Published in final edited form as:
Aging Ment Health. 2012 ; 16(6): 780–786. doi:10.1080/13607863.2012.667780.

The Influence of Social Factors and Health on Depressive Symptoms and Worry: A Study of Older Vietnamese Adults:

Aging and Mental Health

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Abstract

Objectives—Vietnam has a growing older population, many of whom experienced war and social upheavals in their lives. Prior research has described the health of the older population, but little work has explored mental health. The current study examines the frequency and correlates of two mental health indicators: depressive symptoms and worry.

Method—A representative sample of 600 adults 55 and older stratified by gender (50% women), age (mean = 70.33), and rural/urban (50% rural) was recruited in Da Nang, Vietnam and surrounding rural districts. Participants were interviewed in their homes by trained interviewers. Dependent variables were a Vietnamese version of the CES-D and a culturally specific worry scale.

Results—Forty-seven percent of the sample had scores above the cut-off for clinical depression and scores on the worry scale were high. Using multiple linear regressions we found that women, the less educated and individuals with more material hardship had higher depressive symptoms whereas rural residents, women, married, and young-old individuals were more worried. Pain, ADL assistance and emotional support were significant predictors of both depressive symptoms and worry, though the direction of the association for emotional support differed. Illnesses were only a predictor of depressive symptoms.

Conclusion—The high reports of depressive symptoms and worry suggests the need for incorporating mental health screening as part of health programs for older adults in Vietnam.

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Attention to factors associated with depressive symptoms and worry, such as economic hardship, health problems and lack of emotional support, may contribute to alleviation of symptoms.

Keywords

depression; worry; older adults; Vietnam

Many developing countries are experiencing a rapid growth in their older populations. As economic development leads to improved living conditions, these countries are also witnessing the same changes that previously affected more developed countries: increasing life expectancy, decreasing birth rates and the subsequent growth in the proportion of older people in their population. One such country is Vietnam. Based on 2011 estimates, the life expectancy at birth for Vietnam is 72.18 and 5.5 percent of the population is 65 years of age or older (CIA- The World Factbook). By 2017, the older adults are expected to make up ten percent of the population and enter an increased “aging phase” (UNFPA, 2011).

Today’s older adults in Vietnam experienced a lifetime filled with unprecedented upheaval of traditional cultural and social norms and practices. There was intermittent warfare for a period of about 35 years from the Japanese invasion to the fall of South Vietnam in 1975. In the last two decades economic reforms have led to rapid improvement in economic conditions. As in other Asian countries such as Japan and South Korea, economic development has also affected traditional family structure and relationships. Many women are now working outside the home and lower fertility rates may be leading to a reduced capacity to provide for aging parents. The Vietnamese government is now recognizing the necessity to expand health and social services to address the needs of their growing elderly population.

Little attention however, has been given to mental health symptoms in the older population. Among the available studies, some have reported low rates of diagnosable depression among the elderly. Steel, Silove, and Giao (2009) reported a low prevalence for depression and dysthymia in the Mekong Delta of Vietnam using the Composite International Diagnostic Interview (CIDI; 0.4%) and the Phan Vietnamese Psychiatric Scale (PVPS; 1.2%). A third scale, however, the GDS-15, suggested higher rates of clinically significant depression (17.2% using a cut-point of 5/6; and 4.7% with a cut-point of 9/10). Mui and Kang (2006) found slightly higher rates of clinical depression among Vietnamese immigrants to the United States. Using the GDS, they found 60 percent of their sample to be mildly depressed (a score of 11 to 20) and 4 percent to have moderate to severe depression (a score of 21 to 30). A similar study on older, Vietnamese refugees to the United States by Birman and Tran (2008) found that the older adults had an average score below the clinical cut-point on the Hopkins Symptom Checklist (HSCL-25) (m = 1.46). While diagnosis is important, attention to the full range of depressive symptoms is warranted since even subclinical levels may affect mortality and physical health symptoms in older adults (Heikkinen & Kauppinen, 2004; Zarit, Femia, Gatz, & Johansson, 1999).

Anxiety and worry are another important aspect of mental health that has not been examined in older Vietnamese. Though depression is often associated with anxiety and worry, mood and anxiety disorders are recognized as distinctly separate conditions (DSM-IV, 2000).

Worry in particular may play an important role in Vietnamese culture. Vietnamese adults tend to display culturally specific expressions of worry (e.g. worries about ghosts or thunderstorms), the effects of which have yet to be examined among older adults in Vietnam. Though worry has not been examined in Vietnam, Western studies have found that anxious individuals have a significantly impaired quality of life (de Beurs, et al., 1999; Mendlowicz & Stein, 2000).

In addition to determining the prevalence of mental health symptoms in Vietnamese older adults, prior studies in various countries have examined risk and protective factors of people who are more susceptible to depressive symptoms. Demographic factors such as female gender, low education and low income, for example, have been associated with greater prevalence of symptoms of depression (Akhtar-Danesh & Landeen, 2007; Cole & Dendukuri, 2003; Koster, 2006; Lorant et al., 2003). Associations of depressive symptoms with age are frequently noted to be curvilinear with rates dropping in the 60s and 70s and then rising again after 85 (Haynie, Berg, Johansson, Gatz, & Zarit, 2001). Previous research has also pointed to the relationship between physical and mental health. Depressive symptoms have been found to be associated with physician rated disability, difficulty managing daily tasks (such as housework and dealing with money), and more difficulty on Personal Activities of Daily Living (ADL) tasks (Kuch, Cox, Evans, Watson, & Bubela, 1993; Berkman et al., 1997; Haynie et al., 2001; Wada et al., 2005; Zarit et al., 1999). Chronic pain is also related to an increased risk of depression (DeVeaugh-Geiss et al., 2010). Protective factors such as social support may lessen the impact of illness and disability on depressive symptoms. Studies of anxiety and worry suggest similar associations with health indicators and psychological resources (Cairney et al., 2008; Schnittker, 2005; Vink, Aartsen, & Schoevers, 2008).

The present study will examine associations of depressive symptoms and worry with health and social characteristics in a representative sample of Vietnamese 55 years and older in the city of Da Nang and its surrounding rural environs. Drawing on previous literature, we test a multidimensional model to determine how the following factors are associated with depression and worry in older Vietnamese: social demographics characteristics (age, gender, rural/urban, material hardship, education, and marital status), functional health (performance of activities of daily living [ADLs], illnesses, and pain), and emotional support from children and friends. Because depression is more prone to fluctuate while worry is a more stable trait (Wetherell, Gatz, & Pederson, 2001), we expect differential effects of these factors on depression and worry. Based on prior research, it is predicted that both depression and worry will be associated with functional health and emotional support variables. Social demographic characteristics, however, are expected to differentially be associated with depression and worry. It is anticipated that depression and worry will be associated with female gender, material hardship, and lower education, but not age. It is predicted that depression will be associated with greater material hardship and lower education; whereas worry will be associated with area and marital status.

Method

Participants

Across-sectional study was used to gather information about social-demographic factors, functional health, emotional support, and mental health of a population-based sample of 600 individuals aged 55 and older living in the city of Da Nang, Vietnam and its surrounding rural areas. A stratified sample was recruited from population records to produce approximately equal numbers of men and women and urban and rural residents within each of 7 age categories (55–59, 60–64, 65–69, 70–74, 75–79, 80–84, and 85 and over). The resulting sample is 50 percent women, 50 percent rural, and has a mean age of 70 (*sd* = 9.09). Three participants declined participation with difficulty scheduling the interview being cited as the main reason for refusal. Full information on sample characteristics may be found in Table 1.

Procedures

Home interviews were conducted by teams of students and faculty from the National Technical Medical College Number 2 in Da Nang, Vietnam. Participants were given a small incentive valued at three dollars for completing the interview.

Measures

Vietnamese language versions of measures were used where available. Translations were made, where necessary, from English language measures. Back translations for the CES-D were then performed and checked by two bilingual members of the research team. Other scales and measures (ie., worry, illness, and pain, personal and instrumental ADLs) were translated and checked by two bilingual members of the research team. The questionnaire was also pre-piloted among 15 older participants to ensure that the questions were unambiguous, appropriate and acceptable to respondents.

Outcome Measures—Depressive symptoms were measured with the Center for Epidemiologic Studies- Depression Scale (CES-D; Radloff, 1977). Past research has shown the CES-D to be reliable and valid for use in older populations and to have an acceptable fit in confirmatory analysis for use with Vietnamese Americans (Hertzog, Van Alstine, Usala, Hultsch, & Dixon, 1990; Tran, Ngo, & Conway, 2003). Only 19 of the 20 items were administered as one item (‘I talked less than usual’) was inadvertently omitted from the final interview schedule. Scores have been prorated for comparison purposes to reflect a full score on the CES-D. The alpha for the scale was .85.

Discussions with Vietnamese members of the research team indicated that other typical Western scales were not consistent with how worry is typically expressed in Vietnam. Rather, people were described as worrying about dangers and threats. Thus, worry was measured by 12 items reflecting cultural taboos, superstitions, and concerns of older adults in Vietnam. Eleven of the items were taken from the Revised Fear Survey Schedule for Children (FSSC-R; Ollendick, 1983). Specifically, participants were asked “How worried or afraid are you of … (1) snakes; (2) thunderstorms; (3) being hit by a car or motorbike; (4) going to the doctor; (5) nightmares; (6) being alone; (7) getting a serious illness; (8)

something bad might happen to one of your children; (9) the dark; (10) ghosts; (11) rats or mice; and (12) not being able to breathe. The item ('something bad might happen to one of your children') was composed by the research team. Wording and content were judged by the research team to be appropriate for an older adult sample. Item responses are on a three point scale with zero indicating not at all worried or afraid and two indicating very worried or afraid. The items were combined into a scale with a higher score indicating greater worry (α = .82).

Covariates

Social demographic characteristics: Age, gender, rural/urban status, and economic condition are examined as demographic covariates. Material hardship is defined as a lack of access to resources for daily life and is measured by 8 items including access to water and food, and whether the individuals owned consumer items such as a television or bicycle. A higher score indicates greater material hardship (α = .74).

Health: Three measures assessed the health of the older adults: ADLs, illness, and pain. Personal and instrumental ADLs were measured by a seven item scale adopted from Lawton and Brody (1969). Older adults reported the amount of difficulty it took for them to manage each ADL (ranging from 3 for can't do without help, 2- does this on own with great difficulty, 1- does this on own with little difficulty, and 0- does on own with no difficulty). The alpha coefficient for the scale was .92. Illness is measured by a sum of the number of illnesses participants reported on a checklist of 24 problems (e.g., heart disease, diabetes, eye disease, and ulcer). Given the early life experience of this cohort of older people, we also asked about war injury and included it in this summed score. Three items assess the pain an individual experienced in the last month. Two of the items were drawn from the SF-36 (Ware, Kosinski, & Gandek, 2000) and one was composed by the research team. Items concern the amount of pain, frequency of pain, and whether pain interfered with the individual's work. Items were z-scored so they would be on a comparable scale and then summed. A higher score indicates more pain (α = .72).

Emotional Support: The emotional support measure assesses the support individuals received from their children and close friends. Eight items (four regarding the individual's children and four regarding the individual's friends) make up the scale. Sample items question how often the individual's children/friends make them feel loved and cared for, are willing to listen, are demanding (reverse coded) and are critical of them (reverse coded) and were presented on a likert scale (from 0- never to 3- very often). Only 2.5% of participants reported not having any living children. The small number precluded analyzing this group separately. Their scores on the support from children scale was assigned as zero since they were not receiving any support in that area. The alpha coefficient for this scale is .69.

Plan of Analysis—First, descriptive statistics were run on the CES-D and Worry scales. The established cut-off score of 16 in Western countries on the CES-D is used in determining prevalence of clinically-significant depression in the sample (Beekman, Deeg, Van Limbeek, Braam, De Vries, Van Tilburg, 1997), however as some prefer a higher cut-off of 22 this prevalence is also reported (Haringsma, Engels, Beekman, & Spinhoven,

2004). No comparable cut-off was available for the Worry scale. Next multiple regressions were run to examine factors associated with worry and depressive symptoms. Social-demographic variables (gender, rural/urban, age, material hardship) were entered into the regression in an initial step and functional health (ADLs, illness, functional measures, and pain) and emotional support (from children and friends)entered into the model in the second step. A curvilinear association of age with depressive symptoms and worry was also tested by adding a squared age term in the regression models.

Results

The correlation between depressive symptoms and worry was moderate and significant (r = 0.34, $p < .01$) showing that while the two are related, they are also partially independent of one another. Frequency of both depressive and worry symptoms were found to be highly prevalent in the Vietnamese sample. The mean score on the CES-D is 18.56 (SD = 10.6; range 3–51). Forty-seven percent of the sample had scores above the established cut-off for clinical depression (16) used in Western countries and 33 percent of the sample scored 22 or higher. Similarly, Vietnamese elders expressed a great amount of worry. Out of a highest possible score of 24, the average score was 9.89 (SD = 5.28). Participants' scores ranged from 0 to 24. Though there are no clinical points of comparison for this scale, participants had a mean item score of 0.82 reflecting that they were somewhat worried or afraid about most items.

Next multiple linear regressions were run to examine social-demographic characteristics, functional health, and emotional support predictors for depression and worry. Results for the linear regression analyses can be found in Table 2. Both models were significant at the $p < .001$ level [Depression: $R^2 = .51$, $F(10, 570) = 57.77$; Worry: $R^2 = .32$, $F(10, 572) = 25.88$].

Demographic characteristics contributed in different ways to depression and worry in the final models. Gender ($\beta = .10$, $p < .01$), material hardship ($\beta = .28$, $p < .001$) and education ($\beta = -.16$, $p < .001$) were significant predictors of depression. Women, the less educated and individuals with more material hardship had higher depressive symptoms. Area ($\beta = .17$, $p < .001$), gender ($\beta = .38$, $p < .001$), marriage ($\beta = .09$, $p < .05$) and age ($\beta = -.14$, $p < .001$) were significant predictors of worry. Rural residents, women, married, and young-old individuals being more worried.

Pain, ADL assistance and emotional support from children and friends were significant predictors of both depressive symptoms ($\beta = .12$, $p < .01$; $\beta = -.23$, $p < .001$; $\beta = -.17$, $p < .001$) and worry ($\beta = .15$, $p < .001$; $\beta = -.10$, $p < .05$; $\beta = .10$, $p < .01$), respectively. More pain and need for more ADL assistance were associated with higher levels of both types of symptoms. Emotional support had a different relationship for depressive symptoms and worry, with more support being a predictor of worry and less support being a predictor of depressive symptoms. Having more diseases was significantly associated with depressive symptoms ($\beta = .15$, $p < .001$) but not worry.

An additional univariate analysis was run to test for a curvilinear association of depressive symptoms and worry with age. A spike in depressive symptoms was seen after age 85, but a significant curvilinear association was not found for depressive symptoms or worry.

Discussion

We examine frequency and correlates of mental health symptoms in this unique sample of older adults in Vietnam. Depressive symptoms were found to be highly prevalent in older, Vietnamese adults, with the average score on the CES-D above the clinical cut-off used in Western samples. In comparison with other Asian countries, the prevalence of clinical depression noted on the CES-D (participants who scored 16 or greater) of 47 percent is quite high. For example, Lee and Shinkai (2005) found that 19.8 percent of Japanese elders scored in the clinical range and 15.2 percent of Korean older adults scored in the clinical range on the GDS-15. While reports of symptoms are high, diagnosis of Major Depressive Disorder has been found to be low in previous studies of Vietnamese adults (0.3 percent among Mekong Delta Vietnamese and 1.8 percent among Australian Vietnamese; Steel, Silove, & Giao, 2009). Similarly high scores were endorsed on the worry scale with participants, on average, being somewhat worried or afraid about most items. The high rates of depressive and worry symptoms may in part reflect the recent historical experiences of these cohorts of older people, who lived through long periods of war and social upheaval. High levels of symptoms may also reflect a tendency specific to Vietnamese culture to openly express complaints and feelings. Participants also endorsed the four positive items on the CES-D much less strongly than in Western samples. As the current study only examined prevalence of mental health symptoms, further studies are needed to determine whether the high levels of symptoms represent a cultural tendency to report symptoms, or whether these high levels of symptoms in fact represent significant depressive pathology.

The findings also suggest that while there is overlap between depressive symptoms and worry, different social factors may influence their expression. Health variables such as pain, the number of diseases, and less ADL assistance were predictive of depressive symptoms as was less emotional support from friends and children. Material hardship, which assesses economic deprivation, was also predictive of depressive symptoms. These findings are generally consistent with other studies that have examined correlates of depression in older Asian immigrants (Kuo, Chong, & Joseph, 2008). Similarly individuals who worried more also had more pain and needed more ADL assistance. In contrast to depression, however, people who worried more were likely to be married and had more support from children and friends. This finding is in contrast to the apparently beneficial effects of emotional support on mental health (Seeman, 2000; Strine, Chapman, Balluz, & Mokdad, 2008). The reasons are not clear, but previous studies have suggested the complexity of the interrelationships between types of social support, aspects of mental health, and stable personality traits (Bolger & Eckenrode, 1991; Kahn, Hessling, & Russell, 2003). Some investigators have suggested that individuals high in the personality trait of neuroticism attract different amounts of support from their support network (Fyrand, Wichstrom, Moum, Glennas, & Kvien, 1997). Anxiety and worry characterize highly neurotic people (Costa & McCrae, 1980); their more frequent worries may elicit support from their social networks, particularly in a country where worrying is accepted and expected. However, one limitation of this study

is its cross-sectional design, and thus directional associations of emotional support increasing worry risk may not be drawn.

The differences in predictors of depressive symptoms and worry are consistent with an emerging perspective that differentiates these problems (Brown, Antony, & Barlow, 1992; Nitschke, Heller, Imig, McDonald, & Miller, 2001). Depressive symptoms are viewed as fluctuating with an individual's circumstances. Worry, however, is increasingly viewed as a more stable, trait-like characteristic (Wetherell, Gatz, & Pedersen, 2001). The findings in this study support that perspective. Depressive symptoms were more strongly associated with transient characteristics, such as the amount of material hardship and number of diseases with which an individual is coping, while worry was associated with characteristics that are largely stable over time (marital status, rural/urban location).

There are several limitations in this research. First, the study is cross-sectional so causal inferences cannot be drawn. Additionally the measures, though chosen by a cross-national research team, were originally developed for use in Western countries. We do not have norms for the Worry measure as it was developed for this study to assess a unique characteristic of Vietnamese culture. More research needs to be done to assess its validity and to develop culturally sensitive and clinical cut-off scores. More clarification of the meaning of both the depressive and worry scores will be useful in guiding health authorities in Vietnam in developing and planning new services. Given historical and social events that this cohort of older adults experienced during their lifetime, it is likely that at least some individuals experienced hardship and trauma. Nearly one quarter (23.5%) of the sample reported having a war injury, which was included as part of the measure of health conditions. We did not, however, assess past hardship or trauma in other ways. An additional limitation is that self-report measures were used and a cognitive measure was not included in the current analyses. Due to a high correlation with education and a large amount of missing data, we decided to omit the Mini-Mental State Examination (MMSE) scale from the analysis. We did, however, rerun the analyses on individuals above and below 23 on the MMSE and no differences were found. Finally, alcohol consumption was not examined as a correlate.

In conclusion, Vietnam has a rapidly growing older population with high rates of depressive symptoms and worry. Considering the strikingly high prevalence of symptoms on both scales, it would be warranted to incorporate screening for mental health symptoms during health assessments of older Vietnamese. As found in Western countries, even low levels of these symptoms may complicate treatment of physical illness and result in poorer health outcomes (Lenze et al., 2001; Penninx et al., 1998). Health officials developing new health and support services for older adults need to be aware that mental health symptoms are prevalent and may complicate treatment and pose challenges for the help provided by families. A focus on both mental and physical health can lead to more optimal outcomes for these individuals.

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Table 1

Sample Characteristics

Gender (% female)	50.0
Age (*M*, *SD*)	70.33, 9.09
Rural (%)	50.0
Marital Status (%)	
Married	70.5
Widowed	25.0
Divorced/separated	2.0
Single	2.5
Educational achievement (%)	
None	15.3
Primary School	43.5
Lower Secondary School	15.6
Upper Secondary or Vocational	17.6
College or Higher	8.1
Material Hardship (*M*, *SD*)	3.45, 2.24
Number of Diseases (*M*, *SD*)	3.71, 2.47
ADL Assistance (*M*, *SD*)	4.37, 5.41
Pain* (*M*, *SD*)	0.49, 2.23
Emotional Support from Children and Friends (*M*, *SD*)	18.33, 4.20

* the summed pain variable is *z*-scored

Table 2

Regression of Demographic Characteristics, Levels of Functioning and Support on Depression and Worry

	Depression						Worry					
	Step 1			Step 2			Step 1			Step 2		
Predictor	***B***	***SE B***	***β***	***B***	***SE B***	***β***	***B***	***SE B***	***β***	***B***	***SE B***	***β***
Area[a]	−0.77	0.94	−0.04	−0.13	0.84	−0.01	1.95	0.50	0.18***	1.78	0.49	0.17***
Gender[b]	3.24	0.83	0.15***	2.15	0.75	0.10**	4.48	0.45	0.42***	4.02	0.44	0.38***
Age	0.08	0.04	0.07	−0.04	0.04	−0.03	−0.06	0.02	−0.10*	−0.08	0.02	−0.14***
Material Hardship	1.98	0.22	0.41***	1.32	0.21	0.28***	0.26	0.12	0.11*	0.19	0.12	0.08
Education	−1.45	0.40	−0.16***	−1.50	0.36	−0.16***	−0.26	0.22	−0.06	−0.26	0.21	−0.06
Marital Status[c]	−1.57	0.92	−0.07	−1.09	0.82	−0.05	1.16	0.49	0.10*	1.07	0.48	0.09*
# of Diseases				0.64	0.15	0.15***				−0.01	0.09	−0.01
ADL Assistance				0.47	0.07	0.23***				0.11	0.04	0.10*
Pain				0.50	0.15	0.12***				0.34	0.09	0.15***
Em. Support[d]				−0.44	0.08	−0.17***				0.13	0.05	0.10**
F		55.04***			57.77***			35.26***			25.88***	
R^2		0.37***			0.51***			0.27***			0.32***	
ΔR^2					0.14***						0.04***	

*$p < .05$.

**$p < .01$.

***$p < .001$.

[a] *rural* = 1; *urban* = 0.

[b] *women* = 1; *men* = 0.

[c] *married* = 1; *others* = 0.

[d] emotional support from children and friends