

Anxiety and depression among senior citizens of Pokhara Metropolitan, Kaski, Nepal: A cross-sectional study

Sunita Gurung^{1*}, Bindu Thapa¹, Muna Silwal¹

¹College of Nursing Sciences, Gandaki Medical College and Teaching Hospital and Research Center, Pokhara, Nepal

ABSTRACT

Introduction: A decrease in physical and cognitive functioning, and poor social relationship makes older people more vulnerable to anxiety and depression. The objective of this study was to assess anxiety and depression among senior citizens of Pokhara metropolitan city, Kaski, Nepal. **Methods:** A cross-sectional comparative research design was adopted to assess anxiety and depression among senior citizens residing in an old age home and at their own home. An old age home in Pokhara was randomly selected and samples were selected using census method from that center. Then, an equal number of participants were selected from a randomly selected ward of Pokhara i.e. ward no 17 who were living in their own homes using a convenience sampling technique. Structured standard tools like Anxiety Scale-10 (ADS-10) and Geriatric Depression Scale- short version (GDS-15) were used for data collection and the data were collected using the interview technique. Descriptive statistics (mean, frequency, percentage, and standard deviation) and inferential statistics (chi-square test and independent t-test) were used. **Results:** Among 80 respondents, 30.00% had severe anxiety symptoms, 16.25% had moderate anxiety symptoms, 62.50% of respondents had suggestive depression symptoms and 10.00% had no depression. Anxiety level was significantly associated with their status of living ($p=0.045$) and having co-morbidity ($p=0.027$). Depression level was significantly associated with work status ($p=0.036$) and having co-morbidity ($p=0.013$). **Conclusions:** Nearly half of the respondents had anxiety symptoms whereas one-third had depression symptoms. Senior citizens living in old age homes reported more symptoms of anxiety and depression than those who were living in their own homes. It is necessary to address the psychological aspects of the elderly and manage them holistically.

Keywords: Anxiety, depression, senior citizens.

*Correspondence:

Ms. Sunita Gurung
College of Nursing Sciences
Gandaki Medical College and Teaching Hospital
and Research Center, Pokhara, Nepal
E-mail: grgsunita079@gmail.com
ORCID iD: <https://orcid.org/0009-0004-7032-7700>

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INTRODUCTION

Senior Citizen Act, 2063 in Nepal defines senior citizens as individuals who have reached the age of 60 years or above. The world's aging population is increasing rapidly.¹ The world's elderly population is estimated to almost double from about 12% to 22% from 2015 to 2020. Advancements in medical technology have increased life expectancy in both developed and developing countries.²

With an increasing life expectancy of the population, the elderly are at risk of developing illness, dependency, social isolation, loneliness, or psychological distress like anxiety and depression.³ Decrease in physical and cognitive functioning, and poor social relationship makes older people more vulnerable to psychological problems.⁴

Many factors are associated with anxiety and depression in the elderly such as pain, weakness, drug use, lack of social relationships, lack of emotional support, death of a spouse, functional disability, loneliness, financial problems, mental and physical illness, dependency, loss of friends and relatives, financial dependency and fear of death.⁵

A study conducted among 1069 elderly people living in a large municipality in Norway revealed that 83.7% of the participants showed no symptoms of anxiety/depression, 12% had mild symptoms, 2.7% had moderate symptoms, and 1.5% showed severe symptoms of anxiety/depression.⁶ A study conducted among 230 participants in Delhi revealed that 68.2% of the participants screened positive for depression. Gender, age category, place of residence, and diabetes were significantly associated with depression.⁷ Study conducted among 245 senior citizens residing in Tansen Municipality, Palpa revealed that 30.6% and 2% of the participants had symptoms suggestive and indicative of depression respectively whereas, 8.2% had severe symptoms of anxiety.⁸

Early diagnosis and treatment of anxiety and depression should be done in senior citizens to reduce morbidity and mortality. If left untreated, it may result in the onset of physical, cognitive, functional, and social impairments.⁹ Very few published studies were found on the selective topic in Nepal. Therefore, this study aimed to assess anxiety and depression among senior citizens residing in Pokhara Metropolitan, Kaski, Nepal.

METHODS

A cross-sectional comparative research design was adopted to assess anxiety and depression among senior citizens. Two strata were made based on the type of residence i.e. old age home and their own home. There are six old age homes located in Pokhara metropolitan city. Pokhara old age home located in Sitapaila, Pokhara-17, was selected by lottery method. Senior citizens of age 60 years and above who could communicate in the Nepali language and had not been diagnosed with mental health problems, residing in old age homes for at least six months, and those willing to participate in the study were included. The census method was used to cover the whole elderly population. Then equal numbers i.e. 40 participants living in their own homes were selected from a randomly selected ward of Pokhara i.e. ward number 17. They were selected using a non-probability convenience sampling technique. Data was collected from November 17 to December 29, 2023. Ethical clearance was obtained from the Institutional Review Committee of Gandaki Medical College (Ref. No. 02/080/081). Before beginning the interview, the purpose of the study was explained. Then verbal and written informed consent was taken from research participants. Privacy was maintained while conducting the interview. Confidentiality of the information was established by not disclosing information to others and only used for study purposes.

The standard tools Geriatric Anxiety Scale 10 (GAS-10) and Geriatric Depression Scale (GDS) were used to collect data about anxiety and depression respectively. Both tools were used to assess mental health problems among the elderly in the Nepalese context and are open to use. The tools (GAS-10 and GDS-15) had been tested with internal consistencies of 0.93¹⁰ and 0.920¹¹ respectively. GAS-10 consisted of a 4-point Likert Scale with ten anxiety symptoms including 'not at all', 'sometimes', 'most of the time', and 'all the time' as possible responses, whereas GDS included 15 items measuring depression in dichotomous responses. According to GDS, the total score (15) was categorized as; 0 to 5=no depression, 6 to 9=suggestive of depression, and 10 to 15=indicative of depression. Similarly, the anxiety level was assessed by classifying the calculated total score into categories like minimal anxiety=1 to 6, mild anxiety=7 to 9, moderate anxiety=10, and severe anxiety=12 to 30. In both tools (GAS-10 and GDS-15), greater scores indicate a more severe problem. The tools were translated into Nepali language and back-translated to the English language to maintain consistency. The obtained data was edited and coded. Data was entered into the computer using the software Statistical Package for Social Sciences (SPSS) version 16.0. Descriptive statistics (mean, frequency, percentage, and standard deviation) were used to describe the socio-demographic characteristics. Inferential statistics (chi-square and independent t-test) was used to find out the association of anxiety and depression with selected variables.

RESULTS

Table 1 reveals that 38.8% of respondents' age was 70 to 79 years with an average age of 74.8 years. Nearly two-thirds (62.5%) of respondents were female. More than half (58.8%) of the respondents were married and 72.5% were illiterate. Most of them (80.0%) were dependent on others for survival. Similarly, nearly two-thirds (62.5%) of respondents could move independently and 70.0% received social security allowance. Similarly, most of the respondents (88.8%) had co-morbidity, and two-thirds (66.2%) were under regular medicine. More than one-third (38.8%) had substance use habits in the past.

Table 1: Socio-demographic characteristics of respondents (N=80)

Characteristics	Number(n)	Percentage(%)
Age (in completed years)		
60-69	25	31.2%
70-79	31	38.8%
≥ 80 Mean age ± SD=74.8 (±8.24)	24	30.0%
Sex		
Male	30	37.5%
Female	50	62.5%
Marital status		
Married	47	58.8%

Unmarried	11	13.8%
Widowed	22	27.5%
Educational status		
Illiterate	58	72.5%
Literate (informal)	22	27.5%
Work status		
Retired	16	20.0%
Dependent	64	80.0%
Physical dependence status		
Move independently	50	62.5%
Move with support	28	35.0%
Bed ridden	2	2.5%
Receiving social security allowance		
No	24	30.0%
Yes	56	70.0%
Having co-morbidity		
No	9	11.2%
Yes	71	88.8%
Under regular medicine		
No	27	33.8%
Yes	53	66.2%
Substance use habit		
Never	25	31.2%
Current	24	30.0%
Past	31	38.8%

Table 2 indicates that 30% of respondents were having severe anxiety symptoms, whereas 16.25% had moderate anxiety symptoms. Nearly two-thirds (62.50%) of them had suggestive of depression symptoms whereas 10% had no depression.

Table 2: Respondents' anxiety and depression status (N=80)

Anxiety Level	n(%)	Depression Level	n(%)
Minimal Anxiety (1-6)	22(27.50%)	No Depression (0-5)	8(10.0%)
Mild Anxiety (7-9)	21(26.25%)	Suggestive of Depression (6-9)	50(62.50%)
Moderate Anxiety (10-11)	13(16.25%)	Indicative of Depression (10-15)	22(27.50%)
Severe Anxiety (12-30)	24(30.0%)		

The table 3 reveals that anxiety status was significantly associated with their status of living (p=0.045) and having co-morbidity (p=0.027).

Table 3: Association between the anxiety of respondents and selected socio-demographic variables (N=80)

Variables	Anxiety		χ ²	p-value
	No Anxiety n(%)	Presence of Anxiety n(%)		
Age				
60-69	10(40.0%)	15(60.0%)	3.417	0.18
70-79	8(25.8%)	23(74.2%)		
≥80	4(16.7%)	20(83.3%)		
Sex				
Male	10(33.3%)	20(66.7%)	0.819	0.365
Female	12(24.0%)	38(76.0%)		
Marital status				
Married	14(29.8%)	33(70.2%)	0.603	0.740
Unmarried	2(18.2%)	8(81.8%)		
Widowed	6(27.3%)	16(72.7%)		
Educational status				
Illiterate	16(27.6%)	42(72.4%)	0.001	0.978
Literate	6(27.3%)	16(72.7%)		
Work status				
Retired	6(37.5%)	10(62.5%)	1.003	0.317
Dependent	16(25.0%)	48(75.0%)		
Status of Living				
With family	15(37.5%)	25(62.5%)	4.013	0.045*
In old age home	7(17.5%)	33(82.5%)		
Senior citizens allowance				
No	6(25.0%)	18(75.0%)	0.107	0.743
Yes	16(28.6%)	40(71.4%)		
Having co-morbidity				

No	4(44.4%)	5(55.6%)	1.460	0.027*
Yes	18(25.4%)	53(74.6%)		
Under regular medicine				
No	10(37.0%)	17(63.0%)	1.859	0.173
Yes	12(22.6%)	41(77.4%)		
Substance use habit				
Never	6(24.0%)	19(76.0%)	0.581	0.748
Current	6(25.0%)	18(75.0%)		
Past	10(32.3%)	21(67.7%)		

*p-value<0.05 denotes statistical significance; χ²=Chi-square

Table 4 shows that depression status was significantly associated with their work status (p=0.036) and having co-morbidity (p=0.013).

Table 4: Association between depression of respondents and selected socio-demographic variables (N=80)

Variables	Anxiety		χ ²	p-value
	No Depression n(%)	Presence of Depression n(%)		
Sex				
Male	5(16.7%)	25 (83.3%)	0.593	0.442
Female	6(12.0%)	44 (88.0%)		
Educational Status				
Illiterate	6(10.3%)	52 (89.7%)	0.028	0.867
Literate	2(9.1%)	20 (90.9%)		
Work Status				
Retired	6(37.5%)	10 (62.5%)	2.222	0.036*
Dependent	8(12.5%)	56 (87.5%)		
Senior citizens allowance				
No	5(20.83%)	19 (79.17%)	0.106	0.745
Yes	6(10.7%)	50 (89.3%)		
Having co-morbidity				
No	4(44.44%)	5(55.56%)	6.135	0.013*
Yes	5(7.0%)	66(93.0%)		
Under regular medicine				
No	3(11.1%)	24(88.9%)	0.056	0.813
Yes	5(9.4%)	48(90.6%)		

*p-value<0.05 denotes statistical significance; χ²=Chi-square

Table 5 indicates that senior citizens living in old age homes reported more symptoms of anxiety 10.23 (±2.5) and depression 8.35 (±1.77) than those living in their own homes. Applying an independent t-test, it was found that there was a significant difference in anxiety and depression in senior citizens with the type of residence, with p-values of 0.034 and 0.040 respectively.

Table 5: Comparison of anxiety and depression of senior citizens living in old age homes and in their own homes (N=80)

Variables	Old Age Home n=40		Own Home n=40		t-value	p-value
	Mean	±SD	Mean	±SD		
Anxiety	10.23	2.5	8.60	2.23	11.85	0.034*
Depression	8.35	1.77	8.15	1.76	9.38	0.040*

*p-value<0.05 denotes statistical significance

DISCUSSION

The current study revealed that 27% of respondents had scoring ≥10 on GDS which is indicative of depression whereas 62.50% of respondents had a score between 6 and 9 which is suggestive of depression, whereas 10% of them had no depression which is similar with the study done in Jordan which revealed that 72.3% having a score between

6 and 9 on the GDS, which is suggestive of depression.¹² But this finding is not consistent with the study conducted in Tansen Municipality, Palpa which showed that 30.6% and 2% of the participants had the symptoms suggestive and indicative of depression respectively.⁸ In contrast to these findings, a study conducted among elderly residing in a community of Tarakeshwor municipality, Kathmandu found that the majority (85.7%) of respondents did not have depression, whereas 9.5% and 4.8% of respondents had symptoms suggestive of depression and indicative of depression respectively.² The current study revealed that 30% of respondents had severe anxiety symptoms and 16.25% of them had moderate anxiety symptoms, whereas 26.25% and 27.50% of them had mild and minimal anxiety symptoms respectively. A study conducted by Bhattarai et al. (2021) found that 10.7% of respondents had severe anxiety symptoms, whereas 72.6 % of them had minimal anxiety symptoms.² Similarly, a study done by Sharma et al. (2021) found that 8.2% had severe symptoms of anxiety.⁸

A current study found that the prevalence of anxiety was 46.25% which is similar to the study findings done among 655 elderly in Myanmar which stated that the prevalence of anxiety was 39.4%.¹³ Similar findings were reported by the study conducted among 1173 participants aged 65 years or above from three communities in Hunan Province, China, which showed that the prevalence of anxiety was 32.74%.¹⁴ The finding is consistent with the study done in elderly 380 participants attending PHC centers in West Bank showed that the prevalence of anxiety was 39.2%.¹⁵

The current study showed that anxiety level of respondents was significantly associated with their status of living ($p=0.045$) and having co-morbidity ($p=0.027$). This study also showed that depression level was significantly associated with their work status of living ($p=0.036$) and having co-morbidity ($p=0.013$). These findings coincide with the study done among 245 senior citizens residing in Tansen Municipality, Palpa showed that anxiety and depression were significantly associated with co-morbidity.⁸

The findings of this study also revealed that senior citizens living in old age homes had more symptoms of anxiety 10.23 ± 2.5 and depression 8.35 ± 1.77 than those living in their own homes. These findings are supported by the study done in Pakistan reported more symptoms of anxiety 6.25 ± 1.16 and depression 5.87 ± 1.79 among elderly living in old age homes in comparison to elderly living in a family setup.⁴

This study has some limitations. Firstly, sampling bias cannot be ignored in the non-probability convenience

sampling technique. Secondly, it is limited to senior citizens of only one old age home and a selected community, so the study results cannot be generalized to large populations and in multiple settings.

CONCLUSIONS

It is concluded that nearly half of the elderly have anxiety symptoms whereas one-third have depression symptoms. Elderly living in old age homes have more symptoms of anxiety and depression than elderly living in their own home. Anxiety level is significantly associated with their status of living and having co-morbidity. Depression level is significantly associated with work status and having co-morbidity. Therefore, service providers of old age homes need to conduct routine examinations of their general health including mental health, and manage their problems holistically.

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AUTHORS' CONTRIBUTION

SG contributed to the conceptualization of the study, data collection, data analysis, and manuscript preparation. BT contributed to conceptualization, tool development, and data collection and editing. MS contributed to the conceptualization and manuscript preparation. Final editing and confirmation have been done by all authors.

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