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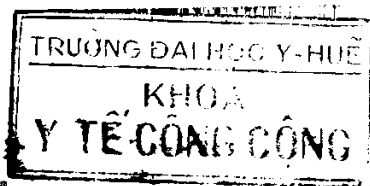
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HEALTH SYSTEM AND PANDEMIC INFLUENZA PREPAREDNESS IN ASIA: RESULTS FROM RAPID ANALYSES IN 6 ASIAN TERRITORIES

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CONTENTS

RESEARCH ARTICLE

Depressive symptoms among post-menopausal women in Central Vietnam

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Background: The links between menopausal symptoms and risk of depression in women has been examined in many countries. There is some inter-cultural variation. This study is one of the first to assess well-being of menopausal women in Vietnam, and factors that may cause their mental health problems.

Methods: This cross sectional study was conducted in 2013 in Hue City in central Vietnam. A total sample of 470 post-menopausal women aged between 50 and 60 were interviewed. The Menopause Rating Scale (MRS) and the Center for Epidemiologic Studies Depression Scale (CESD) were used for measuring menopausal symptoms and depression. Multiple logistic regression was used for data analysis.

Results: Mean age of natural menopause was 50.6±3.3 years old (range: 28-57), 11.9% had severe menopausal symptoms (MRS≥16); 19.2% were classified as being 'at risk for clinical depression' (CESD≥16), 5.7% were classified as having depressive symptoms (CESD>21) and 3.6% were categorized as having depression (CESD>25). Women with severe menopausal symptoms had 20 times the risk for symptoms of possible clinical depression (95%CI: 10.02 to 39.84; p<0.001). Acquiring at least one chronic disease during lifetime increased risk (OR=2.35, 95% CI: 1.26 to 4.37; p= 0.007), low income (OR = 2.59, 95%CI: 1.07 to 6.27; p = 0.035) while being married (OR = 0.32, 95%CI: 0.15 → 0.68; p = 0.009) were protective.

Conclusion: Menopausal symptoms were common, and one in every ninewomen had severe symptoms. There was a very strong link with depression. Research and clinical

experience internationally shows that these problems can be managed if there is high awareness and supportive, well-trained primary health care workers. Much needs to be done in Vietnam to provide effective services for older women during and after menopause.

INTRODUCTION

Depressive symptoms are the leading cause of health-related disability worldwide [8]. At least 350 million people live with depression, and women were twice at risk of enduring depression than men [8]. Additionally, the mean life expectancy for women has increased from 50 to 81.7 years. Therefore, they have to live at least a third of their life in a state of menopause. And postmenopausal women are one of the objects at higher risk for developing depressive symptoms [1, 4, 16, 22]. Estimates of prevalence of depression were vary from country to country, for instance 31.2% [21] to 38.7% in Taiwan [23], 23.9% in Beijing, China [6], 24.7% in Turkey [14], 23% in the United States [16] and 38.6%in Poland[4]. In Vietnam, the rate of depressive symptoms for menopausal women was 37.9% [9]. These differences may be explained by some inter-cultural variation. Moreover, in Vietnam, most of those researches often study populations of participants in clinical settings; this could lead to overestimate the problem. Therefore, we aimed to elucidate the associations between depression and menopausal symptoms in a sample of the general population as well as determine other risk factors that could affect depression in post-menopausal women.

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METHODOLOGY

Study design

The study was designed as a cross-sectional investigation, in which 470 post-menopausal women aged between 50 and 60 were randomly sampled by the cluster sampling scheme. Firstly, four quarters were randomly selected from 27 quarters of Hue City. From each of these quarters, five sub groups were randomly chosen. In total, there were 20 sub groups involved in the survey. Finally, about 23–25 women in each sub group were systematically selected from the household booklet.

Exclusion criteria were those who did not being at home, unwilling to participate in the study, not in the postmenopausal period at the time of the study and those who had a definitive diagnosis of mental illness from doctors. Post-menopausal woman was defined, according to the World Health Organization, as dating from the final menopausal period, regardless of whether the menopause was induced or spontaneous. Data collection was conducted by general doctors who were well experienced and well trained in community health survey. Structured face-to-face interview was administered to each sampled respondent at their households

Setting

This study was conducted between April and October 2013 in Hue city, the capital of Thua Thien Hue province. The city is located in central Vietnam on the banks of the Perfume River, and lies 20 km inland from the Pacific Ocean. Hue city is approximately 540 km south of the national capital of Vietnam. The city has a total population of approximately 350,000 inhabitants and is divided into 27 administrative units called quarters.

Measurements

This research used the following scales, such as Center for Epidemiologic Studies Depression Scale (CES-D), menopause rating scale (MRS) and Multidimensional Scale of Perceived Social Support (MSPSS).

The CES-D assessed the severity of depressive symptoms during the past week. CES-D score of 16 or higher [13] suggest "at risk for clinical depression", more than 21 "depressive symptoms" and greater than 25 "depression" [7, 19, 20].

The 11-item Menopause Rating Scale (MRS) was used to measure the frequency and severity of menopausal symptoms (divided into somatic, psychological and urogenital domain). A cut-off point of 16 was used to classify as severe and non severe menopausal symptoms [2].

MSPSS was used to measure perceived support from family, friends, and a significant other, or global perceived support. Good social support was defined as those with a score greater than the mean score, other as bad social support.

Study outcome

The primary outcome of this study was at risk of clinical depression (CESD>=16).

Statistical analysis

Baseline characteristics of the participants were described using frequency and percentage for categorical data; mean and standard deviation (SD) for continuous data.

To investigate factors that affect depressive disorder, odds ratios (ORs) and their 95% confidence intervals (95%CIs) were estimated using multiple logistic regression. This analysis was adjusted for income, marital status, chronic diseases, attitude toward menopause, cause of menopause and the severity of menopausal symptoms. The initial model included all variables that were bio-sociologically important and those with a p-value of bivariate analysis were 0.25 or less. Variable selections were based on backward elimination. Finally, we obtained fully adjusted ORs and 95%CIs. Best model was assessed by examining thegoodness of fit.

All analyses were performed using Stata version 10.0 (StataCorp, College Station, TX). All test statistics were two-sided and a p-value of less than 0.05 was considered statistical significant. This project was approved by the ethical committee of Hue Universityof Medicine and Pharmacy of Vietnam.

RESULTS

Demographic Characteristics

Mean age of participants was 55.0 ± 3.0 years old (ranged: 50-60) and a mean age of menopause of 50.5 ± 3.4 (ranged: 28-57). Of the 470 menopausal woman, almost all of them 84.1%, were married, 94.7% with more than one child, high income (92.5%), not lived alone (98.1%), more than one chronic disease (65.3%), did least exercise (48.3%), half was employed (47.2%) and only 7.9% with no literature (Table 1). Their mean score of menopause rating scale (MRS) was 8.17±5.79 and 11.9% endured severe menopausal symptoms. They mainly had duration of menopause from 1 to 5 years (50.4%), natural menopause (94.5%) and negative attitude toward menopause (75.1%).

Among them, 68.5% experienced non stressful events in the last 12 years and 35.7% had non stressful events at any time in life and half of them received good social support (50.2%).

Table 1.Demographic characteristics presented as percentage unless specified otherwise

Characteristics	Total(n=470)	Percentage
Age (years)		
Mean (SD)	55 ± 3	
Range (Min:Max)	50 - 60	
Age of menopause (years)		
Mean (SD)	50.6± 3.3	
Range (Min:Max)	28 - 57	
Education attainment		
No literature	37	7.9
Primary school	150	31.9
Secondary school	103	21.9
High school and above	180	38.3
Marital status		
Single	25	5.3
Married	395	84.1
Divorced/ Widowed/ Seperated	50	10.6
Number of children		
0	25	5.3
1-2	202	43
>=3	243	51.7
Working status		
Unemployed/ Housewife/ Retired	248	52.8
Employed	222	47.2
Living alone		
Yes	9	1.9
No	461	98.1
Low income		
Yes	35	7.5
No	435	92.5
Do exercise (days/week)		
6-7	131	27.9
4-5	47	10.0
2-3	65	13.8
<=1	227	48.3
Number of chronic diseases		
0	163	34.7
>=1	307	65.3
Duration of menopause		
<= 1 years	86	18.3
>1-5 years	237	50.4
>5 years	147	31.3
Menopause type		
Natural	444	94.5
Induced	26	5.5
Attitude toward menopause		
Positive	117	24.9
Negative	353	75.1
Menopausal symptoms		
Non severe (MRS<16)	414	88.1
Severe(MRS>=16)	56	11.9
MRS score (Mean (SD) (Range: Min: Max))		
Psychological subscale	2.34(2.53) (0-13)	
Somatic subscale	3.75(2.45) (0-16)	
Urogenital subscale	2.06(1.96) (0-9)	
Total	8.17(5.79) (0-32)	
Stress events in the last 12 months		
0	322	68.5
>=1	148	31.5
Stress events at any time in life		
0	168	35.7
>=1	302	64.3
Social support		
Good	236	50.2
Bad	234	49.8

Mean of CESD score and rate of depressive symptoms:

Mean score of CESD was 12.09 (SD: 6.79) (Range: 0-58). Rate per 100 per personwere19.2 (95%CI: 15.6 to 22.7) for at risk of clinical depression (CESD≥16) (Table 2). In other words, it was expected that one fifthof post-menopausal woman experienced depressive symptoms.

Table 2. Mean score of CESD, rates of depressive disorder and their 95%CIs

The severity of depressive disorder	Number	Percentage (n=470)	95%CI
CESD≥16	90	19.2	15.6 to 22.7
CESD>21	27	5.8	3.6 to 7.9
CESD>25	17	3.6	1.9 to 5.3
	Mean (SD)	**Range (Min:Max)**	
CESD score	12.09 (6.79)	0 - 58	

Factors associated with depressive disorders

The strongest factor that associated to depressive disorder was having severe menopausal symptoms. Woman who experienced severe menopausal symptoms were 20 times the risk of depressive symptoms compared to who did not (adjusted odds ratio (aOR) = 19.98; 95%CI 10.02 to 39.84; p < 0.001) (Table 3). The other strongest factors were having more than one chronic disease (aOR = 2.35; 95%CI: 1.26 to 4.37; p = 0.007) and low income (aOR = 2.59; 95%CI: 1.07 to 6.27; p = 0.035). Being married was found protective from developing depressive disorder (aOR = 0.32; 95%CI: 0.15 to 0.68; p = 0.009). Other variables such as attitude toward menopause (p=0.04) and type of menopause (p=0.017) were found to be significant to having depressive symptoms but only in the unadjusted models.

Table 3. Odds ratios of having depressive disorder and their 95%CIs for each factor adjusted for all other factors presented in the table using logistic regression

Factors	Number	Depressive symptoms,%	Crude OR	Adjusted OR	95%CI	P-value
Marital status						0.009
Divorced/ Widowed	16	32	1	1		
Single	9	36	1.20	0.72	0.21 to 2.48	
Married	65	16.46	0.42	0.32	0.15 to 0.68	
Income						0.035
Low	80	18.39	1.77	2.59	1.07 to 6.27	
High	10	28.57	1	1		
The severity of menopause						<0.001
Non severe	50	12.08	1	1		
Severe	40	71.43	18.20	19.98	10.02 to 39.84	
Chronic disease						0.007
0	20	12.27	1	1		
>=1	70	22.80	2.11	2.35	1.26 to 4.37	

DISCUSSIONS

This study investigated the magnitude of depressive disorders among post-menopausal woman in central Vietnam and determined factors that affected it. The findings illustrated that post-menopausal woman were at risk of depressive symptoms. Factors that are highly significantly associated with the depressive symptoms included having severe menopausal symptoms, experienced at least one chronic disease during lifetime, not being married and insufficient income.

In our investigation, the prevalence of depressive symptoms in post-menopausal women was 19.2% (CESD>=16). This finding was in line with a Women's Health Initiative Observational Study conducted in America with 18.1% (95% CI: 17.7-18.5)women aged from 50-60 years suffered from depressive disorder [15]. However, compared with other studies, our finding was lower, i.e. in Taiwan (38.7%) [23]; 37.9% in Ho Chi Minh, Vietnam [9]. Explaining for the variation in these figures could be due to clinical settings and study population of these studies. Compared with those with population-based study from developed countries, our result also appeared to be lower, i.e. 23% in the United States [16] and 38.6% in Poland [4]. This suggested that these differences may be explained by some of variation of context of each country.

Our finding did support the menopausal symptoms hypothesis, since this variable remained to be the most important factor associated with depressive symptoms, even after adjusting for various other potential factors. Using the same scale MRS, Perez-Lopez et al. also found that depressed mood was associated with the severity of menopausal symptoms (especially somatic and psychological domain) [12]. Li, Yu et al. also found that depression was associated with menopausal symptoms such as hot flashes (OR=1.327; 95%CI: 1.113 to 1.583), vaginal dryness and dyspareunia (OR=1.437; 95%CI: 1.237 to 1.669) [6]. The US SWAN study showed that woman with any vasomotor symptoms had 1.62 times of having depressive disorder (95%CI: 1.43 to 1.84; p<0.001) [17]. Another cross sectional study from South Taiwan found that climacteric physiological symptoms were associated with depression (OR=1.16; 95%CI:1.05 to 1.28; p<0.01) [21]. Other studies also found a link between menopausal and depressive symptoms [3, 5, 23]. Thus, improving menopausal symptoms as well as providing an appropriate health education must be required.

Acquiring at least one chronic disease was one of the important factors that found to be associated to depressive symptoms. Similar results came from numerous previous studies[10, 18, 23]. Therefore, proper preventing and treating women with multiple chronic diseases is one of the solution should be take place in order to reduce the risk of having depression.

In line with other research, this study also revealed that insufficient income was another predict factor for developing depressive symptoms. Li et al. found that lower income was a risk factor for depressive symptoms among Chinese women (OR=2.208; 95%CI: 1.540 to 3.165) [6]. Similar finding came from the US SWAN study with somewhat hard (OR=1.67; 95%CI: 1.38 to 2.01) and very hard (OR=2.13; 95%CI: 1.59 to 2.86) compared to not hard paying for basics (p<0.0001) [16]. Wang, Booth-Laforce et al. also gave an agreement with this issue [23]. This suggested that poor economic situation could lead to an adverse impact on mental health in these women. Thus, we suggest aproper economic assistance forpost-menopausal women with lowincome, to ensure that their basic needs are met.

On the other hand, the prevalence of depression was significantly lower in those who married. This finding was in agreement with related literature. Li et al. found that not being married made woman at risk of depressive disorders (OR=1.986; 95%CI: 1.099 to 3.591) [6]. Another study from Greek also revealed an increase risk of depressive symptoms in unmarried women group compared with those married (OR=1.75; 95%CI: 1.10 to 2.78; p=0.02) [11]. The same results came from a study in Turkey (OR=1.653; 95%CI: 1.110 to 2.462; p=0.013) [14] or US (OR=1.54; 95%CI: 1.12 to 2.13; p=0.008). From this finding, we supported the hypothesis that having a partner helped the women to cope with their risk of developing depression.

We acknowledge that there were several limitations to this study. Firstly, cross-sectional study limits firm causal inferences. Secondly, the use of CESD instrument which can lead to overestimate the number of post-menopausal women with depressive symptoms compared with psychiatric diagnosis. However, this study also had several strengths. For instance, it was based on a sample of women from the general population instead of clinic settings. Its study population was also restricted to woman aged between 50 and 60 lead to minimize the influence of aging and thus reduced the impact of poor physical health on depressive symptoms.

In summary, our findings emphasized the importance of relationship between severe menopausal symptoms and experienced depressive symptoms. Preventive actions as well as policy should focus on consultancy and treating woman with severe menopausal symptoms, and chronic disease in order to minimize the depressive symptoms as well as improve their quality of life.

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