

Prevalence of Mental Health Problem during First-Half Pregnancy at Siriraj Hospital

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Objective: To study the prevalence of mental health problem during first-half pregnancy.

Study design: Cross-sectional descriptive study.

Material and Method: The 255 singleton pregnant women ≤ 20 weeks of gestation were enrolled. They were asked to complete a self-administered questionnaire which included Thai GHQ-30 (mental health problem screening tool) and frequent psychosocial stressor forms. The prevalence and factors associated with mental health problem were evaluated.

Main outcome measurement: The prevalence of mental health problem.

Results: The prevalence of mental health problem was 17.3%. Factors independently associated with mental health problem included worrying about health, stress of taking care of other family members and financial problem with adjusted OR 3.5 (95% CI 1.16, 10.74), 3.8 (95% CI 1.80, 7.89) and 3.2 (95% CI 1.34, 7.53) respectively.

Conclusion: The prevalence of mental health problem was 17.3%. Screening of mental health problem should be included in antenatal care service especially in the risk group.

Keywords: Prevalence, Mental Health Problem, Thai GHQ-30

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Nowadays, globalization has made a rapid change that affects daily activities and challenges many people's mental health. The former 28-30% prevalence of mental health problem in the general Thai population^(1,2) seem to be increasing, but until now there is still no available data in pregnant women.

Pregnancy is a period of physiological, hormonal, and psychological changes especially during the first-half period. Psychiatric disorders are prevalent among pregnant women, several clinical and community-based studies reported that 9-21% of pregnant women met the criteria of depression⁽³⁻⁵⁾, and several recent research undertakings suggested that maternal depression, anxiety symptoms and psychosocial stress during pregnancy were associated with low birth weight and pre-term delivery^(6,7).

During general antenatal care the obstetricians focused mainly on risk identification and detection of pregnancy-induced somatic disorders while those of mental disorders are ignored. The purpose of the present study was to find out the prevalence of mental health problems handled by the obstetricians at Siriraj antenatal clinic in women during the first half pregnancy, using the Thai General Health Questionnaire (Thai GHQ-30) which is a 30-item Thai version of a General Health Questionnaire (GHQ) designed and developed by Nilchaikovit et al⁽⁸⁾ for surveying psychiatric disorder. It already had been validated with the Thai population in both community and clinical settings. Hoping that the high prevalence of mental health problems might lead to obtaining improvement in prenatal and postpartum care.

Material and Method

The present study design was a cross-sectional descriptive study. The population was preg-

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nant women who attended the antenatal clinic of Siriraj Hospital between March 1, 2007 and May 31, 2007 with approval of the Siriraj Ethic Committee. The inclusion criteria were a viable singleton pregnancy, and not more than 20 weeks of gestation. The exclusion criteria were those with a prior history of psychiatric illness or did not understand the meaning of the Thai questionnaire. The total participants were 255 cases, which were enough to include 30% prevalence of the former study⁽²⁾.

After the consent form was signed, the enrolled women were asked to complete a self-administered questionnaire that included 2 main topics: screening of mental health problem (using Thai GHQ-30 Questionnaire) and detection of some frequent psycho-social stressors (using a part of the Patient Health Questionnaire).

The socio-demographic and obstetric information of the participants e.g. age, marital status, education level, occupation, income, history of prior pregnancy, pregnancy intention, parity, gestational age, associated or abnormal symptoms occurring during the current pregnancy were also collected from medical records by the researchers for analysis.

The participants were defined as positive (possibility of mental health problem) if Thai GHQ score ≥ 4 and as negative (unlikely for mental health problem) if score < 4 .

Those who had Thai GHQ-30 score ≥ 4 were counseled for psychiatric consultation.

Statistical analysis

Data analysis was executed using the statistical software package system (SPSS for window version 10.0, SPSS, Chicago, IL, USA). The main outcome measurement was the percentage of mental health problem of the participants. The student's t-test, Pearson's χ^2 test, Fisher's exact test or χ^2 test for ten were used to assess the association between the positive and negative groups in terms of socio-demographic-obstetric factors and psychosocial stressors. The significant variables were put into a logistic regression model to disclose any independent prognostic factors of mental health problem. A two-sided p-value of less than 0.05 was declared as statistically significant.

Results

Of the 255 participants, 44 cases had Thai GHQ-30 scores ≥ 4 which were labeled as the positive group or possibility of mental health problem. The 211 cases (82.7%) or negative group were those who had

score < 4 . So the prevalence of mental health problem in the present study was 17.3%.

The details of the socio-demographic and obstetric characteristics are shown in Table 1 and Table 2 respectively. The mean age was 28 years old and all of participants were married. Most of them had graduated from secondary degree, and the family incomes were less than 15,000 baht/month. The majority of participants were laborers or un-employed. More than half were primipara and intended to be pregnant. Most participants were non-smokers (95.3%), non-alcoholic drinkers (81.6%), non-users of illicit drugs (99.2%) and had no history of body assault (99.6%). There were no significant differences in socio-demographic and obstetric characteristics between the positive and negative groups, except those who did not intend to be pregnant seemed to be found more often in the positive group. It is interesting that the positive group were more likely to have severe vomiting during this current pregnancy (15.9 vs. 4%).

Amongst 10 frequent studying psychosocial stressors (Table 3), only six stressors: worrying about health, difficulties with partner, stress of taking care of other family members, stress at working outside, financial problem and no counselor when having a problem were found more often in the positive group with statistical significance (p-value < 0.05).

After putting these six significant variables into a logistic regression model (Table 4), the authors disclosed only these three independent prognostic factors of mental health problem: worrying about health, stress of taking care of other family members and financial problem with adjusted OR 3.5 (95% CI 1.16, 10.74), 3.8 (95% CI 1.80, 7.89) and 3.2 (95% CI 1.34, 7.53) respectively in the positive group.

Discussion

Globalization makes for rapid changes in lifestyles and is one of the precipitating causes of psychosocial stressors besides physiological changes from pregnancy itself. These may lead to mental health problems in some women. So studying the prevalence of mental health problem is believed to be useful and necessary. Discovering the size of the problem will help the obstetricians to realize the importance of mental health screening to be a part of antenatal care service.

The reasons for choosing Thai GHQ-30 (30-items Thai version of General Health Questionnaire) or modification of GHQ as the screening tool for psychiatric morbidity or mental health problem were good

Table 1. Socio-demographic characteristics (n = 255 cases)

Characteristics		Thai GHQ positive (44 cases) number (%)	Thai GHQ negative (211 cases) number (%)	p-value
Age (year)		28.3 ± 6.1	28.1 ± 5.9	0.864
Marital status	Married	42 (95.5)	209 (99.5)	0.079
	Separated	2 (4.5)	2 (0.5)	
Education level	No qualification	0	2 (0.9)	0.292
	Primary	7 (15.9)	48 (22.7)	
	Secondary	20 (45.5)	101 (47.9)	
	Diploma	7 (15.9)	15 (7.1)	
	Bachelor	10 (22.7)	42 (19.9)	
	Higher than master	0	3 (1.4)	
Occupation	Unemployed	14 (31.8)	42 (19.9)	0.440
	Labourer	12 (27.3)	67 (31.8)	
	Merchant	3 (6.8)	21 (10.0)	
	Government	2 (4.5)	22 (10.4)	
	Business	0	2 (0.9)	
	Others	13 (29.5)	57 (27)	
Family income (baht/month)	< 5,000	7 (15.9)	24 (11.4)	0.481
	5,001-10,000	15 (34.1)	53 (25.1)	
	10,001-15,000	7 (15.9)	53 (25.1)	
	15,001-20,000	8 (18.2)	37 (17.5)	
	> 20,001	7 (15.9)	44 (20.9)	
Subjects' salary (baht/month)		5822 ± 6050	6891 ± 5771	0.269

Data were presented as mean ± SD, frequencies (%)

Table 2. Obstetric characteristics (n = 255 cases)

Characteristics		Thai GHQ positive (44 cases) number (%)	Thai GHQ negative (211 cases) number (%)	p-value		
Pregnancy intention	Unintended	14 (31.8)	37 (17.5)	0.050		
	Intended	30 (68.2)	174 (82.5)			
Parity	Primipara	25 (56.8)	139 (65.9)	0.330		
	Multipara	19 (43.2)	72 (34.1)			
Current pregnancy	Gestational age (weeks ± SD)		14.6 ± 3.5	14.3 ± 4.4	0.585	
	Associated symptom	None	33 (75)	182 (86.5)		0.070
		Vag. bleeding	0	2 (1.0)		
		Vag. infection	0	4 (2.0)		
		Severe vomiting	7 (15.9)	10 (4.0)		
		Other	4 (9.1)	13 (6.5)		
History of prior pregnancy	Abortion (n=58)	Spontaneous	9 (90.0)	35 (76.1)	0.670	
		Induced	1 (10.0)	13 (23.9)		
	Mode of delivery	Vagina	14 (73.7)	57 (79.2)		0.760
		Operation	5 (26.3)	15 (20.8)		
Infant	Alive	19 (100)	69 (95.8)	1.000		
	Stillbirth	0	3 (4.2)			

screening tool, simple to do even by a non-psychiatrist and already validated with the Thai population in both a community and clinical setting with a high weighted classification rate, sensitivity, and specificity

of 92, 81.8 and 89.7% respectively⁽⁸⁾. The original GHQ⁽⁹⁾ itself was used as world-wide a self-administered screening instrument to identify minor psychiatric disorders for a long time.

Table 3. Frequent psychosocial stressors (n = 255 cases)

Problems or worrying	Severity	Thai GHQ positive (44 cases) number (%)	Thai GHQ negative (211 cases) number (%)	p-value
Worrying about health	Not bothered at all	4 (9.1)	78 (37.0)	<0.001*
	Bothered a little	30 (68.2)	126 (59.7)	
Their weight or how they look	Bothered a lot	10 (22.7)	7 (3.3)	0.129
	Not bothered at all	11 (25.0)	68 (32.2)	
	Bothered a little	30 (68.2)	140 (66.4)	
Little/no sexual desire, or no pleasure during sex	Bothered a lot	3 (6.8)	3 (1.4)	0.093
	Not bothered at all	16 (36.4)	102 (48.3)	
	Bothered a little	23 (52.3)	96 (45.5)	
Difficulties with spouse, partner/lover or boyfriend	Bothered a lot	5 (11.4)	13 (6.2)	0.009*
	Not bothered at all	35 (79.5)	193 (91.5)	
	Bothered a little	8 (18.2)	18 (8.5)	
Stress of taking care of other family members	Bothered a lot	1 (2.3)	0	<0.001*
	Not bothered at all	16 (36.4)	165 (78.2)	
	Bothered a little	28 (63.6)	44 (20.9)	
Stress at working outside	Bothered a lot	0	2 (0.9)	0.014*
	Not bothered at all	20 (45.5)	141 (66.8)	
	Bothered a little	24 (54.5)	68 (32.2)	
Financial problems or worries	Bothered a lot	0	2 (0.9)	<0.001*
	Not bothered at all	8 (18.2)	116 (55.0)	
	Bothered a little	29 (65.9)	84 (39.8)	
Having no one to turn to when having a problem	Bothered a lot	7 (15.9)	11 (5.2)	0.004*
	Not bothered at all	27 (61.4)	174 (82.5)	
	Bothered a little	14 (31.8)	30 (14.2)	
Something bad that happened recently	Bothered a lot	3 (6.8)	7 (3.3)	0.654
	Not bothered at all	39 (88.6)	184 (87.2)	
	Bothered a little	5 (11.4)	23 (10.9)	
Thinking or dreaming about something terrible that happened in the past	Bothered a lot	0	4 (1.9)	0.083
	Not bothered at all	33 (75.0)	183 (86.7)	
	Bothered a little	8 (18.2)	28 (13.3)	
	Bothered a lot	3 (6.8)	0	

* p < 0.05 was defined as statistically significant

Table 4. Results of logistic regression

Variables	p-value	Adjusted OR	95% CI
Worrying about health	0.026	3.531	1.16-10.74
The stress of taking care of other family members	<0.001	3.773	1.80-7.89
Financial problems or worries	0.009	3.173	1.34-7.53

OR = Odds ratio

95% CI = 95% confidential interval

The aim of the present study was to explore pregnant women at risk of developing mental health problems only on the background of their own existing baseline mental status, but not before having concurrent pregnancy complications or any new, receiving

intervention e.g. diagnostic ultrasonography, chromosomal study; therefore, only women in first half pregnancy were selected.

Amongst 255 enrolled pregnant women it was found that 44 cases (17.3%) had screening test

positive (probability of presence of mental health problem). This 17.3% prevalence is similar to the 12-14% of the other previous studies^(10,11). While the prevalence of the overall general non-pregnant Thai population were higher (28-30%)^(1,2), it may be from the different enrolled population or screening tool.

The authors used part of the Patient Health Questionnaire (PHQ)⁽¹²⁾ to identify the frequent psychosocial stressors during the last four weeks and also identified some possible psychological stressors: usages of tobacco, alcohol, illicit drugs in order to explore the risk factors of mental health problem.

As shown in Table 1 and 2 about the socio-demographic and obstetric characteristics, the authors found no significant difference and no association between the positive and negative groups in terms of age, marital status, education level, occupation, family and maternal income, parity, gestational age, associated symptoms during current pregnancy and history of prior pregnancy. Contrary to the study in Nigeria⁽¹⁰⁾, where the association between mental health problem and primipara, younger age (< 24 years), and previous history of induced abortion were determined. These might be from a different study population.

It is interesting that pregnant women with severe vomiting were found more often in the positive group, or does it mean that those women had a tendency of having psychiatric morbidity. This finding was also supported by the study of Swallow et al⁽¹³⁾. The authors also found more cases of unintended pregnancy in the positive group with almost statistical significance.

Several studies found an association between smoking, illicit drug usage and psychiatric morbidity during pregnancy^(14,15). While the result in the present study revealed no statistically significant difference, this might be due to the fact that most of the presented study-population was non-smokers (95.3%) or non-illicit drug users (99.2%).

Through analysis of frequent psycho-social stressors during the last four weeks (Table 4), finally the authors disclosed 3 independent prognostic factors of mental health problems: worrying about health, stress of taking care of other family members, and financial problems with adjusted OR 3.5 (95% CI 1.16, 10.74), 3.8 (95% CI 1.80, 7.89) and 3.2 (95% CI 1.34, 7.53), respectively. While Spitzer et al⁽³⁾ found an association with every common psychosocial stressor, this might be from different screening tools and population studies whose socio-economic characteristics and lifestyle were different.

The purpose of the present study was only to address some baseline data of the prevalence of mental health problem of pregnant women at Siriraj antenatal clinic in order to emphasize the importance of the problem. Ideally, if the authors want this research to be more complete the authors should also study maternal and neonatal outcomes and definite psychiatric diagnosis. However most of the positive group was sent for psychiatric consultation.

Even though screening of mental health problems by Thai GHQ-30 during antenatal care was already performed, the authors still suggest that all participants should be followed up until the postpartum period to explore the percentage of developing mental health problems. Every positive case should also be evaluated and confirmed by the expertise-psychiatrist for proper management and to validate using Thai GHQ-30 as screening tool.

The authors suggest that the obstetricians should realize the importance of mental health problems and try to screen, identify or even detect mental disorders in antenatal clinic service since the first visit, especially in those who tend to have psychiatric problems, e.g. unintended pregnancy, severe vomiting, worrying about health, having stress about taking care of other family members or about financial problems.

Conclusion

The prevalence of mental health problem screening by Thai GHQ-30 during first-half pregnancy is 17.3%. It is suggested to implement the screening of mental health problem during antenatal care, especially in those who are at risk.

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ความชุกของปัญหาสุขภาพจิตระหว่างครึ่งแรกของการตั้งครรภ์ที่โรงพยาบาลศิริราช

สุรพล วิงวอนธรรม, วิบูลพรรณ วิฑิตะดิลก, ศุภโชค สิงห์กันต์

วัตถุประสงค์: ศึกษาหาความชุกของปัญหาสุขภาพจิตระหว่างครึ่งแรกของการตั้งครรภ์

รูปแบบการศึกษา: การศึกษาเชิงพรรณนาแบบตัดขวาง

วัสดุและวิธีการ: ทำการศึกษาในหญิงครรภ์เดี่ยว อายุครรภ์น้อยกว่าหรือเท่ากับ 20 สัปดาห์ รวมทั้งหมด 255 ราย โดยหลังจากลงนามในใบสมัครใจยินดีเข้าร่วมในโครงการวิจัยแล้ว จะให้ตอบแบบสอบถามซึ่งประกอบด้วยแบบคัดกรองปัญหาสุขภาพจิต ไทยจีเอสคิว-30 และข้อมูลของปัจจัยเสี่ยงที่พบบ่อยที่อาจนำไปสู่การทำให้เกิดความเครียด ประเมินหาความชุกและปัจจัยที่มีความสัมพันธ์กับปัญหาสุขภาพจิต

ตัวชี้วัดที่สำคัญ: ความชุกของปัญหาสุขภาพจิต

ผลการศึกษา: พบความชุกของปัญหาสุขภาพจิต 17.3% และปัจจัยที่มีความสัมพันธ์กับการเกิดปัญหาสุขภาพจิต คือ ความกังวลเกี่ยวกับสุขภาพกาย ความเครียดจากการดูแลสมาชิกคนอื่น ๆ ในครอบครัว และปัญหาด้านการเงิน โดยมี adjusted OR 3.5 (95% CI 1.16, 10.74), 3.8 (95% CI 1.80, 7.89) และ 3.2 (95% CI 1.34, 7.53) ตามลำดับ (p < 0.05)

สรุป: ความชุกของปัญหาสุขภาพจิตระหว่างครึ่งแรกของการตั้งครรภ์เท่ากับ 17.3% ดังนั้นจึงควรมีการตรวจคัดกรองปัญหาสุขภาพจิตในคลินิกฝากครรภ์ โดยเฉพาะในกลุ่มเสี่ยง