 88%, 86%, 80%, 74%,68% & 62% respectively) had social support such as (stressors of life,family responsibilities, family stability,father's house, husband support, , seeing someone from husband's family and depending on friends) compared to (16%, 16%, 14%, 12%,10%, 8%, &6% respectively) of the hyperemesis group. There were highly statistical significance differences among the healthy and hyperemesis groups ( $p < 0.05$ ).

**Table (9): Correlation between Nausea, Vomiting and Retching and Total Scores of Depression and Social Support Scale.**

Items	Nausea	Vomiting	Retching	Total	Depression	Social support
<b>Nausea</b>		0.92**	0.92**	0.97 **	0.65 **	-0.67 **
<b>Vomiting</b>			0.97**	0.98**	0.62 **	-0.68 **
<b>Retching</b>				0.98**	0.63 **	-0.70 **
<b>Total</b>					0.65 **	-0.70 **
<b>Depression</b>						-0.45 **
<b>Social Support</b>						

**Statistically significant if  $p \leq 0.05$**

Table (9): Reveals that highly statistical significant differences were found related to nausea, vomiting and retching and total scores of Rhodes index and total scores of depression ( $p < 0.05$ ).

## Discussion

Hyperemesis gravidarum is an extreme type of sickness during pregnancy characterised by severe degree of nausea and vomiting. It contributes to severe dehydration, ketonuria, fluid- imbalance, nutrition deficiency and weight loss (*Verberg et al. 2005*).

Regarding the exact etiology and pathophysiology of hyperemesis gravidarum, it is not completely known. Hyperemesis gravidarum is a complex disorder of pregnancy resulting from the occurrence of unrelated disorders as genetic, environmental, secretory, hormonal and psychiatric (*Fejzo and Macgibbon 2012*).

So the aim of this study was to assess psycho-social aspects related to development of hyperemesis gravidarum. Findings of the present study revealed that, mean age of hyperemesis and healthy groups were  $25.46 \pm 5.37$  &  $24.72 \pm 4.67$  & also BMI were  $24.99 \pm 2.97$  &  $27.54 \pm 4.18$  respectively. This result is in agreement with *Aksoyet. al., (2015)* who studied depression levels in patients with hyperemesis and found that mean age was  $25.19 \pm 5.39$  and mean age of BMI was  $24.81 \pm 6.97$ .

Similarly *Mansour et. al., (2015)* who studied effect of nurses using for P6 acupressure on nausea, vomiting and retching in women with hyperemesis gravidarum, found ages of women diagnosed with hyperemesis gravidarum were between 20-30 year, with a mean age  $26.67 \pm 5.42$  and  $27.07 \pm 5.40$ .

Concerning general characteristics of the studied groups, no significant differences were found in terms of marital status, residence, occupation, type of housing & harmony with husband. Researcher interpreted that these factors didn't affect this disease.

This is similar to *Kamalaket. al., (2013)*, who studied, is there any effect of demographic features on development of hyperemesis gravidarum in the Turkish population? Didn't detect a significant difference between hyperemesis and non-hyperemesis pregnant women concerning age and working status but they reported a higher prevalence of hyperemesis among those pregnant cases with a higher level of education and socioeconomical status.

In the present study, prevalence of hyperemesis gravidarum was higher among primiparous women, had previous history of hyperemesis gravidarum. The researcher interpreted that women had previous history of hyperemesis fear in their present pregnancy from suffering from the same problem, so their psychological status affected their physical condition lead to aggravation of the disease.

This is in agreement with *Roseboom et. al., (2011)*, who studied maternal characteristics largely explained poor pregnancy outcome after hyperemesis gravidarum and found that hyperemesis gravidarum was higher among young, primiparous females from a low socioeconomical population, usually those who went under assisted reproduction techniques, with diabetes and hypertension.

Also in studies of *Simseket. al., (2012)*, who studied assessment of anxiety and depression levels of pregnant women with hyperemesis gravidarum in a case-control study and *Annaguret. al., (2014)* who studied are there any differences in psychiatric symptoms and eating attitudes between pregnant women with hyperemesis gravidarum and healthy pregnant women?. In previous two studies, hyperemesis gravidarum was higher in low socioeconomic pregnant women.

In contrast *Bozzo et al., (2011)* who studied nausea and vomiting of pregnancy

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and depression: cause or effect?, and *Jahangiri et al.(2011)*, who studied correlation between depression, anxiety, and nausea and vomiting during pregnancy in an in vitro fertilization population: a pilot study, both studies demonstrated that there was no association between depressive symptoms and nausea and vomiting during pregnancy.

From the results of this study a highly statistical significant differences were found in terms of nausea, vomiting and retching mean and standard deviation and total Rhodes Index Scores among studied groups, researchers interpreted that, hyperemesis group suffered from high levels of nausea, vomiting and retching than healthy group.

The same results were found with *Simseket. al., 2012*, who studied assessment of anxiety and depression levels of pregnant women with hyperemesis gravidarum in a case-control study, and reported hyperemesis gravidarum characterized by severe form of nausea, protracted vomiting occurring in pregnancy that is usually characterized by dehydration, malnutrition and bodyweight loss more than 5%.

Regarding levels of depression in the present study, the current prevalence rate of moderate- severe depression disorder in women with hyperemesis was 58%. This may be related to women suffered from hyperemesis during pregnancy became unable to carry out activities of daily living, feel hopelessness to complete her pregnancy, so symptoms of depression became severe among this group.

This was in the same line with *Aksoyet. al, 2015*, who studied depression levels in patients with hyperemesis gravidarum and reported prevalence rate of moderate- severe depression disorder in patients with hyperemesis gravidarum was 53.9%. Also *Farias et al. 2013*, demonstrated that 2.2%–15.6% of women suffered from hyperemesis gravidarum in the first trimester

and 4.7%–17.3% of women in the general population have anxiety or depression disorder.

A highly significant difference was found among hyperemesis and healthy groups regarding effects of social support from (husband, family& friends) and hyperemesis gravidarum. This may be due to Egyptian women are more sensitive and affected by surrounding others, during pregnancy women requiring more attention from others and if pregnant women deprived from social support this lead to aggravation of hyperemesis gravidarum

This is agreed with **Duman (2012)**, who studied socio-demographic and obstetric factors associated with depression during pregnancy in Turkey and reported that social support mechanisms serve as an assistant in improving adaptation and emotional supports. It was reported that as the perceived social support increased, psychological problems created by stressful experiences reduced. And there is positive correlation between psychological problems and hyperemesis gravidarum.

### Conclusion

We conclude that hyperemesis group suffered from psychosocial symptoms as decreased social support from husband, family and friends and suffering from depression during pregnancy than healthy group, this related to effect of hyperemesis gravidarum.

### Recommendations:

Based on the findings of the present study the following were recommended

- An application of similar studies on a large sample to explore the effect of hyperemesis gravidarum on women.

- Encourage nurses in High Risk Pregnant Unit to assess and to help pregnant women to reduce effects of hyperemesis gravidarum.
- Organizing of training programs for nurses toward psychosocial nursing care for women suffering from hyperemesis gravidarum.

### Acknowledgments

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