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Research Article

**ASSESSMENT THE INTENSITY AND MANAGEMENT OF  
PREGNANCY NAUSEA AND VOMITING****Soodabeh Aghababaei (PhD)<sup>1</sup>, Ali Reza Soltanian (PhD)<sup>2</sup>, Shokofeh Sharifi (B.S)<sup>3</sup>,  
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**Abstract:**

**Background:** Nausea and vomiting of pregnancy (NVP) is the most common medical condition of pregnancy, affecting up to 80% of all pregnant women to some degree. The objective of this study was to determine the severity and management of nausea and vomiting in pregnant women.

**Methods:** In a descriptive cross-sectional study a number of 160 pregnant women with nausea and vomiting in pregnancy referred to health centers, Hamadan city, 2013 were selected based on cluster random multistage sampling. Data was collected through interview. The instruments of data gathering were pregnancy nausea and vomiting assessing intensity and management questionnaire. Data was analyzed by SPSS/16 software using descriptive analyze and Fisher's exact test.

**Results:** The results revealed that the highest frequency in the age group 24-28 years for women (24.4%) and diploma and higher education (41.8%), respectively. Nearly sixty percent of women had BMI 19.8-25.9 Kg/m<sup>2</sup>. About 87.5 percent of them were housewives. Nearly 48% of mothers were primiparous. Out of the 160 women included in the study, 80% experienced mild nausea and vomiting during pregnancy, 16.2% experienced moderate whereas 3.8% of women reported sever type. Majority of them (56.2%) reported such as breathing oxygen, eating foods and having rest for decreasing nausea and vomiting. vitamin B6, Demitron and Zintoma were the most popular pharmacological drug that used, respectively. Mint extract, Ginger, Chamomile were the most popular herbal drug that used, respectively.

**Conclusion:** Mild nausea and vomiting are very commonly experienced by women in early pregnancy. There are several strategies that have been helpful in decreasing pregnancy nausea and vomiting. Health care providers should be aware of the evidence-based information regarding various treatments to their patients when appropriate.

**Keywords:** Pregnancy, Nausea and Vomiting, Intensity, Management.

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**INTRODUCTION:**

Pregnancy is an incident of social and personal happiness, but for some women especially women who experience uncomfortable symptoms such as nausea and vomiting during pregnancy, is stress [1, 2]. Nausea and vomiting effect on women's feeling about health and activities of daily life and may affect their quality of life [3]. Nausea and vomiting of pregnancy occurs in 80% of pregnant women And is the common complain of women during the first half of pregnancy [4-7]. Pathos physiology of nausea and vomiting during pregnancy is unknown [8], However, hormonal and psychological factors, factors such as high BMI, Parity, previous history of nausea and vomiting of pregnancy and the maternal age has been proposed in this field. Among the other risk factors can mention to twins, fetal abnormalities, and social and economic status of individuals [9-12]. Pregnancy-induced changes in hormonal and neurological such as decreasing secretion, decreasing intestinal motility and reducing the intestinal tone in the gastrointestinal tract [13, 14]. This problem usually starts from 4-6 weeks of pregnancy, reaches its highest level at 8-12 weeks, and reduces in the three to four months. 40% of women may experience these changes in the fourteenth week, 20% in sixteen weeks, Less than 10% up to 20 weeks of pregnancy, and less than 10% overall. In 28% of pregnant women, these problems can lead to changes in their activity [15]. It seems that more than one factor cause nausea and vomiting. In some cases such as multiple pregnancy and moles that the chorionic gonadotropin hormone is increased, nausea and vomiting during pregnancy also increases [16]. In some cases (0.5-2%), severe vomiting occurs during pregnancy [17]. In some women, severe vomiting cause's serious problems like dehydration, electrolyte, acid-base disorders and ketosis induced by starvation [18]. Severe nausea and vomiting of pregnancy is not only noticeable teratogenic but also standard treatments could not remedy all pregnant women problems [19]. Nausea and vomiting of pregnancy usually requires intensive cares and hospitalization and ignore it may lead to coma, convulsions and loss of the fetus [20, 21] and reduce fetal weight [22]. This problem cause reducing the social, emotional and Physical performance. In Australian and American studies, pregnant women with nausea and vomiting in comparing with other populations from all aspects like health were poorer [23, 24]. Nausea and vomiting Treatments can reduce discomfort women feeling [16]. Eating low volume meals more and stop eating before giving fullness, is a valuable method [18] Anti-nausea drug, may reduce nausea and vomiting, but may not use them for fear complications [25, 26]. Recent studies are recommended lifestyle changes such as rest and stress avoiding, [27, 28]. Since nausea and

vomiting in pregnancy can cause adverse effects on women's quality of lifestyle their fetal and this is a common problem during pregnancy and the early diagnosis and management cause reducing costs of hospitalization and medical visits, we decided to study the treatment of nausea and vomiting during pregnancy, especially pregnant women.

**MATERIALS AND METHODS:**

This descriptive cross sectional study performed on women admitted to health center clinics of Hamadan city in 2013. The study population was pregnant women that 6 to 20 weeks of gestational age on the first day of the last menstrual period or ultrasound examination. The number of 160 pregnant women at the reproductive age had been chosen by random sampling method using this statistical formula:

$$N = \frac{Z_{1-\frac{\alpha}{2}}^2 P(1-P)}{d^2}$$

Randomly we had chosen 12 health centers out of 30 centers, from north, south, west and eastern Hamadan city. For gathering data, we used questionnaires that were prepared by researchers. Sample size calculations according to the results of previous studies that about 30% of pregnant women have nausea and vomiting, mild [29]. We used questionnaires that were prepared by researchers. First section of questionnaires was about personal information; the second part of the questionnaire was to determine the status of postoperative nausea and vomiting was used to determine the severity of nausea and vomiting of pregnancy PUQE questionnaire (koren2002)[30]. Scores 0-6 indicates mild, 7-12 moderate and 13 or more severe nausea and vomiting. The third part of the questionnaire included questions about the actions taken to control the nausea and vomiting of pregnancy. To proving its validity, we used content validity. We used comments of 15 faculty members of nursing and midwifery school for correction. For evaluation of the validity and reliability of questions, a pilot study was done on 10 people 2 times with 10 days off. By using the Pearson correlation test the validity of questions have been evaluated. The validity of questions in all steps was 95%. Data were collected through interviews, and was analyzed by SPSS version 16 [31, 32]. Statistical analysis such as; Descriptive statistics (relative frequency) and inferential statistics (Fisher's exact test).

**RESULTS:**

The results revealed that the highest frequency in the age group 24-28 years for women (24.4%) and diploma and higher education (41.8%), respectively and house wife (87.5%). Nearly sixty percent of women had BMI 19.8-25.9 Kg/m<sup>2</sup>.

About 87.5 percent of them were housewives. Nearly 48% of mothers were primiparous. The majority of husband's educations were under diploma and their job is free business. More women experienced (48.1%) first or (37.5%) second pregnancy. The gestational age (28.1%) women were 6-12 weeks, 71.9% women 13-20 weeks. 72.5% women had planned pregnancy, and 27.5% had not planned pregnancy. The multiparous of 28.8% women were 4-6 years and 7.5% less than 2 years, 38.8% experienced nausea and vomiting during pregnancy. The onset of nausea and vomiting women pregnant were (43.8%) morning, (10.6%) noon, (23.8%) after noon, (3.8%) night and (18.2%) morning and night. Majority of them reported as factor in increasing nausea and vomiting such as eating food and drink (35.6%), and the smell of food (37.5%). The largest factor that decreased nausea and vomiting were Outdoor breathing (23.1%) and lowest were eating pickles or using drugs chemical or plant (8.8%). In total only (56.2%) of the women had attempted to control nausea. And of these 48.4% use were vitamin B6, (43.3%) Demitron, 8.3% Zintoma, Only 31.3% of women reported nausea and vomiting at 16-20 weeks. Factors effective severity of nausea and vomiting were: Eat meals (39.4%), fluid intake (55%), anti-nausea drugs (37.5%), plant drug (41.8%), drug chemical and plant (49.3%), iron supplements (15%). Due to this problems (4/4%) of women were admit in

hospitalization and maximum duration stayed in hospital were 3 days. physicians had recommended Drug (62.5%), midwife (28.1%), self-women (7.8%) and (1.6%) recommend by familiar. the most popular herbal drug that using to women were: Mint oil (46.3%), Ginger (34.3%), Chamomile (7.5%), Licorice (1.5%) respectively. The most women did not use drug because fear of side effects (50%), lack of information about drug effects (36.4%) and Etc... Spouse and mother were the best supportive women to control nausea and vomiting. (25.6%) of women have nausea and vomiting 5 times a day and 80% (3-6 times daily). The finding of this research show that there were statistical difference between severity of nausea and vomiting with age women pregnancy ( $P<0.05$ )(Table 1). The factors affective on severity of nausea and vomiting only there was satirical differences with gestational age ( $P<0.05$ )(Table 2). Out of the 160 women included in the study, 80% experienced mild nausea and vomiting during pregnancy, 16.2% experienced moderate whereas 3.8% of women reported sever type. Majority of them (56.2%) reported such as breathing oxygen, eating foods and having rest for decreasing nausea and vomiting (Table 3). vitamin B6, Demitron and Zintoma was the most popular pharmacological drug that used, respectively. Mint extract, Ginger, Chamomile were the most popular herbal drug that used, respectively (Table 4).

**Table 1: Demographic characteristics of subjects**

Variable		Severity of nausea and vomiting Frequency (%)			Fisher's Exact Test	P-Value
		Mild	Moderate	Severe		
Ages	16-20	20(83.3)	4(16.7)	-	25.537	0.001
	21-24	29(93.5)	2(6.5)	-		
	25-28	30(76.9)	6(15.4)	3(7.7)		
	29-32	28(87.5)	4(12.5)	-		
	≥33	21(67.7)	10(32.3)	-		
Education	Primary school	12(85.7)	2(14.3)	-	7.174	0.247
	Secondary school	39(75)	12(23.1)	1(1.9)		
	Diploma and higher	77(81.9)	12(12.8)	5(5.3)		
BMI (kg/m <sup>2</sup> )	< 19.8	17(94.4)	1(5.6)	-	4.897	0.502
	19.8-25.9	73(82.0)	13(14.6)	3(3.4)		
	26-29	29(72.5)	8(20.0)	3(7.5)		
	> 29	9(75.0)	3(25.0)	-		
Parity	1-2	128(81.3)	19(14.8)	5(3.9)	6.473	0.638
	≥3	14(60.9)	8(34.8)	1(4.3)		
Occupation	Housewife	117(83.5)	19(13.6)	4(2.9)	17.151	0.006
	Employed	11(55)	7(35)	2(10)		

Table 2: Factor affective on severity of nausea and vomiting during pregnancy

Variable		Severity of nausea and vomiting Frequency (%)			Fisher's Exact Test	P-Value
		Mild	Moderate	Severe		
Gestational age (weeks)	6-13	28(62.2)	15(33.3)	2(4.4)	12.809	0.001
	14-20	100(87)	11(9.5)	4(3.5)		
Planned Pregnancy	Yes	92(79.3)	19(16.4)	5(4.3)	0.254	0.916
	No	36(81.8)	7(15.9)	1(2.3)		
Previous Nausea	Yes	45(72.6)	14(22.6)	3(4.8)	3.481	0.199
	No	82(84.5)	12(12.4)	3(3.1)		
Onset of Nausea	Morning	58(82.9)	11(15.7)	1(1.4)	20.764	0.007
	Noon	15(88.2)	2(11.8)	0(0)		
	Evening	34(89.6)	2(5.2)	2(5.2)		
	Night	3(50)	3(50)	0(0)		
	Evening & Night	12(52.2)	8(34.8)	3(13)		
Consumed Food	yes	51(81)	9(14.2)	3(4.8)	0.642	0.748
	No	77(79.4)	17(17.5)	3(3.1)		
Consume Liquid	yes	73(83)	12(13.6)	3(3.4)	1.198	0.637
	No	55(76.4)	14(19.4)	3(4.2)		
Consumed anti-Nausea	yes	73(83)	12(13.6)	3(3.4)	2.721	0.270
	No	55(76.4)	14(19.4)	3(4.2)		
Consume Herbal Drug	yes	52(77.3)	10(10.1)	5(7.6)	4.308	0.122
	No	76(81.9)	16(17.2)	1(1.1)		

Table 3: Increasing and decreasing Factors affective on nausea and vomiting during pregnancy

Increasing Frequency (%)		Decreasing Frequency (%)	
Eating & drinking	57(35.6)	Breathe oxygen	37(23.1)
Smell of food	60(37.5)	Eating	46(28.8)
Perfume	9(5.6)	Rest	16(10.0)
Hungry	15(9.4)	Drug usage	14(8.8)
Others	19(11.9)	Others	47(29.3)

Table 4: Consume of drugs on nausea and vomiting during pregnancy

Herbal Frequency (%) N=67		Chemical Frequency (%) N=60	
Ginger	23(34.3)	Vitamin B6	29(48.4)
Mint extract	31(46.3)	Demitron	26(43.3)
Chamomile	5(7.5)	Zintoma	5(8.3)
Others	8 (11.9)	-	-

**DISCUSSION:**

Pregnancy is a joyful physiological phenomenon, but is associated with changes in the mother's system. Digestive system is one that can be changed. Gastrointestinal disorders are the most common complaints during pregnancy. Nausea and vomiting during pregnancy, which can be seen in 50 -80 percent of pregnant women and mother loses mother his comfort [33]. Treatment of nausea and vomiting be performed in during pregnancy as quickly as possible with the aim of improving the quality of life for women and prevent from admitted them in hospital [34]. Out of 160 women included in the study, 80% experienced mild nausea and vomiting, 16.2% moderate and 3.8% sever type during pregnancy. The result of study (2009) showed that 47.15% of women having mild vomiting and 52.85% moderate in pregnancy [35]. The result of study Soltani et al (2007) showed 37.4% of the subjects had mild nausea and vomiting, 47.6 % moderate and 16% severe [29]. The result of study Lacroix et al (2000) found that 80% of participants reported nausea lasting all day. Only 50% of women were relieved by 14 weeks' gestation; 90% had relief by week 22 [14]. The result of a study (2012) showed that 32.5% of women having mild nausea, 59.2 average and 21.7 severe vomiting [36]. In the all these studies, moderate nausea and vomiting was more common in women, the results of all these studies is consistent with our research. The majority of participants (37.5%), smell of food are the main cause nausea and vomiting and eating and drinking, hunger, smell the scent men were in the rank. The majority of participants (23.1%) have been reported Breathe the free air main cause reduction nausea and vomiting, rest, eat cookies, eat pickles and taking drugs was in the rank. The necessary to control the problem can be noted the factors Like: avoid crowded places, heat, humidity, physical activity and rapid change positions, and the rest, using low volume and frequent meals, wash teeth after meals, and periodic cleaning of the mouth, breathe in the free air [37]. Chandra's research (2003) not only Diet and lifestyle changes can improve nausea and vomiting in pregnant women but also 31 percent of women had used drugs [21]. In the drug group, vitamin B6 with (48.4%) had the highest consumption of drugs and Demitron (43.3%) and Zintoma (8.3%) were the order of rank. Vitamin B6 vitamins are water-soluble and are used to treat nausea in pregnancy [38]. In a multicenter, double-blind study by Korn and Partners (2010), was performed using Diclectin was more effective than placebo and 48.9 percent of the subjects were requested to continue using the drug [39]. Our result matches to the other studies. Mint oil (46.3%), Ginger (34.3%), Chamomile (7.5%), Licorice (1.5%) respectively were herbal drug that

used. The result of study Khrshh (2011) showed: that the most of women used asks Mint Tea [40] our result matches to the studies. According to most research, the use of ginger is more common. Findings Modares and colleagues (2012) showed that oral capsules of ginger and chamomile compared with placebo& Ginger is reducing the symptoms of nausea and vomiting of pregnancy [41]. The result of study (2009) showed: that in both groups the number of vomiting episodes was reduced and there was no significant difference between them [42]. Results Narenji and colleagues (2013) showed that fresh ginger root, compared with approximately the same amount of powdered ginger reduces nausea (s)  $3.1\pm 2.98$ , compared with  $2.84\pm 2.66$  [and Posts difference between the number of vomiting]  $1.08\pm 0.74$  compared with  $1.01\pm 0.58$  in powdered ginger, the pregnancy sanctity of fresh root ginger than ginger powder was satisfactory [33]. Several studies have shown that consumption of 1 to 1.5 gram of powdered ginger in divided doses in 24 hours was more placebos and its impact in the treatment of nausea and vomiting of pregnancy is vitamin B6 [37, 43]. The results of Moradi and colleagues suggest that ginger may reduce nausea and vomiting during pregnancy. In addition, it can be used therapeutic amounts (about 1 gr/day) for a limited period [44]. FiroozBakht and colleagues have also concluded that ginger is effective in treating nausea and vomiting of pregnancy [45]. The majority of participants (85%) did not use the tablet. Iron can cause digestive problems and can exacerbate nausea and vomiting during pregnancy [46]. Supplementation with small meals can be effective in reducing complications [47]. The Fisher's exact test show that there were satsical differences between the severity of nausea & vomiting with maternal age ,gestational age, onset of nausea and vomiting and mother job in pregnancy ( $P<0.05$ ). Counseling is recommended, especially in pregnant women who are at risk [48].

**CONCLUSION:**

The finding of this research showed that mild nausea and vomiting are very commonly experienced by women in early pregnancy. There are several strategies that have been helpful in decreasing pregnancy nausea and vomiting. Health care providers should be aware of the evidence-based information regarding various treatments to their patients when appropriate. Therefore, educational planning to reduce nausea and vomiting during pregnancy by Health personnel is recommended.

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