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Research Article

Anxiety and depression in elderly people living in an urban community in Kathmandu

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ABSTRACT

Background & Objectives: Ageing is associated with several risk factors such as loss of income, loss of spouse, chronic comorbidities, cognitive impairment, bereavement, living alone, decreased physical functionality, and fear of death. Consequently, mental health issues such as anxiety disorders and depression are very common. This study aimed to find the prevalence of anxiety and depression among elderly people living in a community of urban Kathmandu.

Materials and Methods: Levels of anxiety and depression were assessed by interviewing elderly people living in the community of Gokarneswor-7, Kathmandu by using validated Nepali translations of Beck Anxiety Inventory and Geriatric Depression Scale respectively.

Results: One hundred and eight elderly people (52 males, 48%), of mean age 68 years, all living in family, gave complete responses. Both anxiety and depression had prevalence rates of 52% and 2% for severe forms. Comorbidity was found in 36% of the elderly and another 36% had none of the disorders. Anxiety was more common in females and those with comorbid chronic diseases; other socio-demographic factors such as age, occupation, education level, ethnicity, religion, or type of family had no significant association ($p>0.05$). Depression showed significant association with none of these factors.

Conclusion: Anxiety and depression are common among elderly people living in community in urban Kathmandu. More than one third have both disorders.

Keywords: Anxiety, comorbidity, depression, elderly

INTRODUCTION

People worldwide are living longer. Today most people can expect to live into their sixties and beyond. Longer life expectancy can be attributable to education and technological advancements as well as improvements in medical, food distribution, and public health [1]. Number and proportion of older persons in total population is growing in every country in the world [2].

The population of people aged 60 years and over is estimated to increase from 1 billion in 2020 to 1.4 billion in 2030 (1 in 6 people in the world will be aged 60 years or over) and double by 2050 (2.1 billion). This shift in distribution of a country's population towards older ages is known as population ageing which started in high-income countries (for example in Japan 30% of the population is already over 60 years old). It is now low- and middle-income countries that are experiencing the greatest change in demographic structure. By 2050, two-thirds of the world's population over 60 years will live in low- and middle-income countries [2].

Individuals 60 years and older are considered older people ("senior citizen") in Nepal [3]. In the last couple of decades, the life expectancy of the Nepalese is increasing rapidly and the elderly population growth rate is higher than the total population growth rate [4]. The population of Nepal aged 60+ will be 2.883 million which is 9.2% of total population of the country in the year 2024 [5].

The accumulation of a wide variety of molecular and cellular damage over time in the process of ageing leads to a gradual decrease in physical and mental capacity, a growing risk of disease and ultimately death. Beyond biological changes, ageing is often associated with other life transitions such as retirement, change in residence and the death of friends and partners [2]. The old age is also challenged by changes in the roles such as becoming grandparents, significant life events such as bereavement, reduction of social network, feeling of rejection, dependence, despair and hopelessness, concerns about deterioration of mind and body, and fear of death [6].

The health concern of the elderly mostly includes chronic and degenerative diseases. It includes a wider range of mental and physical health issues like psychological concerns (anger, frustration, guilt, lack of confidence), psychiatric disorders (anxiety, depression), chronic conditions (dementia, delirium and Alzheimer's), and physical health issues (cardiovascular diseases, osteoporosis, diabetes, shingles, etc [7]. Older aged population are likely to experience various adverse events such as bereavement, decreased income, reduced sense of purpose with retirement and all these factors can contribute to mental health issues. Similarly, social isolation, loneliness and abuse of any kind (physical, verbal, psychological, sexual, or financial) are key risk factors for the mental health in later life [2].

Among different mental health issues, anxiety and depression are common in old age worldwide. The prevalence of these symptoms vary with age, gender, country, culture and living in family or aged care home, among many factors [8-10]. This study aimed to find the prevalence of anxiety and depression symptoms in the Nepalese elderly people in a select community in Kathmandu and explore associated factors.

MATERIALS AND METHODS

A descriptive cross-sectional study was conducted to assess the prevalence and levels of anxiety and depression among elderly people living in an urban community of Kathmandu. The study was conducted in the ward no. 7 of Gokarneswor municipality, Kathmandu from September to November, 2023. Elderly people aged 60 years and above ("senior citizens"), of either sex, living in community (family) and capable of providing responses appropriately were included in the study. Those who were terminally ill, having sensory impairment (such as hearing loss) and unable to speak/communicate, already diagnosed with or under treatment for any mental illness were excluded from the study. No sampling technique and sample size calculation was done; a total of 108 elderly people were assessed based on accessibility.

Data collection included socio-demographic and anxiety-depression related information. Data collection was done by interview method. Socio-demographic information was collected by using structured questionnaire. Anxiety and depression among respondents were assessed using Nepali versions of standard tools.

The validated Nepali translation version of Beck Anxiety Inventory (BAI) [11], used for assessment of anxiety, consists of 21 multiple-choice, self-reported questions. Each component is to be reported in a scale of 0-3, varying from '0' = 'not at all' to '3' = 'severely, it bothers me a lot' (possible total score range = 0-63). Depression was assessed by Geriatric Depression Scale (GDS), which consisted of 15 parameters answered as 'yes/present' or 'no/absent'. The Nepali version adopted in this study is reported to be reliable with Cronbach's alpha value of 0.79 (sensitivity 86.3% and specificity 74.5%) [12]. Pretesting was done in 11 elderly individuals (excluded from study population) in ward number 4 of Gokarneswor municipality.

Data collection was done by interviewing each participant. The participation in the study was voluntary; confidentiality of data or information collected was ensured and assured. Informed written consent was obtained from all participants.

The collected data were managed using SPSS 16.0 statistical program. Socio-demographic characteristics were presented in descriptive statistics and association between variables were assessed using suitable inferential statistical tools. Relation between different numerical variables were tested using Pearson product-moment correlation coefficient. P value less than 0.05 was considered significant.

RESULTS

A total of 108 elderly people (senior citizens), 52 males and 56 females, were interviewed. Average age was 68 years (SD = 6.6, range = 60-99 years, median = 67 years). Table 1 shows the general and socio-demographic characteristics of the respondents. All respondents were living with their families, which were mostly joint or extended (60%). One female was unmarried, one male was divorced, and 17 (15.7%) were widowed. Nearly half of the respondents were uneducated. In their active age, most of the respondents were engaged in agriculture or household works, while about a fourth were in service and business occupation. While the median number of children was 3, five respondents had no children (including one unmarried) and the maximum number of children was 7.

Table 1: Frequency distribution of socio-demographic characteristics

Category	Subgroup/type	No.	%
Sex	Male	52	48.1
	Female	56	51.9
Marital status	Married	89	82.4
	Unmarried/divorced	2	1.8
	Widow/ widower	17	15.7
Type of family	Nuclear	43	39.8
	Joint	60	55.6
	Extended	5	4.6
Education	Uneducated	52	48.1
	Able to read and write	5	4.6
	Primary level	40	37.0
	Secondary or higher level	11	10.2
Ethnicity	Brahmin and Chhetri	52	48.1
	Janajati	48	44.4
	Others (dalit, madhesi and others)	8	7.4
Religion	Hindu	76	70.4
	Buddhist	26	24.1
	Others (Christian, Islam)	6	5.6
Occupation	Household	32	29.6
	Agriculture	31	28.7
	Service	17	15.7
	Business	9	8.3
	Others (labor, carpenter, chef, priest,)	19	17.6
Other chronic illnesses	None	26	24.1
	Yes (any one)	2	1.9
	Multiple	80	74.1
Taking medicine	No	80	74.1
	Yes	28	25.9

Majority (about three-fourths) of the respondents had some chronic physical illness, almost all with more than one system disease. Yet, most (74%) were not taking any medication for their chronic illnesses.

Table 2 shows the prevalence of symptoms of anxiety and depression among the respondents. It was observed that the number of respondents with normal or no disorder was identical for anxiety and depression. Nearly half of the total respondents had low (normal) levels of depression or anxiety. Regarding depression, one third of the respondents had mild levels of depression while more proportion had mild anxiety. Severe disorder was also present in identical proportions (2%) of the respondents.

In analysis of comorbidity, it was observed that 36% of the respondents had no anxiety or depression (normal or low levels) and same proportion had both anxiety and depression of some degree. Thirty respondents had only anxiety or depression (Table 3).

Correlating the socres of depression (GDS) and anxiety (BAI), a highly significant degree of correlation (Pearson's correlation coefficient = 0.293, p = 0.002) was obtained. Both GDS and BAI scores did not have significant degree of correlation with age of respondents ($p>0.05$). Presence of depression did not show significant association with gender, type of family, educational level, ethnicity, religion, occupation and comorbidity with other chronic illnesses. Anxiety also showed statistically insignificant association with most of these variables. However, anxiety prevalence was significantly higher in females and in those with other chronic illnesses (Table 4).

Table 2: Depression and anxiety levels in respondents

	Average score (SD)	Range (low-high)	Median
Depression (GDS)	5.87 (2.6)	11 (1 - 12)	6
Anxiety (BAI)	10.51 (5.8)	32 (2 - 34)	10
Severity	**Categories**	**Number**	**Percentage**
Depression	Normal (no depression)	52	48.1
	Mild	36	33.3
	Moderate	18	16.7
	Severe	2	1.9
Anxiety	Normal (no anxiety)	52	48.1
	Mild	46	42.6
	Moderate	8	7.4
	Severe	2	1.9

Table 3: Comorbidity of anxiety and depression among respondents (n=108)

Disorder	Number	Percentage
None	39	36.1
Anxiety or depression	30	27.8
Both anxiety and depression	39	36.1

Table 4: Association of different variables with depression and anxiety among respondents

Variable	Depression		Anxiety	
	Chi square	P value	Chi square	P value
Gender	2.265	0.519	7.941	0.047*
Type of family	6.311	0.389	10.531	0.104
Educational status	4.182	0.899	6.987	0.639
Ethnicity	5.153	0.524	2.311	0.889
Religion	2.156	0.905	3.034	0.805
Occupation	14.919	0.246	15.452	0.218
Other chronic diseases	9.332	0.156	13.071	0.042*

DISCUSSION

The aged population is increasing worldwide. Mental health issues are a big concern in elderly because of several factors relating to physical, social and psychological challenges. The levels of depression and anxiety were assessed in 108 elderly people in an urban community of Kathmandu by using the validated Nepali versions of GDS and BAI scales respectively. The study showed a prevalence of about 52% of depression as well as anxiety. The majority of them had mild forms of disorders and moderate to severe types of depression were present in 18.6% and anxiety in 8.9% of the elderly respondents interviewed in the study.

The prevalence of depressive symptom cases vary from 25.5% to 60.6% in the community in various reports from Nepal. Similarly, prevalence of anxiety symptom cases ranged from 21.7% to 32.3% [9]. Our findings of prevalence rates are on the higher side for

both disorders. Globally, the expected prevalence of depression among old age was 31.74% and higher in developing countries (40.78%) [10]. There are markedly higher and lower prevalence rates of geriatric depression reported in various populations in India such as 6.2% by Sarkar et al (2015), 44.4% by Antony et al (2023), and 60% by Goyal and Kajal (2014) [13-15].

Regarding anxiety disorders, Canuto et al (2017) reported 17.2% prevalence in a multicenter study conducted in six European countries [8]. Another study in Irish population reported 29% prevalence of anxiety only [16]. In a sample Nepalese population, Sharma et al observed 35.5% prevalence of anxiety (severe anxiety in 8.2%) [17].

A very high prevalence of anxiety (68%) has been reported in a sample population in Western Nepal by Poudel and Ojha [18]. The differences in prevalence rates can be attributed to various factors such as differences in tools for screening or criteria for diagnosis but differences in characteristics of study population are very important. Our finding of severe depression in about 2% of the respondents is similar to that reported by Poudel and Ojha for depression(18) but other studies have reported higher prevalence rates of 19% [19] and 14.1% [20]. For anxiety also, severe form was present in 2% in this study while a higher prevalence rate (10.7%) has been reported in a study in another population of Kathmandu [21].

The risk factors for mental disorders in old adults are not only socio-demographic but also economic, psychological, and physical. Important risk factors for depression in the geriatric population are low socioeconomic status, loss of spouse, living alone, chronic comorbidities, cognitive impairment, bereavement and restricted activities of daily living [22]. The risk factors are often clustered into biological, psychological and social categories. In this study, we did not observe significant relation of depression with any of the sociodemographic characteristics such as gender, family type, ethnicity, religion, educational status, or occupation and also with comorbidity of other chronic disease. However, anxiety prevalence was significantly higher in female elderly and those with comorbidity of other chronic diseases (Table 4).

The risk factors for anxiety and depression show many similarities with considerable overlap although biological factors may be more important in predicting depression [23]. Consequently, comorbidities of anxiety disorders and depression are frequent. Lenze et al (2000) have reported 27.5% depressed elderly patients also meeting criteria for generalized anxiety disorders [24]. Similarly, another study observed comorbid major depression in 11.6% of older adults having anxiety disorder [25].

In this study, while primary disorder was not established, comorbidity of anxiety and depression was observed in 36.1% of the total number of respondents but isolated anxiety or depression was present in only 27.8% of respondents. The high rate of comorbidity is also supported by the significant correlation between depression and anxiety scores observed in this study ($p=0.002$). Most studies reported in Nepal are limited to only one type of disorder or have not presented figures of comorbidity.

CONCLUSION

Mental health issues are highly prevalent in Nepalese elderly population. In the studied population, nearly two-thirds of the respondents had some form of mental health issue and more than one third had both anxiety and depression (comorbidity). Female gender and presence of other chronic diseases are significant risk factors for anxiety disorder.

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