A CROSS-SECTIONAL STUDY ON THE PREVALENCE AND FACTORS RELATED TO ANXIETY AMONG PREGNANT WOMEN IN NORTH-EASTERN PROVINCE OF THAILAND

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Abstract - Background: Anxiety during pregnancy is globally prevalent with approximately twenty percent and several factors have been associated with anxiety. However, it has rarely been addressed in Thailand. This study was aimed to investigate factors related to anxiety among pregnant women in a north-eastern province of Thailand.Methods: A cross-sectional study was carried out among 111 pregnant women in a north-eastern province in Thailand. Two-stage randomization was performed. Apart from the hospital anxiety and depression scale was used and anxiety score with the cut-off score 11 identified having anxiety. Socio-demographic characteristics, reinforcing factors and social support were measured in relation to anxiety. Descriptive statistics were performed. Inferential statistics (Chi-square and Fisher's exact test) were used at a 0.05 significant level.Results: Almost all of participants lived with their husband and half of them lived in an extended family. Half of the participants graduated from a secondary school or less, one-fourth of them aged 25-29 years old and half of them were primiparous. The study showed that the prevalence rate of anxiety among participants was 36%. Inferential analysis showed that age, number of pregnancy, having an underlying disease, workplace, transportation to hospitals, and social support from peers, colleagues and healthcare providers were statistically related to anxiety ($p<.05$).
Conclusions: Socio-demographic characteristics, reinforcing factors and social support are associated with anxiety among Thai pregnant women in a north-eastern province. Pregnant women in high-risk groups should be identified and mental health should be promoted during the antenatal care period by healthcare providers..

Keywords - Anxiety, Thailand, pregnant women, factor, prevalence.

I. INTRODUCTION

Pregnancy period arises as a joyful event (Geller, 2014) but some negative emotions still emerge during pregnancy (Highet et al., 2014). Major psychiatric problems occuring during the pregnancy period are anxiety and depression (Fadzil et al., 2013; Phoosuwan et al., 2018). The prevalence of anxiety was estimated to be twenty percent (Ali et al., 2012). There are many factors related to the occurence of anxiety among pregnant women, such as low age, education, unemployment (Rubersson et al., 2014), marital status, unplanned pregnancy, depression (Fadzil et al., 2013), gestational age (Catov et al., 2010) and positive history of mental illness (Fadzil et al., 2013; Rubersson et al., 2014).Many consequences of anxiety have been addressed on women and children. For women, anxiety can increase the preference rate for caesarian section among pregnant women (Rubersson et al., 2014). Through the babies, it has been found that anxiety can influence APGAR score at one- and five- minute after birth (Berle et al., 2005), preterm birth and low birth weight (Catov et al., 2010). Still, anxiety disorders during pregnancy have received less attention (Rubertsson et al., 2014), including in a north-eastern part of Thailand where it differs to other regions in terms of socio-economic and cultural contexts. Therefore, it might be great of interest in having research in this region. This study was aimed to investigate the prevalence and associated factors to anxiety disorder among pregnant women in a north-eastern province of Thailand.

II. MATERIAL AND METHODS

2.1. Participants and procedure

This cross-sectional study was conducted in a north-eastern province of Thailand where it has 17 hospitals and has approximately 5,000 childbirths annually. Sample size was calculated for a survey method, providing 111 pregnant women used for analysis. A public health provincial committee approved the study plan and gave allowance for data collection. Cluster sampling was done among four clusters and pregnant women receiving antenatal care at hospitals were consecutively approached by some of the authors. Pregnant women were excluded if they were not willing to participate or not a Thai citizen. Participants signed an informed consent form before answering the questionnaire.

2.2. Instruments

Data were collected via a questionnaire containing three parts: sociodemographic characteristics,

reinforcing factors, social support, and anxiety evaluation. All parts except anxiety evaluation part were created under literature review by the authors. Sociodemographic characteristics include age, education, marital status, income, family status, gravidity, underlying disease whereas reinforcing factors are working place, distances to the hospital, transportation to the hospital. Social support was measured from peers, colleagues and healthcare providers. These parts were categorized later for analysis purposes. Seven questions about anxiety of the Thai Hospital Anxiety and Depression Scale (HADS) (Nilchaikovit et al., 1996) were used with the total possible score is 28 and the score more than 11 is identified as having anxiety. All parts of the questionnaire have been tested for validity by experts (content validity score=0.57) and internal consistency among 30 pregnant women (Cronbach Alpha coefficient=0.72) before data collection.

2.3. Statistical analysis

Data were analysed using an instant program. Descriptive statistics were administered across general information and characteristics, such as mean and standard deviation (SD). Crude associations between independent factors and anxiety symptoms were assessed using the Chi-square test and Fisher's exact test, and a 0.05 significance level was used.

III. RESULTS AND DISCUSSION

There were 111 pregnant women participated in this study. Half of them graduated less than or equal to secondary school and more than twenty percent of the participants were teenagers. Half of the participants worked indoor. Most of them got a high level of support from peers (70%), from healthcare providers and from colleagues (46%). The prevalence of anxiety among participants was found to be 36%. Sociodemographic characteristics, reinforcing factors, social support, and anxiety are described in Table 1.

The relationship between identified factors and anxiety, age, number of pregnancy, having an underlying disease, workplace, transportation to hospitals, and social support from peers, colleagues and healthcare providers were statistically related to anxiety ($p<.05$). Other identified factors were not statistically related to anxiety. Data are showed in Table 2.

Table 1. Sociodemographic characteristics, reinforcing factors and social support among participants in the study

Characteristics	n	%	Mean	SD
Age			25	6.2
Less than 20 years	25	21.6		
20 years or more	86	78.4		
Education				
Less than or equal to secondary school	58	52.3		
High school or higher	53	47.7		
Marital status				
Married and lived with husband	99	89.2		
Married but not lived with husband divorced	12	10.8		
Family type				
Nuclear family	27	24.3		
Extended family	84	75.7		
Gravidity				
One or two	98	88.3		
Three or more	13	117		
Having an underlying disease	13	11.7		
Indoor workplace (n=109)	51	46.8		
Private transportation to hospital	106	98.2		
Social support from peers			13.7	3.4
Social support from colleagues			5.8	1.9
Social support from healthcare providers			5.4	1.1
Having anxiety	40	36	9.2	5.0

Note: SD, standard deviation

Table 2. Factors related to anxiety among the participants

Characteristics	Anxiety		X^2	p-value
	Yes n (%)	No n (%)		
Age			12.411	<0.01*
Less than 25 years	28 (52.8)	25 (47.2)		
25 years old or more	12 (20.7)	46 (79.3)		
Number of pregnancy			5.132	0.023*

Characteristics	Anxiety		X^2	p-value
	Yes n (%)	No n (%)		
One or two children	39 (39.8)	59 (60.2)		
Three or more children	1 (7.7)	12 (92.3)		
Underlying disease			5.132	0.023*
Yes	1 (7.7)	12 (92.3)		
No	39 (39.8)	59 (62.0)		
Workplace			8.424	0.004*
Indoor	11 (21.6)	40 (78.4)		
Outdoor	28 (48.3)	30 (51.7)		
Transportation to hospital			4.390	0.036*
Private	36 (34.0)	70 (66.0)		
Public	4 (80.0)	1 (20.0)		
Social support from peers			4.882	0.027*
Low	17 (51.5)	16 (48.5)		
High	23 (29.5)	55 (70.5)		
Social support from colleagues			4.816	0.029*
Low	25 (43.8)	32 (56.2)		
High	13 (26.0)	37 (74.0)		
Social support from healthcare providers			12.575	0.001*
Low	11 (78.6)	3 (21.4)		
High	29 (29.9)	68 (70.1)		

* a significant level at 0.05

This study shows that the prevalence of anxiety among pregnant women was relatively high which is double in comparison to other studies (Ali et al., 2012; Fadzil et al., 2013; Rubertsson et al., 2014). It might be that more than one-fifth of participants were teenagers. Many studies have showed that prevalence of anxiety among younger pregnant women is higher than older women (Signal et al. 2017) and teenage pregnancy can increase the occurrence of anxiety and depression during pregnancy when compared with matured pregnant women (Rubertsson et al., 2014; Phoosuwan et al., 2018). The HADS can reflect the magnitude of anxiety, using the HADS during the antenatal care might be useful in Thailand. In this study, social support from family members, colleagues and healthcare providers are essential for prevention of anxiety. Reinforcing factors including workplace, transportation to hospitals has also been found in relation to anxiety. A study pointed out that less than 50% of pregnant women has sought for help because of available services, distance, and healthcare providers (Signal et al., 2017). Extended family can be seen in Thailand, particularly in the north-eastern region (Phoosuwan et al., 2018). It is the explanation why reinforcing factors and social support were related to anxiety. Strengthen family might help women to reduced anxiety during pregnancy and reinforcing factors should be focused on healthcare services. This study has been taken into account for research methodology. Sample size calculation and sampling can enhance the representation of the population. All parts of the instrument have been tested with acceptable scores. The Thai HADS is a standardized tool that has previously been validated against the gold standard. However, it is a screening tool for detecting anxiety which cannot compensate for clinical diagnosis and can provide overestimation. Using standardized tools, such as the HADS, requires at least much attention and resourcing in Thailand for cultural sensitivity.

CONCLUSIONS

Socio-demographic characteristics and social support are associated with anxiety among north-eastern Thai pregnant women. Pregnant women in high-risk groups, such as teenage or having many children should be identified and mental health should be promoted during the antenatal care period by healthcare providers.

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