

Original Research Article

Study among geriatric people residing in urban and rural area and associated factor with depression in Nepal

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ABSTRACT

Background: Depression is a common and major public health problem among geriatric people, but it is not a normal part of aging. It is not just a low mood or feeling sad, but a serious condition that needs treatment and has serious effects on physical as well as mental health. It is one of the hidden problems of the geriatric people.

Methods: A cross-sectional study was conducted among 196 elderly people from Kaski district of Nepal using geriatric depression scale to assess the level of depression. Wards of metropolitan was randomly selected and represented as urban area and ward of rural municipality were randomly selected and considered as rural areas. Data were collected by face-to-face interview among geriatric people. Data were analyzed by SPSS v.16 version. The appropriate statistical tests were applied based on the nature of the data, setting the level of significance at $p < 0.05$.

Results: Out of total 196 study participants 101 were from urban area and 95 from rural area. The overall prevalence of depression was 55.1%. In this study geriatric depression was significantly associated with: spouse status, living arrangement, satisfaction with living condition, family support, family care, abuse, relationship with son, relationship with daughter in law, work, discrimination, social isolation and loneliness and health problems.

Conclusions: More than half of the elderly population had developed depressive symptoms. Immediate addressing of geriatric depression by providing health services, counseling and harmonious relationship among geriatric people and family members especially their son and daughter in law should be created by providing social support and counseling to family members.

Keywords: Depression, Geriatric, Kaski, Nepal

INTRODUCTION

Ageing is a normal phenomenon and the pace of population ageing is increasing dramatically. WHO estimate 80% of all older people will live in low and middle income countries by 2050.¹ Depression is a common problem among older adults, but it is not a normal part of aging.² The importance of mental health to aging well the obvious fact that one cannot age well

without good mental health is frequently lost in discussions of older adults' physical health.³ Neuropsychiatric disorders like dementia and depression are common in old aged people. More than one in tenth of elderly people aged 60 and over suffer from a mental or neurological disorder.⁴

Depression has serious effects on physical as well as mental health.⁵ Although depression is found common in older adults who had medical illness; it is not normal part

of ageing.² Late-life depression prevents a person from enjoying things the pleasure and affect memory and concentration. Depression causes pain and suffering not just for those who are depressed, but also for those who care about them.⁶

Older women are at a greater risk as women in general are twice as likely as men to become seriously depressed. Biological factors like changes in hormones might make older women more vulnerable. Depression in older age is found higher among individuals living in institutions which ranged from 14% to 42% compared to individuals living in private households which ranged from 0.9% to 9.4%.⁷ Above 20% of adults aged 60 and more suffer from a mental disorder. The most common mental health problem includes depression, anxiety, stress and dementia.¹

Mental health 'remains a largely ignored issue in global health, and its complete absence from the MDGs reinforces the position that mental health has little in health system. Depression has serious effects on physical as well as mental health and it is one of the hidden problems of the geriatric people. Geriatric people are often ignored by family, society and government which make them more prone to developing depression.

Very few studies had been conducted regarding depression among elderly in Nepal; little is known about the true rates of depression, its correlates and predictors. "Blank zone" where data are particularly scarce and estimated are generally illustrative. There is no exact figure of depression among geriatric people residing in different areas of Nepal. In our country very less effort is given to the health of the elderly people and limited research is conducted in depression status of elderly people. Prevalence of depression among geriatric people residing in rural and urban area and their difference is contradictory and not known clearly. It is also necessary to take pioneering initiative to establish a baseline that would provide some understanding of nature and magnitude of the problem of depression in geriatric people in Nepal. Thus, the study aimed to assess the prevailing situation of depression among geriatric people of Kaski district and associated factors that contribute to depression among geriatric people.

METHODS

A cross-sectional study was conducted for a period of 6 months in an urban and rural area of Kaski district to assess the depression among geriatrics. Wards of metropolitan city were taken as urban area and wards of rural municipalities were considered as rural areas. The total geriatric people of Kaski district were 42935, whereas urban area has a population of 22109 while rural area had 20826 geriatric populations. Individuals aged 60 years and older, residing in the study area, with no history of psychiatric illness and able to speak were included.⁸ On the basis of the formula recommended for estimation

of sample size for comparative cross-sectional studies, which considers 95% confidence limits, the sample size was calculated. The prevalence of depression among elderly population was considered as 15. Proportional technique was used for dividing sample size in two groups. Thus, the sample size was estimated to be 101 for urban and 95 for rural areas.

The respondents were selected based on a process of multistage sampling. Stage 1: Among 33 wards, three wards were randomly selected from PMC and among four rural municipalities, two RM were randomly selected. Stage 2: Among the selected RM, two wards from each rural municipality were selected randomly (SRS). Stage 3: Respondents were selected by convenience method.

Face to face interview of the respondents using a predesigned and semi structured questionnaire was used. Geriatric depression scale (GDS), a screening tool was used to assess the level of depression in the elderly population.

GDS consisted of 30 items with dichotomous response of 'Yes' and 'No' where 20 items indicated depressive symptoms with response to 'Yes' and 10 items with the answer no indicated depressive symptoms. As per the GDS, individuals with a score of 10-19 were considered to be mildly depressed, while a score ranged from 20 to 30 indicates severe depression.⁹

Independent variables in the study consisted of i) socio demographic profile of the respondents such as age, gender, education, occupation, marital status, type of family, family income, relationship status; ii) living arrangement, life style, emotional and social factors related variables such as living with, satisfaction with living arrangement, family support, family care, abuse, head of family, sleeping hours, assistive device, need assistance, work, worry, social support, feel discriminated, feel social isolated and alone and health problems.

Results were expressed using descriptive statistics such as proportions and percentages. The Chi square-test was applied to judge the association between two attributes, and a $p < 0.05$ was considered to be statistically significant.

RESULTS

A total of 196 elderly individuals participated in the study, which comprised 101 respondents each from the urban and 95 from rural areas. Table 1 provides socio-demographic profile of the respondents included in the analysis. Majority of the respondents were in the age group of 60-70 years; 58.4% in the urban area and 62.1% in the rural area. More than half of the respondents lived with their family including spouse.

Among total respondent, more than half (55.1%) had

depression. Among those who had depression, majority (56.6%) had mild depression, 27.8% had moderate depression and 15.7% severe depression. The prevalence of depression in the urban elderly population was established to be 54.5% while it was estimated to be 55.8% among the rural elderly population which was similar is presented in Table 2.

Bivariate analysis

The bivariate analysis of depression by various

sociodemographic and relationship with family members is presented in Table 3. The results suggest the significant bivariate association between depression and spouse, relationship with son, relationship with daughter in law.

Table 4 shows statistical association of depression with living arrangement ($p=0.025$), family support ($p=0.001$), family care ($p=0.001$), abuse ($p=0.001$), assistive device ($p=0.04$), work ($p=0.008$), worry ($p=0.003$), social support ($p=0.036$), discriminated ($p=0.001$), socially isolated alone ($p=0.001$).

Table 1: Socio-demographic and background information.

Variables	Urban (%), (n=101)	Rural (%), (n=95)	Total (%), (n=196)
Age group (Years)			
60-70	58.4 (59)	62.1 (59)	60.2 (118)
70-80	29.7 (30)	27.4 (26)	28.6 (56)
>80	11.9 (12)	10.5 (10)	11.2 (22)
Mean age 69.24±7.342 years, min 60 years and max 88 years			
Gender			
Female	48.5 (49)	53.7 (51)	51 (100)
Male	51.5 (52)	46.3 (44)	49 (96)
Marital status			
Married	55.4 (56)	62.1 (59)	58.7 (115)
Widow	28.7 (29)	25.3 (24)	27 (53)
Widowhood	13.9 (14)	12.6 (12)	13.3 (26)
Divorced	2 (2)	0	1 (2)
Spouse status			
Yes	55.4 (56)	62.1 (59)	58.7 (115)
No	44.6 (45)	37.9 (36)	41.3 (81)
Religion			
Hindu	95 (96)	90.5 (86)	92.9 (182)
Buddhist	5 (5)	8.4 (8)	6.6 (13)
Christian	0	1.1 (1)	0.5 (1)
Ethnicity			
Bhramin/Chettri	68.3 (69)	55.8 (53)	62.2 (122)
Janajati	21.8 (22)	20 (19)	20.9 (41)
Dalit	9.9 (10)	24.2 (23)	16.8 (33)
Educational status			
Literate	57.4 (58)	45.3 (43)	51.5 (101)
Illiterate	42.6 (43)	54.7 (52)	48.5 (95)
Educational level			
	(n=58)	(n=43)	(n=101)
Primary	67.2 (39)	86 (37)	75.2 (76)
Secondary	20.7 (12)	11.6 (5)	16.8 (17)
Bachelor	8.6 (5)	0	5 (5)
Higher Secondary	1.7 (1)	2.3 (1)	2 (2)
Master or above	1.7 (1)	0	1 (1)
Family type			
Joint	54.5 (55)	60 (57)	57.1 (112)
Nuclear	41.6 (42)	40 (38)	40.8 (80)
Extended	4 (4)	0	2 (4)
Monthly income (Nrs.)			
	(n=64)	(n=55)	(n=119)
<10000	54.7 (35)	80 (44)	66.4 (79)
10000-20000	29.7 (19)	14.5 (8)	22.7 (27)
20000-30000	7.8 (5)	3.6 (2)	5.9 (7)
30000-40000	6.2 (4)	1.8 (1)	4.2 (5)
>40000	1.6 (1)	0	0.8 (1)
Mean income 9852.94±10374.625 Nrs, min 500 Nrs and max 50000 Nrs			

Table 2: Distribution of respondents according to depression.

Variables	Urban (%)	Rural (%)	Total (%)
Depression	(n=101)	(n=95)	(n=196)
Yes	54.5 (55)	55.8 (53)	55.1 (108)
No	45.5 (46)	44.2 (42)	44.9 (88)
Depression level	(n=55)	(n=53)	(n=108)
Mild	54.5 (30)	58.5 (31)	56.5 (61)
Moderate	25.5 (14)	30.2 (16)	27.8 (30)
Severe	20 (11)	11.3 (6)	15.7 (17)

Table 3: Association between depression and relationship with family members and socio demographic characteristics.

Variables		Depression		P value
		Yes, n (%)	No, n (%)	
Area	Urban	55 (54.5)	46 (45.5)	0.851
	Rural	53 (55.8)	42 (44.2)	
Gender	Male	49 (51)	47 (49)	0.263
	Female	59 (59)	41 (41)	
Spouse	Dead	54 (66.7)	27 (33.3)	0.006
	Alive	54 (47)	61 (53)	
Educational status	Illiterate	59 (62.1)	36 (37.9)	0.056
	Literate	49 (48.5)	52 (51.5)	
Family type	Nuclear	51 (63.8)	29 (36.2)	0.074
	Joint	54 (48.2)	58 (51.8)	
	Extended	3 (77)	1 (23)	
Relationship with spouse	Satisfactory	9 (56.2)	7 (43.8)	0.425
	Good	46 (45.5)	55 (54.5)	
Relationship with son	Satisfactory	61 (64.2)	34 (35.8)	0.001
	Good	34 (40.5)	50 (59.5)	
Relationship with grand children	Satisfactory	44 (59.5)	30 (40.5)	0.086
	Good	36 (45.6)	43 (54.4)	
Relationship with daughter in law	Satisfactory	63 (54.7)	43 (45.3)	0.001
	Good	28 (41.8)	39 (58.2)	

Table 4: Association between depression and living arrangement, life style, emotional and social factors.

Variables		Depression		P value
		Yes, n (%)	No, n (%)	
Live with	Alone	90 (57.3)	67 (42.7)	0.209
	Family	18 (46.2)	21 (53.8)	
Same living arrangement	No	8 (88.8)	1 (11.1)	0.025
	Yes	63 (50.4)	62 (49.6)	
Satisfaction with living arrangement	No	18 (90)	2 (20)	0.001
	Yes	90 (51.1)	86 (48.9)	
Family support	No	21 (87.5)	3 (12.5)	0.001
	Yes	87 (50.6)	85 (49.4)	
Family care	No	23 (85.2)	4 (14.8)	0.001
	Yes	85 (50.3)	84 (49.7)	
Abuse	Yes	18 (100)	0 (0)	0.001
	No	90 (50.6)	88 (49.4)	
Head of family	Self	71 (56.8)	54 (43.2)	0.368
	Spouse	10 (41.7)	14 (58.3)	
	Other members	27 (57.4)	20 (42.6)	
Sleeping hours	≤6	26 (66.7)	13 (33.3)	0.092
	>6	79 (51.6)	74 (48.4)	
Assistive device	Yes	67 (61.5)	42 (38.5)	0.045
	No	41 (47.1)	46 (52.9)	

Continued.

Variables		Depression		P value
		Yes, n (%)	No, n (%)	
Need assistance	Yes	16 (64)	9 (36)	0.326
	No	91 (53.5)	79 (46.5)	
Work	Yes	73 (49.7)	74 (50.3)	0.008
	No	35 (71.4)	14 (28.6)	
Worry	Yes	90 (61.2)	57 (38.8)	0.003
	No	18 (63.3)	31 (63.3)	
Social support	No	18 (75)	6 (25)	0.036
	Yes	90 (52.3)	82 (47.7)	
Feel discriminated	Yes	24 (88.9)	3 (11.1)	0.001
	No	84 (49.7)	85 (50.3)	
Feels socially isolated and alone	Yes	23 (92)	2 (8)	0.001
	No	85 (49.7)	86 (50.3)	
Health problems	Yes	100 (58.8)	70 (41.2)	0.006
	No	7 (29.2)	17 (70.8)	

DISCUSSION

The study showed more than half (55.1%) of the elderly population had depression which corresponds with the findings of the different studies. The study done by Singh et al showed 50.8%, Thakur et al showed 52.3% Khatri et al showed 53.2%, Chalise et al found 57.8%, Subedi et al found 49.4%, Manandhar et al found 53.1%.¹⁰⁻¹⁵ However, some studies contradict with our findings, the study by Cristina et al found 22%, Sanjay et al found 36% which is lower than my study and some were higher than our study; Timilsina et al found 72.8%, Kim et al found 63%, Simkhada et al found 60.6%.¹⁶⁻²⁰ This might be due to the differences in depression scale use, selection of samples and respondents' cultures. Another contradicts finding of study done by Dhungana found 80.7% of elderly people had depression.²¹ This might be due to differences in the study settings; as it has been done in the old aged home where all the elderly people were away from their families. Another meta-analysis study done by Pilania et al showed aggregate prevalence of depression among elderly population about 34.4%.²²

Our study showed 56.5% respondents had mild depression, 27.8% had moderate depression and 15.7% had severe depression which is similar with study of Subedi et al 46.7% had mild, 39.2% had moderate and 14.1% had severe depression. Another study done by Chalise 46.7% had mild depression, 8.9% had moderate and 2.2% had severe depression; study done by Timilsina et al found 56.6% had mild, 16.2% had severe depression and study done by Kim et al found 42% were moderately depressed and 21% were severely depressed and study done by Das et al found 42% of respondents had mild, 17% had severe depression which is quite similar to my study.^{13,14,18,19,23}

In this study the prevalence of depression was found to be higher (55.8%) in rural compared with urban (54.5%) which is quiet similar with the study done by Balaji et al which showed 45.8% in rural and 41% in urban slum.²⁴

Another study done by Mechakra et found 15.1% depression in urban and 17% in rural areas which is lower than our study.²⁵ This is because of the selection of samples, respondent's cultures and use of different cut off point.

In our study gender, education status wasn't statistically associated with depression while study done by Subedi et al found statistical association of gender ($p=0.009$) and education status ($p=0.001$ while Dhungana found statistical association of depression with gender ($p=0.017$).^{14,21} Female were highly suffered from depression in both of the study. In the study done by Majdi et found 43.6% depression among male and 52.9% among female, study by Taqui et al found 15.7% depression among male 33% depression among female.^{26,27} Similarly, study done by Sidik et al found 11.1% and 26.4% depression male and female respectively which is concurrent with our study.²⁸

In this study prevalence of depression was 66.7% among those whose spouse were dead and 47% among whose spouse were alive. Similar result was shown in the study done by Ghimire et al and Bhamani et al which showed high prevalence of depression among elder people whose spouse were dead.^{23,30}

Illiterate (62.1%) were more depressed than literate (48.5%) in our study. Similar finding was found in study done by Ghimire et al, Chalise et al, Taqui et al and Majdi et al which found illiterate elderly more depressed than literate elderly.^{12,23,27,26} In the present study, prevalence of depression was high (75%) among those who didn't have social support compared to who had social support (52.3%). Analogous findings were observed in study done by Ghimire et al, Mechakr et al which showed elderly who had low social support had more depression.^{25,29}

In this study prevalence of depression was 71.4% among those whose didn't work and 49.7% among who worked which corresponds with the findings of the study done by

Sanjay et al, Sidik et al.^{17,28} The present study showed that prevalence of depression was 61.2% among those whose were worried about different things and 63.3% among those who were not worried which is similar to the study done by Timilsina et al.¹⁸

The study showed 58.8% depression among elderly people who had health problems and 29.2% among who didn't had any health problems which resembled with the study done by Sanjay et al and Timilsina et al.^{17,18}

However, the study had few limitations. First, the cross-sectional nature of this study is a drawback in that causal relationships cannot be inferred. Second, the small sample size limits generalizability, so larger-scale studies are needed for a better picture. Moreover, factors such as nutritional status and functional status of the study population could not be assessed.

CONCLUSION

The prevalence of depression was 27.71% and 24.46% in the urban and rural areas respectively. Hence, a marginal difference in the urban-rural prevalence was observed and there was no significant relationship between area of living and depression. Predictors of depression were spouse status, living arrangement, family care and support, relationship with son and daughter in law, abuse, assistive device, work, worry, social support, feel discriminated, feel socially isolated and alone and health problems.

Geriatric depression should be immediately addressed by providing health services, counseling and necessary treatment. Brief and rapid assessment of depression while examining the elderly persons should be carried out in health centers and hospitals on a routine basis. Harmonious relationship among geriatric people and family members especially their son and daughter in law should be established by providing social support and counseling to family members. Furthermore, training of health-care professionals and health workers to deliver geriatric care is imperative. To address the ever-increasing burden of age-related diseases and deliver comprehensive geriatric care to the community.

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