

Prevalence of anxiety among women attending a primary care clinic in Malaysia

Abstract

Background

This is the first study investigating anxiety among women attending a primary care clinic in Malaysia.

Aim

The objective was to determine the factors associated with anxiety among these women.

Design

This cross-sectional study was conducted in a government-funded primary care clinic in Malaysia. Consecutive female patients attending the clinic during the data-collection period were invited to participate in the study.

Method

Participants were given self-administered questionnaires, which included the validated Generalised Anxiety Disorder-7 questionnaire (GAD-7) Malay version to detect anxiety.

Results

Of the 1023 patients who were invited, 895 agreed to participate (response rate 87.5%). The prevalence of anxiety in this study was 7.8%, based on the GAD-7 (score ≥ 8). Multiple logistic regression analysis found that certain stressful life events and the emotional aspect of domestic violence were significantly associated with anxiety ($P < 0.05$).

Conclusion

The prevalence of anxiety among women in this study is similar to that found in other countries. Factors found to be associated with anxiety, especially issues on domestic violence, need to be addressed and managed appropriately.

Keywords

anxiety; Malaysia; prevalence; primary care; women.

INTRODUCTION

Anxiety is a common mental health disorder, with increasing prevalence detected in primary care settings.¹ In recent years, anxiety disorders have become considered as the most prevalent of psychiatric disorders, consisting of panic disorders, phobias, and generalised anxiety disorder (GAD). The United States National Comorbidity Survey Replication conducted between February 2001 and April 2003 using the World Health Organization (WHO) World Mental Health Survey Initiative version of the Composite International Diagnostic Interview (CIDI) found that the 12-month prevalence estimate for anxiety was 18.1%. This survey was conducted among 9282 English-speaking participants. Almost half of the anxiety cases were mild (43.5%), followed by moderate (33.7%) and serious (22.8%) severity.²

Anxiety disorders have also been found to be highly prevalent in primary care, with a lifetime prevalence of almost 24% and the current (defined as the preceding month) prevalence 14.6%.³ A cross-cultural study by the WHO among patients attending primary care clinics in 14 developed and developing countries found that anxiety disorders were common in nearly all countries.⁴ All studies found that the prevalence was consistently higher among women compared to men.²⁻⁴ Despite the substantial association of anxiety with depression, somatic symptom burden,

functional impairment, and high use of healthcare services, very few patients with anxiety were recognised in primary care,^{1,5,6} and 41% of patients with anxiety disorders reported no current treatment.⁵

In Malaysia, mental health problems have been consistently higher in women compared to men.⁷⁻⁹ The burden of disease for mental disorders among women was predominantly due to unipolar major depression followed by anxiety disorders.⁷ Based on the 2000 Malaysian National Census, mental disorders are now ranked fourth as the leading cause of burden of disease. Major depression ranked third as the leading cause of disease burden in women and tenth in men. The prevalence of poor mental health status among women was 11.1% in the second Malaysian National Health and Morbidity Survey (NHMS II) (conducted from 1987–1996), and increased to 12.1% in the NHMS III (1997–2006).^{8,9} Based on these findings, early detection and treatment of mental health problems was given priority in the Ninth Malaysia Plan (2006–2010). The primary care setting was identified as the main area for programmes on mental health screening and initial management, where women were identified as one of the high-risk groups in these programmes.¹⁰

Although numerous brief and validated self-report measures for depression exist, there is a paucity of brief, validated, and freely available measures for anxiety.¹ To

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How this fits in

Anxiety has not been investigated or emphasised in Malaysian primary care settings. There are currently no published data on anxiety among women in primary care clinics in Malaysia. This study shows that the prevalence of anxiety among women in a primary care clinic in Malaysia is similar to that in other countries. Factors found to be associated with anxiety, such as stressful life events and domestic violence, need to be addressed and managed appropriately, as these issues, particularly domestic violence, need to be given their due attention in Malaysia.

overcome this, the seven-item Generalised Anxiety Disorder Scale (GAD-7) was recently developed in a large primary care patient sample.^{1,5} This self-report questionnaire evidenced good reliability, as well as criterion, construct, factorial, and procedural validity. The GAD-7 was found to be a good case-finding instrument for detecting GAD, as well for detecting panic disorder, social anxiety disorder, and post-traumatic stress disorder (PTSD).⁵

This paper is part of a larger study that was funded under the Ninth Malaysia Plan (2006–2010). Mental health is currently ranked as one of the top 10 priority research areas in Malaysia.¹⁰ The objectives of the study were to determine the prevalence of depression and anxiety among female patients attending primary care clinics, and to develop brief case-finding instruments in the Malay language for the detection of depression and anxiety. Due to its brevity and simplicity, the GAD-7 was selected to determine anxiety in this study. The instrument needed to be brief, as most primary care clinics in Malaysia are busy and overcrowded with patients, with time constraint being a major problem.

The aim of this paper is to determine the prevalence of anxiety and its associated factors among Malay-speaking female patients attending a primary care clinic in Malaysia.

METHOD

Setting

A cross-sectional study design was used to determine the prevalence of anxiety among women attending a government-funded primary care clinic in an urban district in Malaysia. The criteria for choosing a clinic in an urban location were predetermined, based on the results of the national surveys,

which found that mental health problems are more prevalent in urban compared to rural settings.^{8,9} A clinic was selected via simple random sampling from a list of government primary care clinics headed by a family medicine specialist/family physician. The clinic provided outpatient and maternal and child healthcare services by doctors, medical assistants, and nurses. Currently, there are about 2814 primary care clinics, 134 hospitals and medical institutions, and 233 private hospitals in Malaysia. Most patients with mental health disorders are treated in hospitals, and not at primary care clinics, as psychiatrists and clinical psychologists are based in hospitals. However, based on the Ninth Malaysia Plan, it has been emphasised that mental health services will be provided in primary care clinics in future.¹⁰

Study participants

Consecutive adult female patients fulfilling the selection criteria were approached. The inclusion criteria were all female patients who were Malaysian citizens, and aged 18 years or above. Patients who were acutely ill and needed immediate medical attention, and those with communication problems were excluded from the study. Written consent was obtained from each participant.

Instruments

Study participants completed a self-administered questionnaire, which consisted of questions on sociodemography; medical, obstetric, and gynaecological history; stressful life events; domestic violence; and the GAD-7 (Malay version). The participants did not receive any help in completing the questionnaire. Altogether, 41 items were investigated for association with anxiety: 12 items were on sociodemography, two on medical history, 17 on stressful life events, six on obstetric and gynaecological history, and four on possible domestic violence. Data were collected over 8 weeks, from 10 December 2009 to 30 January 2010.

The GAD-7

The GAD-7 was used in this study to determine the presence or absence of anxiety. General anxiety as measured with the GAD-7 is made-up of anxiety related to unspecified general anxiety, panic disorder, social anxiety, and PTSD. These items refer to symptoms experienced during the 2 weeks prior to answering the questionnaire. Each item had four answers: 'not at all', 'several days', 'more than half the

days', and 'nearly every day'. Each of the seven items was scored from 0 (not at all) to 3 (nearly every day). Scores of the GAD-7 ranged from 0 to 21. The Malay version of the GAD-7 used in this study was translated from the original English version by Spitzer *et al.*¹ The GAD-7 (Malay version) was validated for use as a self-administered questionnaire. It was found to be a valid instrument for detecting anxiety when verified against the CIDI for concurrent validity in this study. Convergent validity of the GAD-7 was also established by comparing its scores to those of the General Health Questionnaire (GHQ)-12.

A cut-off point of ≥ 8 on the GAD-7 was used to classify participants as having anxiety disorders.⁵ After obtaining permission from the copyright holder, the GAD-7 was translated following the guidelines for cross-cultural adaptation of self-report measures.¹¹ The process included two independent forward translations of the original GAD-7 into Malay, consensus between translators on the forward translation, back translation by bilingual English teachers, and a review of the back translation by an expert committee (content validity). The questionnaire was pretested in a location that was not included in this study.

Kendler *et al* (2000) stressful life events

Questions on stressful life events were selected from a list of stressful life events found by Kendler *et al* (2000) to be associated with anxiety and depression among women.¹² These questions included history of being assaulted, serious illness, childhood abuse, being seriously injured, losing a parent before the age of 10 years, losing someone close or dear, serious marital problems, serious family problems, serious financial problems, serious housing problems, serious difficulties at work, recent job loss, legal problems, and also relationship with husband, children, family, and work.

HARK

Questions on domestic violence were based on the HARK questionnaire. The acronym HARK denotes four short questions that represent different components of domestic violence, which are humiliation (H), afraid (A), raped (R), and kicked (K). The questions inquired about any history of emotional, physical, or sexual abuse from the participants' current/ex-partners, as well as whether the participants were afraid of their current/ex-partners. The participants were required to answer either a 'yes' or 'no' to

each question. The HARK questionnaire was adapted from the Abuse Assessment Screen (AAS) for use in a general practice setting.¹³

Sociodemography, medical history, and obstetric and gynaecological history

The items from the above sections were developed by the authors from previous research conducted by the principal author in Malaysia.

Data analysis

Data were entered into the statistical package (SPSS version 16.0), carefully verified, and checked again. Data from participants with known psychiatric illness and those who were on psychoactive drugs were excluded from data analysis. Exclusion of these participants was done during data analysis, as it was not possible to exclude them during the data-collection process. As part of the study was on the validation of the GAD-7 questionnaire for detection of new cases of anxiety, it was necessary to exclude known cases of psychiatric illness. This was to ensure that the final data (which were analysed) did not include participants who were attending the clinic for predetermined reasons that could affect the results of the study.

Associations between the predictor (independent) variables and anxiety (outcome measure) were analysed using multiple logistic regression and χ^2 tests. The χ^2 test was used to analyse each independent variable with anxiety, and factors found to be associated with anxiety ($P < 0.05$) based on the χ^2 were analysed using backward logistic regression. Backward regression was used, as this study was exploratory in nature and the outcome measure (anxiety) was categorical, while the independent variables were either continuous or categorical. The independent variables were controlled for their significant association with anxiety in the backward regression model, where the main predictor variables for anxiety were selected based on $P < 0.05$ and 95% confidence intervals (CIs) in the final step of the regression model.

RESULTS

One-thousand-and-twenty-three ($n = 1023$) consecutive female patients fulfilling the selection criteria were approached to take part in the study. From these, 895 agreed to participate, giving a response rate of 87.5%. Fifty questionnaires were excluded from data analysis: 30 questionnaires due to incomplete data, 19 due to known

psychiatric illness and the patient being on psychoactive drugs, and one questionnaire due to taking illegal unprescribed drugs. This left 845 questionnaires for data analysis. Using a cut-off point of ≥ 8 on the GAD-7, 7.8% (66/845) of the participants were classified as having anxiety disorders.

The age of the participants ranged from 18 to 81 years. The mean age was 30.9 ± 10.4 years. Most of the participants had attended school (98.5%), while only a minority had never been to school (1.5%). Among those who had attended school, 48.4% of participants had completed secondary education (up to 11 years of schooling), while 44.5% had tertiary education, which meant that the participants had either a college certificate or a university degree.

Factors associated with anxiety

All variables found to be significantly associated with anxiety (from the χ^2 test of independence) were controlled, and only significant variables (based on $P < 0.05$ and 95% CI values) were selected, based on the backward logistic regression analysis. Based on this analysis, seven items were found to be the main predicting factors for anxiety. These factors, arranged from the highest to the lowest risk, were the patient being afraid of her partner (odds ratio [OR] 4.6, 95% CI = 1.6 to 12.9), a history of being humiliated by her partner (OR 4.2, 95% CI = 1.4 to 12.1), recent job loss (OR 3.5, 95% CI = 1.2 to 10.0), family problems (OR 3.0, 95% CI = 1.2 to 7.6), being unhappy with work (OR 2.9, 95% CI = 1.4 to 6.5), housing problems (OR 2.7, 95% CI = 1.1 to 6.5), and losing someone close and dear (OR 2.0, 95% CI = 1.0 to 3.9) ($P < 0.05$) (Table 1).

DISCUSSION

Summary of main findings

The prevalence of anxiety among women in

this study is similar that found in other countries. Factors found to be associated with anxiety were issues on domestic violence and certain stressful life events.

Strengths and limitations

A main strength of this study is that it is the first study to investigate the prevalence of anxiety and its associated factors among women attending a primary care clinic in Malaysia, with a brief, reliable and valid case-finding instrument in the Malay language. As the GAD-7 was validated in Malay, this will greatly enhance its use in primary care clinics and community settings throughout Malaysia.

A weakness of this study is that it was conducted only among women in one government-funded primary care clinic in an urban community setting, where the participants were mostly of lower- to middle-income socioeconomic status. This was necessary due to the time constraint and resources of the study. The results therefore do not represent the population of Malaysian women as a whole, as the higher-income group was not included in this study. However, the results of this study would reflect the population of women attending government-funded primary care clinics in urban settings in Malaysia, where most of the population are from lower- to middle-income socioeconomic groups. Another limitation of this study is that it was conducted as a cross-sectional study. This study design is the best type of study for validation of diagnostic instruments. However, it is noted that this design does not allow assessment of causality or temporal aspects.

Comparison with existing literature

The prevalence for anxiety among women in this study was 7.8%, while a cross-cultural study on psychological problems in primary care found that the prevalence of anxiety for women in 14 countries was 9.2%. The diagnosis of anxiety in this WHO study was based on the International Classification of Disease (ICD)-10 criteria from the diagnostic interview using the CIDI primary care version, and used a different prevalence time frame (mean 1-month prevalence rate).¹⁴ As the prevalence measure in the present study was a point prevalence, it was naturally lower than the 1-month prevalence measured in the WHO study.

Although anxiety is common, it has only recently been investigated in primary care. International studies have found the prevalence of anxiety to be high in primary

Table 1. Factors significantly associated with anxiety based on logistic regression analysis

Risk factors	B	Wald	P value	OR	95% CI
Afraid of partner ^a	1.52	8.07	0.01 ^b	4.55	1.56 to 12.94
Humiliated by partner ^a	1.43	6.91	0.01 ^b	4.16	1.44 to 12.06
Recent job loss	1.24	5.23	0.02 ^b	3.46	1.19 to 10.01
Family problems	1.09	5.27	0.02 ^b	2.98	1.17 to 7.57
Unhappy with work	1.07	7.51	0.01 ^b	2.93	1.36 to 6.32
Housing problems	0.99	4.85	0.03 ^b	2.69	1.12 to 6.49
Losing someone close and dear	0.70	4.26	0.04 ^b	2.02	1.04 to 3.92
Constant	-3.45	271.74	0.00 ^c	0.03	

^aAnalysis was on participants who were married in this study ($n = 525$); there were participants (not married) who declined to answer questions on domestic violence, as they claimed the questions did not apply to them.

^b $P < 0.05$, ^c $P < 0.01$. OR = odds ratio. Backward logistic regression method was used for analysis.

care settings.^{6,15} A recent cohort study in UK (2002–2004) found that the prevalence of anxiety in primary care was 7.2% among 40 873 patients, where anxiety was significantly associated with depression, alcohol abuse, smoking, and addiction problems. The prevalence of anxiety was twice as high in women compared to men.⁶ A study on the detection and treatment of functional illness in primary care in Denmark found an even higher prevalence of anxiety disorders in women, at 17.8%. The diagnosis was based on the ICD-10 criteria from the Schedules for Clinical Assessment in Neuropsychiatry (SCAN) interviews.¹⁶ The variability in the prevalence of anxiety in the above studies could be due to the methodological differences in each study where different diagnostic instruments were used, as well as effects of different duration definitions and prevalence time-frames.

In this study, the two main predicting outcomes for anxiety were the women being afraid, and being humiliated by their partners/ex-partners. These findings are supported by a study in India by Chandra *et al* (2009), where PTSD, which is a form of anxiety, was more common in psychological abuse compared to physical abuse.¹⁷ This study was conducted among 105 consecutive women, aged between 18 and 49 years, attending an adult psychiatry outpatient unit in South India, where clinical interviews were conducted by trained psychiatrists who diagnosed the patients according to the ICD-10 criteria. Physical abuse involved kicking, beating, and grabbing, whereas psychological abuse included belittling, insulting, humiliation, infidelity, and neglect.¹⁷

According to the Diagnostic and Statistical Manual (DSM)-IV-TR criteria, the essential feature of PTSD is the development of characteristic symptoms, following exposure to an extreme traumatic stressor. This involves actual or threatened death or serious injury, or other threats to one's physical integrity.¹⁸ As domestic violence refers to physical, sexual, or psychological harm by a current or former partner or spouse, several studies have been conducted on the relationship between domestic violence and PTSD.^{19–21} These studies have found that psychological or emotional abuse is the strongest predictor of PTSD. Women experiencing domestic violence have reported that the physical violence is the least damaging suffered. It is the relentless psychological abuse that cripples and isolates them.²²

Other factors found to be associated with anxiety in this study were losing someone close or dear, serious family problems, serious housing problems, recent job loss, and being unhappy in work. 'Losing someone close or dear' meant losing someone whom the participant confided in and depended on, through death or permanent separation (this included their spouses, children, parents, siblings, relatives, and close friends), while 'serious family problems' meant that (a) the participants had serious trouble getting along with an individual in the family, and/or (b) there was a serious personal crisis affecting someone in the family (the term 'family' means parents, siblings, and relatives). 'Serious housing problems' meant that (a) the houses in which the participants were living were in need of major repairs, and/or (b) the conditions of the houses were so bad that they interfered with the participants' lives and daily activities, and 'recent job loss' meant being either laid off from a job or fired. These findings are supported by a longitudinal study on genetic and environmental risk factors for common psychiatric disorders among women in Virginia, US by Kendler *et al*, where losing someone close, job loss, and serious problems in the family network were significantly associated with increased risk of onset of GAD and depression in the month of occurrence, while serious housing problems were significantly associated with GAD.²³

A study to investigate the frequency, specificity, and types of stressful life events occurring in patients with GAD and panic disorder in a psychiatric clinic and daycare centre in Romania found that conflicts in relationships (whether interpersonal, familial, professional, or social) were significantly associated with both GAD and panic disorder among their participants. However, patients suffering from GAD had higher prevalence of conflicts compared to patients with panic disorder.²⁴ The study by Romosan *et al* also found that any loss (whether of someone dear or a job) was associated with panic disorder.²⁴

Implications for clinical and research

The Malay version of the GAD-7 is a suitable case-finding instrument for anxiety for use in primary care. As the prevalence of anxiety detected in this study was 7.8%, it would be worthwhile to use the GAD-7 to detect anxiety among women in other primary care settings in Malaysia, even though anxiety has not been an area of concern in Malaysian primary care so far. Factors

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Ethics committee

Ethics approval was obtained from the Malaysian Ministry of Health, the Clinical Research Centre of Malaysia, the Ethics Committee of the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, and the family medicine specialist in charge of the clinic.

Provenance

Freely submitted; externally peer reviewed.

Competing interests

The authors have declared no competing interests.

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associated with anxiety among women, especially issues on domestic violence, should be explored in depth, and measures taken to address these problems appropriately. It is hoped that appropriate

diagnosis and treatment of mental health problems such as anxiety among women will improve the mental health status and wellbeing not only of women, but also of their families and the society they live.

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