

**Factors Associated with Depression among Elderly People Living In Old Aged Homes of Pokhara, Nepal**Ananta Raj Dhungana<sup>1</sup><sup>1</sup>School of Development and Social Engineering, Pokhara University, Nepal**ABSTRACT**

**Introduction:** Depression is an important public health challenge in developing countries. Old people have a much higher risk of suicide than the general populations and are suffered from depression. In this context, this study aims to find the factors associated with depression among elderly people living in old aged homes in Pokhara.

**Methods:** Three major elderly homes of Pokhara were selected purposively. Then information was collected from all the elderly people living in these old aged homes. Geriatric Depression Scale was used to find the depression level of the elderly people. Chi-squared test was applied to find the factors associated with degree of depression among these elderly people.

**Results:** Majority of the elderly people were suffered from depression (80.7%). Female were highly suffered from depression with respect to male. Age, sex, marital status, and previous occupation of the respondents have significant association with degree of depression. Further, there was significant association between degree of depression and the activities for entertainment in elderly homes.

**Conclusion:** Age, sex, marital status, previous occupation, and activities for entertainment in elderly homes were the major factors associated with degree of depression. The concerned organization and other authorities should give attention regarding the more entertainment activities for elderly people.

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**Keywords:** *Association, Degree, Depression, Elderly Homes, Elderly People, Entertainment*

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**INTRODUCTION**

There are many old aged homes in Nepal where the elderly people of ages 60 and above live the remaining days of their lives. Some of those elders are discarded by their sons because they are very old to be taken care of and some of those elders may not have children or relatives to live with. So they are brought to the old aged homes which provide them with food and shelter. Depression is the leading cause of ill health and disability worldwide. More than 300 million people are now living with depression, an increase of more than 18 percent between 2005 and 2015. Depression is a common mental disorder, characterized by persistent sadness and a loss of interest in activities that you normally enjoy, accompanied by an inability to carry out daily activities, for at least two weeks. In addition, people with depression normally have several of the following: a loss of energy; a change in appetite; sleeping more or less; anxiety; reduced concentration; indecisiveness; restlessness; feelings of worthlessness, guilt, or hopelessness; and thoughts of self-harm or suicide.<sup>1</sup>

Lower levels of education linked to low income or financial dependency, widowed or separated, and recent hospitalization were the factors associated with depression.<sup>2</sup> Depression, particularly mild depression, is common in rural population of older adults and further female sex and widowhood were

significantly associated with depression.<sup>3</sup> Regression analysis shows that being women, feeling of loneliness and higher the dependency in instrumental activities of daily living (IADL) were predictors of depression.<sup>4</sup> Prevalence of depression was significantly associated with increased age; in females; and with duration of stay in old age home.<sup>5</sup> The study in Bangalore shows that Significance was obtained for female sex ( $p = 0.0001$ ) and widowed elderly ( $p = 0.0001$ ) with the presence of depression.<sup>6</sup> Depression in the elderly had significant association with female gender.<sup>7</sup> Prevalence of depression among elderly was found to be very high in this study which was significantly associated with older age, low socio-economic status and perceived lack of respect from the community.<sup>8</sup>

According to the report of census carried out in 2001 for Nepal, its elderly population constituted 6.5 percent of the total population of the country. During the years 1991-2001, the annual elderly population growth rate was 3.39 percent as against the national population growth rate of 2.3 percent. According to the report of

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census carried out in 2011 for Nepal, the percentage of elderly population has increased to 9.1 percent. The number of senior will increase because 54.7 percent of the total population is within the age group of 15-59, which is reproductive.

The global point, one-year, and lifetime prevalence of depression are 12.9%, 7.2%, and 10.8%, respectively.<sup>9</sup> The average total cost of patients with depression is US\$7,638 per patient per year and indirect costs (e.g., unemployment and loss of productivity) dominated the total costs.<sup>10</sup> Elderly who died of suicide and had a past history of suicidal behavior were more likely to suffer from depression.<sup>11</sup> These problems can become chronic or recurrent and lead to substantial impairments in an individual's ability to take care of his or her everyday responsibilities. People with depression suffer from impairment of all major areas of functioning and die prematurely.<sup>12</sup> The need to understand the problem of depression among elderly requires attention from all groups of community. No research was focused especially on depression among elderly people living in old aged homes of Pokhara. Further this research will be useful to the policy maker and related organizations for appropriate design of old age homes so as to address the needs of elderly and the factors associated with depression. This study will be the guideline for curriculum review by addressing the geriatric problems and needs. Moreover, studying the association between the different independent variables on depression will be helpful to the related organizations to improve the factors which directly affect the mental health of the elderly and to gain information for primary and secondary prevention of geriatric mental health problems. Hence this research has tried to find the factors associated with degree of depression among elderly people living in old aged homes of Pokhara, Nepal.

## METHODS AND MATERIALS

Data was collected from fifty seven elderly people aged sixty years and above who were living in three major old aged homes in Pokhara (Pokhara Aged Shelter situated in Pokhara-17, Sitapaila, Radha Krishna Senior citizen Residence situated in Pokhara-32, TalloGagangauda, Lame ahal and Batsyayan Aged Shelter situated in Pokhara-18, Batchchibuduwa). The elderly people, who were unable to speak, hear, complete the interview process, have severe psychiatric disorder, did not have no sickness and disability in terms of having neurological problems, did not have verbal consent to participate in this study were excluded from the study. The study is based on primary data and these data were collected by using Geriatric Depression Scale (Long Form) having 30 questions (Annex 1)<sup>13</sup> and pre-structured questionnaire containing different socio- economic and other variables were also used. Face to face Interview was carried out for data collection. For validity of the questionnaire, it was maintained using standard survey questionnaire that are

already tested for measuring the level of depression (Annex 1).<sup>13</sup> Further for the easy of understanding in local people in old aged home, the questionnaire was translated in Nepali language. Ethical approval was taken from Institutional Review Committee, Pokhara University before collecting the data. Verbal and informed consent was obtained from the participants and the related institution.

Geriatric Depression Scale (Long Form) contains 30 yes/no questions.

One point has been given for each of the following answers of 30 questions otherwise zero has been given.

1. NO 2. YES 3. YES 4. YES 5. NO 6. YES 7. NO 8. YES 9. NO 10. YES 11. YES 12. YES 13. YES 14. YES 15. NO 16. YES 17. YES 18. YES 19. NO 20. YES 21. NO 22. YES 23. YES 24. YES 25. YES 26. YES 27. NO 28. YES 29. NO 30. NO

Then total score was calculated for each respondent. Finally, the respondent with score 0-9 is considered as normal, with score 10-19 is mild depressives and with score 20-30 is severe depressives.<sup>13</sup> Then chi-square test was applied for such degree of depression with score 10-19 and 20-30 with different socio-economic, demographic and other variables to find the factors associated with it.

## RESULTS

Based on the information collected from all the elderly people with age sixty and above living in three major elderly homes who were able to give information, we have the following results:

### Level of Depression

The level of depression is calculated on the basis of total score secured by each respondents using Geriatric depression scale. The level is categorized into three categories as Normal, Mild and Severe. If the total score is between 0-9, it is normal, if 10-19, it is mild and if 20-30, it is severe.<sup>13</sup> The level of depression among elderly people in the study area is presented in the following table.

Table 1: Depression level of respondents

Characteristics	Frequency	Percentage (%)
Normal	11	19.3
Mild	34	59.6
Severe	12	21.1
Total	57	100.0

Source: Field Survey, 2019

It is found that majority (59.6%) of the respondents have mild depression level followed by severe (21.1%) and normal (19.3%). So, it can be concluded that more than four fifth of the respondents are suffered from depression while almost one fifth are normal regarding depression.

**Depression Level by Sex of the Respondents**

It is found that the proportion of female is higher than male regarding depression level i.e. normal, mild and severe. So, it can be concluded that female are highly suffered from depression with respect to male.

Table 2: Depression level by sex of the respondents

Sex	Depression Level						Total	
	Normal		Mild		Severe			
	N.	Percent	N.	Percent	N.	Percent	N.	Percent
Male	3	5.3	16	28.1	1	1.8	20	35.1
Female	8	14.0	18	31.6	11	19.3	37	64.9
Total	11	19.3	34	59.6	12	21.1	57	100.0

Source: Field Survey, 2019

**Factors Associated with Depression**

Chi-squared test is applied to find the factors associated with depression. For this purpose, degree of depression i.e. mild and severe, is taken as dependent variable and other factors, i.e. socio-demographic factors (age, sex, marital status, educational status, previous occupation, caste/ethnicity and previous family type), individual factors (duration of Stay in elderly home, chronic illness, heart disease, hypertension, diabetes mellitus, musculoskeletal, back Pain, gastrointestinal disease, and respiratory problems) and contextual factor (activities for entertainment in elderly home) are taken as independent variables.

Table 3: Association between degree of depression and Socio-demographic factors

Variables	Depression						P-value
	Mild		Severe		Total		
	Number	Percent	Number	Percent	Number	Percent	
Age(years)							
61-79	27	58.7	6	13.0	33	71.7	0.052
80 and above	7	15.2	6	13.0	13	28.3	
Sex							
Male	16	34.8	1	2.2	17	37.0	0.017
Female	18	39.1	11	23.9	29	63.0	
Marital Status							
Married	13	28.3	1	2.2	14	30.4	0.053
Single/widow	21	45.7	11	23.9	32	69.6	
Educational Status							
Illiterate	9	19.6	3	6.5	12	26.1	0.921
Literate	25	54.3	9	19.6	34	73.9	
Caste/Ethnicity							
Brahmin/Chhettri	29	63.0	9	19.6	38	82.6	0.419
Others	5	10.9	3	6.5	8	17.4	
Previous Occupation							
Agriculture	19	41.3	10	21.7	29	63.0	0.090
Non-agriculture	15	32.6	2	4.3	17	37.0	
Previous Family Type							
Nuclear	22	47.8	9	19.6	31	67.4	0.513
Joint	12	26.1	3	6.5	15	32.6	

Source: Field Survey, 2019

It is found that there is an association between degree of depression with age, marital status and previous occupation at ten percent level of significance ( $P < 0.1$ ). Sex is also associated factors with depression at five percent level of significance ( $P < 0.05$ ). However there is no significant association between degree of depression and educational status, caste/ethnicity and previous family type. So, age, marital status, sex, and previous

occupation are the socio-demographic factors associated with degree of depression among the elderly people. However, there is no any significant association between degree of depression and individual factors of elderly people. Further it is found that there is significant association between depression degree and the activities for entertainment in elderly homes at one percent level of significance.

Table 4: Association of degree of depression with Health and contextual factors

Variables	Degree of Depression						P-value
	Mild		Severe		Total		
	Number	Percent	Number	Percent	Number	Percent	
Duration of Stay in Elderly Home							
Upto 5 years	20	43.5	8	17.4	28	60.9	0.632
6 years and more	14	30.4	4	8.7	18	39.1	
Chronic Illness							
No	3	6.5	1	2.2	4	8.7	0.959
Yes	31	67.4	11	23.9	42	91.3	
Heart Disease							
No	27	58.7	9	19.6	36	78.3	0.750
Yes	7	15.2	3	6.5	10	21.7	
Hypertension							
No	21	45.7	6	13.0	27	58.7	0.477
Yes	13	28.3	6	13.0	19	41.3	
Musculoskeletal							
No	10	21.7	3	6.5	13	28.3	0.770
Yes	24	52.2	9	19.6	33	71.7	
Gastrointestinal Disease							
No	11	23.9	3	6.5	14	30.4	0.634
Yes	23	50.0	9	19.6	32	69.6	
Respiratory Problem							
No	20	43.5	10	21.7	30	65.2	0.125
Yes	14	30.4	2	4.3	16	34.8	
Diabetes Mellitus							
No	21	45.7	9	19.6	30	65.2	0.408
Yes	13	28.3	3	6.5	16	34.8	
Back Pain							
No	8	17.4	2	4.3	10	21.7	0.620
Yes	26	56.5	10	21.7	36	78.3	
Having activities for entertainment in elderly home							
No	3	6.5	5	10.9	8	17.4	0.010
Yes	31	67.4	7	15.2	38	82.6	

Source: Field Survey, 2019

## DISCUSSION

Depression is an important public health challenge in developing countries. Old people have a much higher risk of suicide than the general populations and are suffered from depression. In this study, just over one fifth of the elderly have severe depression which is similar to the epidemiological study of depression in a tertiary care hospital.<sup>14</sup> This study shows that age of elderly people matters for depression which is supported by the study of previous epidemiological study<sup>14</sup> and in contradiction of the study in India.<sup>15</sup> The proportion of female who were suffered with high degree of depression is higher than the male which is also statistically significant and the result is similar to the studies done in India.<sup>6, 16, 7</sup> This means females are more likely to have more

depressed. Similarly single/widow/widower respondents are more likely to have depressed degree than married elderly. This may be due to the fact that they are more worried about their future since they do not have their life partner currently. Regarding the depression degree, the proportion of elderly people with agriculture as their previous occupation is higher than the elderly with non-agriculture as their previous occupation. Statistically it is also significant. It shows that previous occupation matters for the depression degree of the elderly people. The proportion of the literate elderly with severe depression is higher than the illiterate elderly which is not statistically significant. This result is in contradiction to the study in tertiary care hospital.<sup>14</sup> The

higher proportion of the respondents from previously nuclear family suffered from depression degree than that of from joint family but statistically it is not significant. So, previous family type does not matter for depression degree. Further, regarding the depression degree, the proportion of the elderly people suffered from back pain, chronic illness, Gastrointestinal Disease and Musculoskeletal is higher as compared with those people without these diseases. Since entertainment activities matter for depression degree of the respondents, every concerned authority should increase more entertainment activities in their respective organization.

## CONCLUSION

Majority of the elderly people suffered from depression. Female are highly suffered from depression with respect to male. Age, sex, marital status, and previous occupation of the respondents have significant association with degree of depression. Further the activities for entertainment in elderly homes matter for the degree of depression. So, age, sex, marital status, previous occupation, and activities for entertainment in elderly homes are the major factors associated with degree of depression. The concerned organization and other authorities should give attention regarding the more entertainment activities for elderly people.

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## REFERENCES

1. World Health Organization. Mental Health: World Health Organization; 2017. Available from: [http://www.who.int/mental\\_health/management/depression/en/](http://www.who.int/mental_health/management/depression/en/).
2. Asokan, GV, Awadhalla, M, Albalushi, A, al-Tamji, S, Juma, Z, Alasfoor, M, Gayathripriya, N. The magnitude and correlates of geriatric depression using Geriatric Depression Scale (GDS-15) – a Bahrain perspective for the WHO 2017 campaign ‘Depression – let’s talk’. *Perspectives in Public Health* 2018 DOI: 10.1177/1757913918787844.
3. Sinha, S. P., Shrivastava, S. R. and Ramasamy, J. (2013). Depression in an Older Adult Rural Population in India. *MEDICC review*. 15. 41-4s4.
4. Chalise, HN. Depression among elderly living in Briddashram (old age home), *Advances in Aging Research* 2014; 3 (1): 6-11.
5. Maktha, S, Kumar MV. Study on Level of Depression among Elderly Residing in an Old Age Home in Hyderabad, Telangana. *The Int J of Indian Psychology* 2015; 3(1). DIP: C00393V3I12015.
6. D’souza, L, TS, R, Thangaraj, S. Prevalence of depression among elderly in an urban slum of Bangalore, a cross sectional study. *IJIMS* 2015; 2(3): 1-4.
7. Pilaian, M, Bairwa, M, Khurana, H, Kumar, N. (2017). Prevalence and Predictors of depression in community-dwelling elderly in rural Haryana, India, *Journal of Community Medicine* 2017; 42(1): 13-18. Available from: <http://www.ijcm.org.in/text.asp?2017/42/2/13/199792>
8. Sharma, KR, Yadav BK, & Bhattachan, M. Correlates of Depression Among Elderly Population Residing In A Community In Eastern Nepal. *BJHS* 2018; 3(1)5 : 325-330. [hp://dx.doi.org/10.3126/bjhs.v3i1.19729](http://dx.doi.org/10.3126/bjhs.v3i1.19729)
9. Lim, YG, Tam, WW. “Prevalence of Depression in the Community from 30 Countries between 1994 and 2014,” *Scientific Reports* 2018; vol. 8, no. 1.
10. Ho, RC, Mak, KK, Chua, AN, Ho, CS, Mak, A. The effect of severity of depressive disorder on economic burden in a university hospital in Singapore. *Expert review of pharmacoeconomics & outcomes research* 2013; 13(4): 549-559.
11. Ho, RC, Ho, EC, Tai, BC, Ng, WY, Chia, BH. Elderly suicide with and without a history of suicidal behavior: implications for suicide prevention and management. *Archives of suicide research* 2014; 18(4): 363-375.
12. Noël, PH, Williams, JW, Jr, Unützer, J, Worchel, J, Lee S, Cornell, J. Depression and Comorbid Illness in Elderly Primary Care Patients: Impact on Multiple Domains of Health Status and Well-being. *Ann Fam Med* 2004; 2: 555-62.
13. Yesavage, JA, Brink, TL, Rose, TL, et al. Development and validation of a geriatric depression screening scale: a preliminary report. *J Psychiatr Res* 1983; 17: 37-49.
14. Saha, SS, Saha, PK. An Epidemiological study on Depression and related factors among Geriatrics in a tertiary care Hospital. *Journal of Dental and Medical Sciences* 2013; 12(6): 14-17.
15. Subba, R, Subba, HK. Level of depression among elderly in selected old age homes at Mangalore, India. *Journal of Chitwan Medical College* 2015; 5(1): 28-32. DOI: <https://doi.org/10.3126/jcmc.v5i1.12568>
16. Sukanathan S. A study on depression among elderly in a rural population of Tamil Nadu, India. *International Journal of Community Medicine and Public Health* 2016; 3(9): 2571-4. DOI: <http://dx.doi.org/10.18203/2394-6040.ijcmph20163074>