

**UNIVERSITI SAINS MALAYSIA**



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**RELATIONSHIP OF PSYCHOLOGICAL HEALTH  
IMPACTS WITH NAUSEA AND VOMITING  
AMONG EARLY PREGNANCY WOMEN IN  
HOSPITAL UNIVERSITI SAINS MALAYSIA**

by

**CHAI SHIAW YUN**

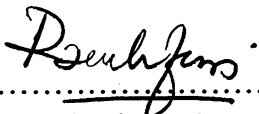
**Dissertation submitted in partial fulfillment of the  
requirements for the degree  
of Bachelor of Health Sciences (Nursing)**

**April 2009**

## CERTIFICATE

This is to certify that the dissertation entitled Relationship of Psychological Health Impacts with Nausea and Vomiting among Early Pregnancy Women in Hospital Universiti Sains Malaysia is the bonafide record of research work done by Chai Shiaw Yun, 87425 during the period of July 2008 to April 2009 under my supervision. This dissertation submitted in partial fulfillment for the degree of Bachelor of Health Sciences (Nursing). Research work and collection of data belong to Universiti Sains Malaysia.

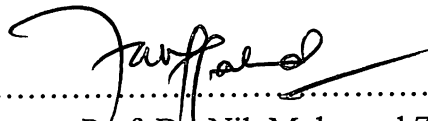
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## LIST OF ABBREVIATION

ANOVA	Analysis of Variance
GHQ	General Health Questionnaire
HUSM	Hospital Universiti Sains Malaysia
NVP	Nausea and Vomiting in Pregnancy
NVPI	Nausea and Vomiting in Pregnancy Instrument
SD	Standard Deviation
SPSS	Statistical Package Social Science
VAS	Visual Analogue Scale
$f$	Frequency
$n$	Number

# **RELATIONSHIP OF PSYCHOLOGICAL HEALTH IMPACTS WITH NAUSEA AND VOMITING AMONG EARLY PREGNANCY WOMEN IN HOSPITAL UNIVERSITI SAINS MALAYSIA**

## **ABSTRACT**

Nausea and vomiting in pregnancy (NVP) are troublesome symptoms that occur mainly in the first trimester of pregnancy. Its severity may influence the psychological health of pregnant women. Thus, a cross-sectional study conducted to examine the relationship of psychological health impacts with nausea and vomiting among early pregnancy women. Data collected using self-administered questionnaire. The psychological health investigated using General Health Questionnaire (GHQ) and mood and illness perception Visual Analogue Scale, and compared with the severity of nausea and vomiting as measured using Nausea and Vomiting in Pregnancy Instrument (NVPI). Sixty-four pregnant women were recruited as respondents. Statistical analysis carried out using SPSS program Version 12. The gestational age ranged from 10-16 weeks ( $13.17 \pm 2.22$ ). Fifty-eight ( $f = 90.6\%$ ) women reported nausea and vomiting during pregnancy, in which only 5 ( $f = 7.8\%$ ) were having most severe nausea and vomiting. Psychological health among pregnancy women was good ( $11.30 \pm 3.225$ ). However, the perceived mental health ( $4.02 \pm 3.61$ ) and illness perception ( $8.74 \pm 3.54$ ) was significantly elevated. At the 95% of confidence interval, the  $H_0$  is rejected if  $p < 0.05$ . Pearson's correlation analysis of NVPI and psychological health showed that the severity of NVP

not correlated with total GHQ scores and GHQ subscales of anxiety and depression, social dysfunction, and loss of confidence ( $p > 0.05$ ). Multiple linear regressions analysis showed that there was no association in NVP with mood perception ( $t = 1.989, p = 0.52$ ) and GHQ ( $t = -0.224, p = 0.82$ ). Nevertheless, illness perception ( $t = -2.575, p = 0.013$ ) was associated with NVP after controlling age, race, educational level, occupation and gestational week. The researcher concluded that information on the strategies for NVP relieving and some support need provided to pregnant women, in order to help them to cope with NVP and thus improve their psychological health throughout the pregnancy.

**PERKAITAN ANTARA IMPAK KESIHATAN PSIKOLOGI DENGAN LOYA  
DAN MUNTAH DALAM KALANGAN WANITA DI PERINGKAT AWAL  
KEHAMILAN DI HOSPITAL UNIVERSITI SAINS MALAYSIA**

**ABSTRAK**

Loya dan muntah semasa mengandung (NVP) merupakan gejala yang biasa berlaku terutamanya pada tiga bulan pertama waktu mengandung. Keterukan loya dan muntah mungkin akan mempengaruhi kesihatan psikologi wanita mengandung. Oleh itu, kajian keratan lintang dilakukan untuk mengkaji hubungkait antara kesan kesihatan psikologi dengan loya dan muntah dalam kalangan wanita mengandung peringkat awal. Data dikumpul menggunakan borang soal-selidik. Kesihatan psikologi dikaji dengan menggunakan *General Health Questionnaire* (GHQ) dan persepsi perasaan dan sakit *Visual Analogue Scale*, dan kemudian dibandingkan dengan keterukan loya dan muntah yang diukur dengan menggunakan *Nausea and Vomiting in Pregnancy Instrument* (NVPI). Seramai 64 wanita mengandung dipilih sebagai responden. Data dianalisis menggunakan program SPSS Versi 12. Terdapat 58 orang ( $f = 90.6\%$ ) responden yang mengandung selama 10-16 minggu ( $13.17 \pm 2.22$ ) melaporkan loya dan muntah semasa mengandung. Hanya 5 responden melaporkan loya dan muntah yang sangat teruk. Kesihatan psikologi dalam kalangan wanita mengandung peringkat awal dilaporkan baik ( $11.30 \pm 3.225$ ). Walaubagaimanapun, kesihatan mental ( $4.02 \pm 3.61$ ) dan persepsi sakit ( $8.74 \pm 3.54$ ) meningkat secara nyata. Pada aras keyakinan 95%,  $H_0$  akan ditolak jika  $p <$

0.05). Analisis korelasi Pearson menunjukkan bahawa keterukan loya dan muntah tidak berhubungkait dengan jumlah markah dan subskala GHQ untuk kebimbangan dan muram, disfungsi sosial, dan hilang keyakinan ( $p > 0.05$ ). Analisis *Multiple Linear Regression* menunjukkan tidak ada hubungkait antara NVP dengan persepsi perasaan ( $t = 1.989, p = 0.52$ ) dan GHQ ( $t = -0.224, p = 0.82$ ). Namun, persepsi kesakitan ( $t = -2.575, p = 0.013$ ) berhubungkait dengan NVP selepas umur, bangsa, tahap pendidikan, pekerjaan dan minggu kandungan dikawal. Penyelidik menyimpulkan bahawa maklumat ke atas strategi untuk melegakan NVP dan sokongan lain seperti sokongan sosial harus diberikan kepada wanita mengandung, adalah penting untuk membantu mereka mengatasi NVP dan seterusnya meningkatkan kesihatan psikologi mereka semasa mengandung.

# CHAPTER 1

## INTRODUCTION

### 1.1 Background of study

Nausea and vomiting of pregnancy (NVP) commonly known as morning sickness in which it occurs in most of the pregnant women (Gadsby, Barnie-Adshead & Jagger, 1993). Nausea and vomiting in pregnancy are troublesome symptoms that occur mainly in the first trimester of pregnancy (Campbell & Lees, 2000), but it is often regarded as normal part of pregnancy even though it is an unpleasant experience (Badell, Ramin & Smith, 2006). NVP can be affected at any time of day or night with the severity of symptoms varying dramatically between individuals (McParlin, Graham & Robson, 2008). Severe symptoms may lead to hyperemesis gravidarum with the symptoms of hematemesis (vomiting of blood), dehydration, and even malnutrition in which hospitalization is required for the treatment (Campbell & Lees, 2000).

The causes of and risk factors for NVP and hyperemesis gravidarum are unknown, but have been linked to social, psychological and biological factors (Swallow, Lindow, Masson & Hay, 2005a). The incidence of NVP is about 50% to 80% (Chou, Chen, Kuo & Tzeng, 2006) and hyperemesis gravidarum range from 0.63% to 2% (Swallow, Lindow, Aye, Masson, Alasalvar, Quantick & Hanna, 2005b). However, the incidence of maternal death due to hyperemesis gravidarum is rare; only two cases were reported between years 1991-2000 in Malaysia (Loh & Sivalingam, 2005).

The pregnancy related nausea and vomiting in Western countries ranges from 50% to 80% (Gadsby, Barnie-Adshead & Jagger, 1993). In Canada, 78.5% of pregnant women reported NVP during first trimester (Lacasse & Bérard, 2008), and there was 77.3% of nausea and vomiting in Taiwan (Chou, Avant, Kuo & Fetzer, 2007). However, unfortunately, in Malaysia, there is an absence of reliable data of nausea and vomiting and its impact on pregnant women.

NVP has been associated with a positive pregnancy outcome (Badell, Ramin & Smith, 2006). However, the impact of NVP may include emotional, psychosocial, environment, nutritional and occupational disability (Chandra, Magee & Koren, 2002; Badell, Ramin & Smith, 2006; Yates, 2004). The effects of NVP include reduced job efficiency, lost work time, and a negative impact on family relationships and mental health (Gadsby, Barnie-Adshead & Jagger, 1993). In addition, the extreme effect, of course, is the decision to terminate the pregnancy rather than tolerate the severe symptoms (Campbell & Lees, 2000).

The psychological health that related to NVP on pregnant women includes depression, anxiety, mood elevations and social dysfunction (Swallow, Lindow, Masson & Hay, 2004; Swallow et al., 2005a). They also reported significant fatigue, sleep disturbance and irritability that negatively affect family and social interactions.

Since there are many women consider NVP as “normal” phenomenon of pregnancy, many women may not mention about it unless they asked by obstetricians (Yates, 2004). The concern about the impact of it on psychological health is still low. Hence, there is a need to help them to cope with NVP with different strategies to improve

the psychological health of them during antenatal period.

## **1.2 Problem statements**

The association between early pregnancy and symptoms of nausea and vomiting is generally accepted. In most cases, NVP causes discomfort for the woman and have both a major physiological and psychological impacts on some women, thus profoundly altering their lives (Chou et al., 2007). However, there has been little research directed at finding out more about the symptom complex and developing an understanding of it (Gadsby, Barnie-Adshead & Jagger, 1993). Although there is a considerable body of research that had investigated the incidence, causes and treatment of postnatal depression, research into the mental health of antepartum women has limited (Swallow et al., 2004).

In addition, most of the obstetric textbooks ignored the influence of nausea and vomiting of pregnancy, regard it as mild and uncomfortable symptoms (Chou et al., 2006). Many women with these symptoms have very severe sickness that affects their lifestyle such as they may not be able to undertake their normal daily activities and so on (Gadsby, Barnie-Adshead & Jagger, 1993).

Furthermore, there has little known about NVP and psychological health on women in Malaysia. This is because the researcher could hardly to find any similar research that has been conducted in Malaysia. Thus, it is interestingly to examine the relationship of psychological health with nausea and vomiting in HUSM. The result of the study can help to improve the psychological health of pregnant women with nausea and vomiting. Besides that, perhaps this study can raise the awareness of pregnant

women and their family as well as the health care providers on the psychological health of pregnant women with nausea and vomiting. These in turn will help the women to cope with nausea and vomiting of pregnancy and may have a good well during antenatal period.

### **1.2.1 Conceptual Theoretical**

Roy's Adaptation Model (1997) can provide guidelines to explain this phenomenon, as maternal psychosocial adaptation is important in studying about nausea and vomiting in pregnancy. Some researchers studying on the severity of nausea and vomiting in pregnancy found that it had related to maternal adaptation (Chou et al., 2007; Lobel, Hamilton, Cannella, 2008; Kuo, Wang, Tseng, Jian & Chou, 2007; Chou et al., 2006). Nausea and vomiting influence the physical and psychological health of the pregnant women, as well as the quality of women's perinatal life and family relationships (Chou et al., 2007). Such effects and consequences influence maternal adaptation to pregnancy.

## **1.3 Objective of the Study**

The general objective of the study is to examine the relationship of psychological health impacts with nausea and vomiting among early pregnancy women in Hospital Universiti Sains Malaysia (HUSM).

### **1.3.1 Specific Objectives**

1. To determine the severity of nausea and vomiting among early pregnancy women.
2. To determine the psychological health of pregnant women during early pregnancy.

3. To determine the selected factors affected psychological health of pregnant women during early pregnancy.
4. To determine the association of psychological health with nausea and vomiting among early pregnancy women.

#### **1.4 Research Questions**

1. What is the severity of nausea and vomiting of women in early pregnancy?
2. What are the psychological health impacts among pregnant women with nausea and vomiting?
3. What are the selected factors affected psychological health of pregnant women during early pregnancy?
4. Is there any relationship between nausea and vomiting in pregnancy and psychological health of pregnant women?

#### **1.5 Hypothesis**

$H_0$  = Psychological health is not associated with nausea and vomiting in early pregnancy.

$H_A$  = Psychological health is associated with nausea and vomiting in early pregnancy.

At the 5% level of significant, the  $H_0$  is rejected if  $P < \alpha$  (0.05).

## **1.6 Definition of Terms (Operational)**

Three important terms that used extensively in this study defined as below:

### **1.6.1 Psychological health**

Psychological health is an essence concept of “fully functioning persons,” in which actualizing tendency is maximally expressed in an individual (Ziegler, 2003). This includes social interest to contribute to society and get along with others, depression, anxiety, mood state and self-esteem (Ziegler, 2003). In this study, researcher is focus mainly on mood, anxiety, depression, and social dysfunction of pregnant women with nausea and vomiting according to General Health Questionnaire-12 items.

### **1.6.2 Nausea and vomiting in pregnancy**

Nausea and vomiting in pregnancy (NVP) is a collection of symptoms of nausea alone, or nausea in combination with vomiting that begins in early pregnancy before the 20th week of gestation, and is not associated with primary maternal diseases such as gastrointestinal infections or allergies (Czeizel & Puhó, 2004). Commonly it is referred as “morning sickness” (McParlin, Graham & Robson, 2008; Gadsby, Barnie-Adshead & Jagger, 1993).

### **1.6.3 Early Pregnancy**

Early pregnancy is referring to pregnancy within 20 weeks of gestational (Linseth & Vari, 2005; Czeizel & Puhó, 2004). In this study, only pregnant women with 10-16 weeks of gestational will be recruiting in the study. This is because the symptom of nausea and vomiting is peak around 9 weeks (Gadsby, Barnie-Adshead & Jagger, 1993) and will decreasing in 16-19 weeks (Davis, 2004; Kugahara & Ohashi, 2006).

## **1.7 Significance of the Study**

The implication of this study is to discover the severity of pregnancy, to explore the psychological health of pregnant women in early pregnancy and to examine the impacts of nausea and vomiting on psychological health of women. The researcher hopes that by this study, it can increase the awareness of pregnant women about the psychological health impact of nausea and vomiting, and thus take appropriate action or seek for medical treatment to cope with it to reduce the incidence of it throughout their pregnancy.

Besides that, perhaps family members, especially husband may understand the pregnant women's condition of nausea and vomiting and be tolerate with her wife in coping with this symptom. Social support is important to pregnant women to reduce sources of prenatal stress related to nausea and vomiting (Chou et. al., 2006).

Furthermore, this study will contribute to the practice of health professional, such as doctors and nurses, so that they can clearly acknowledge and understood pregnant women with nausea and vomiting. They can plan the package of care (Jomeen, 2004), ensure best practice and offer better support (Chou et al., 2006) for the pregnant women to maximize their quality of life (Linseth & Vari, 2005).

In addition, the researcher hopes that this study will contribute to the health care policy to have documentation on the severity of nausea and vomiting among pregnant women in Malaysia. Thus, this will help to provide the health care professional to be more concern on this pregnancy symptom of women and can contribute as references for the research in the future.

On the other hand, health care provider such as doctor may not underestimate the severity of the NVP that can affect the women's health. Women also will take serious on this issue, will not just believe that it is a normal pregnancy symptom and simply ignore it, but will take action to cope with it.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Introduction

Nausea and vomiting in pregnancy (NVP) is a common and difficult problem during early pregnancy, but not considered a disease unless the symptoms become severe (Kugahara & Ohashi, 2006). In fact, nausea and vomiting are considered a presumptive sign of pregnancy and for about 20% of pregnant women; these symptoms may persist throughout the whole pregnancy (Mesics, 2007). The first signs of morning sickness usually develop during the month following the first missed menstrual period, when pregnancy hormone levels rise.

Preston (2007) described that nausea is the most common gastrointestinal symptom of pregnancy and it occurs in 80-85% of all pregnancies during the first trimester. About 52% of women have associated vomiting. These symptoms are normal features of pregnancy, most are mild (Davis, 2004), are self-limiting (Preston, 2007; Davis, 2004), and usually subside by 16-20 weeks of gestation.

In spite of their frequency and associated distress because of nausea and vomiting, pregnant women are poorly understood and often inadequately treated (Davis, 2004). In most cases, NVP causes discomfort for the woman. Many women, however, have very severe sickness that affects their lifestyle: they may need to take time off work; they may not be able to undertake their normal daily activities and so on. About 35% of working

women needed away from their paid employment with a mean of 22 hours per women (Gadsby, Adshead & Jagger, 1993).

## **2.2 Nausea and Vomiting in Pregnancy**

Nausea refers to the unpleasant, painless, subjective feeling that one will immediately vomit (Hasler & Chey, 2003). Vomiting describes the preprogrammed series of motor and autonomic responses that result in the forceful expulsion of gastric contents through the mouth. Nevertheless, retching is differing from vomiting. In the absence of vomiting, retching does not result in oral expulsion of gastric contents.

Most women experience morning sickness early in their pregnancies. However, it does not necessarily strike only in the morning, nor does it always end after the first trimester (Davis, 2004). Nausea and vomiting of pregnancy (NVP) begins at about fourth to seventh week after the last menstrual period in 80 percent of pregnant women. It resolves by less than 10 weeks in about 30% of women, at 10 to 12 weeks in another 30%, at 12 to 16 weeks in another 30% and about 10% women still having the symptoms by the 16 weeks of gestation (Gadsby, Barnie-Adshead & Jagger, 1993). Nevertheless, from a study done by Kugahara and Ohashi, (2006) in Japan, the severity of nausea become worse until 15 weeks of gestation, but pregnant women suffered constant vomiting during early pregnancy. Therefore, it shows that nausea was the most important among the complaints of pregnant women with NVP, whereas vomiting was secondary.

It is not clearly understand for the contributing factors in nausea and vomiting in pregnancy. The etiology of nausea and vomiting remains elusive (Davis, 2004). The