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Mental Health Status of Senior Citizens in Mahalaxmi Municipality, Lalitpur: A Community-Based Cross-Sectional Study

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ABSTRACT

Background: Mental and emotional health need to be good and continue to be essential in later life. Anxiety and depression are widely prevalent mental health issues senior citizens and can significantly affect their overall health, functioning, and quality of life. Objective: To identify prevalence of mental health problems among senior citizens of Mahalaxmi 4, Lalitpur. Method: A descriptive cross-sectional design was used in this investigation. Purposive sampling was used to choose 396 individuals in total. The Geriatric Anxiety Scale (GAS-10) and the Standard Valid Tool Nepali version of the Geriatric Depression Scale (GDS 15) were utilized, along with a questionnaire pertaining to socio-demographic data. Results: among 396 respondents, 211 (53.3%) were male and 185 (46.7%) were female. majority of respondents 355(89.6%) were living with co-morbidity. A smaller proportion of participants 12(3.0%) revealed severe anxiety and (5.3%) were identified as having depression. Advance age, family structure and co-morbidity was found most contributing factors.

KEYWORDS

Senior citizens, Mental Health, Geriatric Anxiety, Geriatric Depression,

Aging population is a global issue regardless of a nation's level of socioeconomic development (Chalise, 2023). Among the aging population, dementia and depressive disorders contribute substantially to the burden of mental and neurological illness, affecting millions of older individuals worldwide, with estimated prevalence rates of about 5% and 7%, respectively (World Health Organization [WHO], 2025). The rising burden of mental health issues in Nepal highlights importance of strengthening mental health care and policy interventions (Dhungana et al., 2023). The mental health status of older adults is determined by a complex interaction of physical health conditions and socioeconomic factors. In Nepal, depression is a serious public health issue, yet its burden among the elderly remains insufficiently recognized (Khanal et al., 2024). Depression is common in older adults but is not a normal part of aging, and many older people maintain good life satisfaction despite health challenges. (Mehra et al., 2017). Untreated depression in later life can negatively affect overall health, highlighting the importance of early intervention. (Fiske et al., 2009). Depression negatively influences chronic disease outcomes and increases health risks in older adults. (Aziz & Steffens, 2013).

Depression is a common psychiatric illness and a significant predictor of both mortality and disability among senior citizens (Cai et al., 2023). Depression as mood disorders affect more older adults worldwide, representing approximately 10–20% of the elderly population (WHO, 2017). Depressive symptoms are significantly higher among older adults in developing countries than in

developed countries, emphasizing the importance of focused mental health support (Zenebe et al., 2021). Prevalence estimates varied across studies due to differences in assessment tools, geographic regions, sampling methods, and participant characteristics. Therefore, the pooled estimate should be interpreted with caution (Pilania et al., 2019). Depression is comon among senior citizens in Nepal, often impairing mood regulation and adversely affecting daily functioning (Thapa et al., 2020). Research study conducted at community of Nepal indicates a wide variation in the prevalence of elderly depression, ranging from fifteen percent to more than eighty, reflecting differences in study populations, settings, and assessment methods (Lamichhane et al., 2022).

Several risk factors are associated for depression among senior citizens, including being female, widowed, separated, or divorced (Thakur & Phaswana-Mafuya, 2014). Additional risk factors include living alone, limited formal education, physical co-morbidity, feelings of loneliness, poverty, functional impairments, and scarce social support (Jemal et al., 2021), (Amha et al., 2020). A cross-sectional study in a rural municipality reported a 28.75% prevalence of geriatric depression (n = 115), with most cases being mild. Depression was more common among individuals under 75 years of age, males, married older adults, and those living in nuclear families (Kaphle et al., 2024). Previous research indicates that (53.1%) of older adults living in community experience depression (Bhattarai et al., 2021). as being high prevalence of mental illness in community, need to extend mental health service in community level (Gorkhali, 2024).

METHODOLOGY

A community-based cross-sectional study was conducted among older adults residing in Ward No. 4 of Mahalaxmi Municipality, Lalitpur, Nepal. The ward was selected through a lottery method without replacement. A total of 396 participants aged 60 years and above were recruited using a purposive sampling technique. Data were collected through face-to-face interviews between July 20 and September 30, 2023. Eligibility criteria included being aged 60 years or older, residing in the selected ward, and providing voluntary consent to participate. Older adults who were unavailable during the data collection period or unwilling to participate were excluded from the study.

Data were collected using a structured questionnaire consisting of socio-demographic and health-related characteristics, the Nepali version of the Geriatric Depression Scale (GDS-15), and the Geriatric Anxiety Scale (GAS-10). Prior to data collection, written informed consent was obtained from all participants. Confidentiality and anonymity were maintained throughout the study by excluding personal identifiers from the questionnaire. Ethical approval was obtained from the Nepal Health Research Council (NHRC) (Reference No. 3834/2023). Data were entered and analyzed using SPSS version 20. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarize the data. Associations between variables were examined using the chi-square test, and statistical significance was considered at $p < 0.05$.

RESULT

Table 1: Socio-demographic Information of Respondent n=396

Characteristic	Categories	Frequency	Percentage
Gender	Male	211	53.3
	Female	185	46.7
Age group in years	60-69	194	49.0
	70-79	121	30.6
	80 and above	81	20.5
Mean age ± SD= 70.68, ±9.22			
Religion	Hindu	186	47.0
	Bhuddist	51	12.9
	Christian	79	19.9
	Kirat	60	15.2
	Pranami	20	5.1
Ethnicity	Dalit	38	9.6
	Madhesi	20	5.1
	Janajati	154	38.9
	Brahamin/ Chettri	184	46.5
Types of Family	Nuclear Family	117	29.5
	Joint Family	157	39.6
	Extended Family	122	30.8

Table 1 shows among 396 respondents, 211 (53.3%) were male and 185 (46.7%) were female. Regarding age distribution, nearly half of the participants 194 (49.0%) belonged to the 60–69 years age group, followed by 121 (30.6%) aged 70–79 years, while 81 (20.5%) were aged 80 years and above The mean age of the respondents was 70.68 years (SD ± 9.22).In terms of religion, Hinduism was the most common religion, reported by 186 (47.0%) participants. This was followed by Christian 79 (19.9%), Kirat 60 (15.2%, Buddhist 51 (12.9%), and Pranami 20 (5.1%). With respect to ethnicity, Brahmin/Chhetri constituted the largest proportion of respondents (184; 46.5%), followed by Janajati 154 (38.9%). Smaller proportions were from Dalit 38 (9.6%) and Madhesi 20 (5.1%) communities. Regarding family structure, 157 (39.6%) participants were living in a joint family, while 122 (30.8%) belonged to an extended family, and 117 (29.5%) lived in a nuclear family.

Table 2: Socio-demographic Information of Respondent n=396

Characteristic	Categories	Frequency	Percentage
Education Level	Illiterate	163	41.2
	Primary level	110	27.8
	Secondary	53	13.4
	High school	42	10.6
	Graduate	14	3.5
	Postgraduate	14	3.5
Marital Status	Unarried	11	2.8
	Married	232	58.6

	Divorced	17	4.3
	Widow	129	32.6
	Seperated	7	1.8
Occupation	Employed	123	31.1
	Unemployed	273	68.9
Types of Diet	Vegetarian	103	26.0
	Mixed Diet	293	74.0
Sleeping hour	Less than 4 hours	98	24.7
	5-6 hours	210	53.0
	7 hours and more	88	22.2

Table 2 shows that with regard to educational attainment, a considerable proportion of the respondents were illiterate (163; 41.2%). Slightly over one-quarter had completed primary education (110; 27.8%), while 53 (13.4%) had attained a secondary level of education. Participants who had completed high school accounted for 42 (10.6%), whereas only a small fraction had achieved graduate (14; 3.5%) or postgraduate (14; 3.5%)qualifications. In terms of marital status, married individuals constituted the majority of the study population (232; 58.6%). Nearly one-third of the participants were widowed (129; 32.6%), while smaller proportions were divorced (17; 4.3%), unmarried (11; 2.8%), or separated (7; 1.8%). Regarding employment status, more than two-thirds of the respondents were unemployed (273; 68.9%), whereas 123 (31.1%) reported being currently employed. Dietary practices showed that the majority of participants consumed a mixed diet, reported by 293 (74.0%), while 103 (26.0%) followed a vegetarian diet. Concerning sleep duration, over half of the respondents (210; 53.0%) reported sleeping 5–6 hours per night. Nearly one-quarter 98 (24.7%) slept for less than four hours, while 88 (22.2%) reported a sleep duration of seven hours or more.

Table 3: Physical Health-Related Characteristics of Respondent n=396

Characteristic	Categories	Frequency	Percentage
Presence of co-morbidity	Yes	355	89.6
	No	41	10.4
n=355			
Types of co-morbidities	Hypertension	192	48.5
	CO P D	79	19.9
	Diabetes mellitus	100	25.3
	Thyroid problem	66	16.7
	Rheumatic arthritis	48	12.1
	Cataract	83	21.0
	Other disease	73	18.4
Duration of illness	Less than one year	28	7.1
	1-5 years	151	38.1
	5-10 years	81	20.5
	11-15 years	95	24.0

Table 3 shows that majority of respondents 355(89.6%) were living with co-morbidity only 41 (10.40%) had no disease. Hypertension was common by 192(48.5%) followed by diabetes mellitus 100(25.3%). Rest of the problem were less than 25%. Near about ninety 95 (24.0%) or respondents had history of disease from more than 11 years and least of 28(7.1%) were suffering from one years.

Table 4: level Anxiety among Respondents n=396

Category	Score	Frequency	Percentage
Minimal Anxiety	≤ 53	329	83.1
mild anxiety	54 – 59	37	9.3
Moderate Anxiety	60 – 65	18	4.5
severe anxiety	≥ 66	12	3.0

Table 4 findings indicate that the majority of participants experienced minimal anxiety, accounting for 329 (83.1%)of the total sample. Mild anxiety was observed in 37 (9.3%) of older adults, while 18 (4.5%) reported moderate anxiety. A smaller proportion of participants 12(3.0%) exhibited severe anxiety, suggesting that although most senior citizens had low anxiety levels, a notable minority experienced clinically significant symptoms.

Table 5: Relationship between Level of Anxiety with Demographic Characteristics n=396

Characteristic	Categories	Level of Anxiety		X^2 value	p-value
		Non-Clinical Anxiety (Minimal + Mild)	Clinical Anxiety (Moderate + Severe)		
Age range in years	60-69	184 (94.8%)	10 (5.2%)	24.665	<0.001
	70-79	111(91.7%)	10 (8.3%)		
	80 and above	61(75.3%)	20 (24.7%)		
	Total (%)	356(89.9%)	40 (10.1%)		
Gender	Male	200(94.8%)	11(5.2%)	3.600	.0.058
	Female	166 (89.7%)	19 (10.3%)		
	Total (%)	366 (92.4%)	30(7.6%)		
Education	Illiterate	144(88.3%)	19(11.7%)	2.36	.307
	Basic	152(93.3%)	11(6.7%)		
	Literate	63(90.0%)	7 (10.0%)		
	Total (%)				
Marital Status	Married	209 (90.1%)	23(9.9%)	.215	.643
	Others(Unmarried, Widow, Divorced ,Seperated)	150 (91.5%)	14 (8.5%)		
	Total (%)	359 (90.7%)	37 (9.3%)		

Types of Family	Nuclear	91 (77.8%)	25 (21.4%)	31.010	<0.001
	Joint& Extended	267(95.7%)	13 (4.3%)		
	Total (%)	358 (90.4%)	38(9.3%)		
Sleeping hour	4-6 Hour	145 (94.2%)	9 (5.8%)	.243	.622
	More than 7 hours	195 (92.9%)	15 (7.1%)		
	Total (%)	340 (93.4%)	24 (6.6%)		
Physical co-morbidity	Yes	333 (93.8%)	22(6.2%)	3.982	.046
	No	35 (85.4%)	6(14.6%)		
	Total (%)	368(92.9%)	28(7.1%)		

Chi-Square test applied; level of significance set at $p<0.05$

Table 5 shows that association was observed between age group and level of anxiety ($\chi^2 = 24.665$, $p < 0.001$). Participants aged 80 years and above demonstrated a markedly higher proportion of clinical anxiety (24.7%) compared to those aged 60–69 years (5.2%) and 70–79 years (8.3%), indicating an increasing trend of anxiety severity with advancing age. Although a higher proportion of females (10.3%) experienced clinical anxiety compared to males (5.2%), the association between gender and anxiety level did not reach statistical, marital status significance ($\chi^2 = 3.600$, $p = 0.058$). No significant association was found between educational status, and sleep duration with anxiety level. Association was identified between family structure and anxiety level ($\chi^2 = 31.010$, $p < 0.001$). Participants living in nuclear families showed a substantially higher prevalence of clinical anxiety (21.4%) compared to those residing in joint or extended families (4.3%) suggesting a potential protective role of shared family living arrangements. Significant association was found between physical co-morbidity and anxiety level ($\chi^2 = 3.982$, $p = 0.046$). Participants without physical co-morbid conditions had a higher proportion of clinical anxiety (14.6%) compared to those with co-morbidities (6.2%).

Table 6: Level of Depression among Respondents n=396

Category	Score	Frequency	Percentage
No Depression (no depression + mild depression)	0-4 +5-8	375	94.7
Depression (moderate depression + severe depression)	9-11+ ≥12	21	5.3

The results (Table 6) show that most participants 375 (94.7%) did not exhibit depressive symptoms, while 21 (5.3%) were identified as having depression. This indicates a relatively low prevalence of depression among the study population, although a small proportion of older adults were affected.

Table 7: Relationship between Depression Status and Demographic Variables Among

Characteristic	Categories	Level of Depression		X^2 value	p-value
		No Depression(no depression + mild depression)	**Depression** (moderate depression + severe depression)		
Age range in years	60-69	194 (100.0%)	0 (0.0%)	*44.87*	<0.001 (NA)
	70-79	116 (95.9%)	5 (4.1%)		
	80 and above	65 (80.2%)	16 (19.8%)		
	Total (%)	375 (94.7%)	21 (5.3%)		
Gender	Male	200 (94.8%)	11(5.2%)	.007	.932
	Female	175 (94.6%)	10 (5.4%)		
	Total (%)	375 (94.7%)	21 (5.3%)		
Education	Illiterate	154 (94.5%)	9 (5.5%)	2.786	.248 (NA)
	Basic	152 (93.3%)	11 (6.7%)		
	Literate	69 (98.6%)	1 (1.4%)		
	Total (%)	375 (94.7%)	21 (5.3%)		
Marital Status	Married	218 (94.0%)	14 (6.0%)	.597	.440
	Others(Unmarried, Widow,Divorced, Seperated)	157(95.7%)	7(4.3%)		
	Total (%)	375 (94.7%)	21 (5.3%)		
Types of Family	Nuclear	262 (93.9%)	17 (6.1%)	1.17	.279 (NA)
	Joint& Extended	113 (96.6%)	4 (3.4%)		
	Total (%)	375 (94.7%)	21 (5.3%)		
Sleeping hour	4-6 Hour	143(92.9%)	11 (7.1%)	.926	.336
	More than 7 hours	200 (95.2%)	10 (4.8%)		
	Total (%)	343(94.2%)	21 (5.8%)		
Physical co-morbidity	Yes	334 (94.1%)	21 (5.9%)	2.561	.110 (NA)
	No	41 (100%	0 (0%)		
	Total (%)	375 (94.7%)	21 (5.3%)		

Chi-Square test applied; level of significance set at $p<0.05$
Note: (NA)= Chi-Square test not applicable when cell value less than 5.

Table 7 shows that age was associated with depression ($\chi^2 = 44.87$, $p < 0.001$), with a higher amount of depressive signs found among aged 80 years. In contrast, association was not found between depression and gender, educational status, marital status, type of family, sleeping duration, or presence of physical co-morbidity ($p > 0.05$). These findings suggest that advancing age is a key demographic factor associated with depression in the study population, while other variables did not demonstrate significant relationships.

DISCUSSION

In the present study, more than half of respondents were male, and the mean age of respondents was approximately 71 years, with one-fifth aged 80 years and above, indicating a predominantly older study population. A substantial proportion of participants (89.6%) reported one or more physical co-morbidities, with hypertension and diabetes mellitus being the most frequently reported conditions. The high burden of co-morbidities observed in this study may reflect age-related physiological changes and the increasing prevalence of chronic non-communicable diseases among older adults. In contrast, a study conducted in Tarakeshwor Municipality reported a lower prevalence of physical co-morbidities (42.8%) (Bhattarai et al., 2021), suggesting possible differences in health-seeking behavior, access to healthcare services, or population characteristics. However, the predominance of hypertension as the most common co-morbid condition was consistent across both studies, highlighting hypertension as a major health concern among senior citizens.

The present study revealed that the majority of older adults experienced minimal levels of anxiety, with only a small proportion exhibiting mild to severe symptoms. Although most participants demonstrated low anxiety levels, a notable minority reported (4.5%) reported moderate anxiety, smaller proportion of participants (3.0%) exhibited severe anxiety, indicating the presence of clinically relevant anxiety symptoms among some senior citizens. The prevalence of anxiety observed in this study was considerably lower than that reported in previous community-based studies, where anxiety levels of (52%) (Richardson et al., 2011) and (27%) (Liu et al., 2023) were documented. This variation may be related to differences in social support structures, family living arrangements, and access to primary healthcare services, which traditionally play a protective role for older adults in the Nepali context.

Present study found relation with age and different level of anxiety, with anxiety severity increasing markedly among participants aged 80 years and above. Although females showed a higher proportion of clinical anxiety than males, the association with gender and marital status was not statistically significant. Physical co-morbidity was significantly associated with anxiety, with a higher prevalence observed among participants without diagnosed co-morbid conditions. These findings suggest that advancing age and psychosocial factors findings is similar to other study where association was found particularly loneliness and reduced social participation may play a critical role in anxiety among older adults (Bincy et al., 2021).

The present study demonstrated a low prevalence of depression among five percent of respondents with only a small proportion of older adults exhibiting severe depressive symptoms. where other some community surveys in Nepal found low rates of (4.4%) geriatric depression have been reported (Chalise & Rai, 2013). However, findings is lower than that reported among the Rai community (29.7%) (Pradhan et al., 2004 another study 28.75% (Kaphle et al., 2024) where markedly higher rates of depression were documented. These variations may be explained by differences in living arrangements, social support, cultural context, and study settings.

CONCLUSION

Current study showed that senior citizens had low rates of anxiety and depression; however, clinically significant symptoms were present in a small but important proportion of the population, particularly among those of advanced age. Increasing age was key for vulnerability of both condition older age groups. Findings emphasize need of regular mental health screening of senior citizens within health facilities, early identification of at-risk individuals, and integration of geriatric mental health services into existing healthcare systems in Nepal.

RECOMMENDATIONS

Routine screening for depression and anxiety should be integrated into primary healthcare services for older adults using standardized assessment tools. Special attention should be given to senior citizens aged 80 years and above, as they represent a higher-risk group for mental health problems. Capacity building of healthcare providers, particularly nurses and primary care staff, is needed to improve early identification, referral, and management of geriatric mental health conditions. Community and family-based support programs should be fortified to decrease psychosocial risk factors and promote mental well-being among older adults.

LIMITATIONS

Present study was based on cross-sectional design limits the interpretation of causal associations between study variables. In addition, the findings may have limited generalizability due to the inclusion of participants from only one community. Important determinants of mental health, such as social support and lifestyle factors, were beyond the scope of the present study and warrant further investigation.

CONFLICT OF INTEREST

None

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