

# Depression and its Associated Risk Factors among Residents of a Geriatric Home in Western Nepal

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## ABSTRACT:

**Introduction:** Elderly people suffer from many acute and chronic illnesses and also show higher prevalence of depression. The trend of old age homes is rising in Nepal. The aim of this study was to assess depression in the residents of a geriatric home and compare it to that in the elderly population living in their own homes. **Methods:** This was an observational cross-sectional study in which residents of a geriatric home above 60 years of age were selected as cases, and those living in their own homes were selected from the local community as a comparison group. Depression was measured with Geriatric Depression Scale comprising 30 questions. Chi-square (or Fisher Exact) test was used to compare categorical variables. **Results:** There were 52 participants in both groups. Thirty-six (69.2%) participants from the study group had depression whereas only 10 (19.2%) from the comparison group had depression. This difference was statistically significant, the odds ratio being 9.45. **Conclusion:** Depression is significantly high in elderly population living in a geriatric home as compared to those living in their own homes.

**Keywords:** Depression, Geriatric

## INTRODUCTION:

Aging is the process of growing older, a process that includes physical change and sometimes mental changes.[1] As per WHO definition, people aged 60 years and above are elderly.[2] The population of the world is estimated to have reached 7.6 billion of which 7.9% is elderly.[3] Elderly people have a tendency of suffering from acute and chronic illnesses and these sub-population show higher prevalence of depression. WHO estimates that depression will rank second to heart disease by 2020 in terms of global disability.[4] Various studies have shown that a range of biological and social factors

like increased age, economic status, social reaction, dissatisfaction with the old age, behavior of family members, gender, history of physical illness etc. are significant factors associated with depression in elderly.[3,5,6]

The trend of old age homes is in rise in Nepal. These homes provide residential care to the elderly who are destitute or homeless and not able to function independently in various aspects of their daily life. People in these homes are generally neglected by their family and relatives and suffer mental illness, depression being a common one.[6] Very few studies have been conducted in Nepal to understand the problem of residents of old age home. We have tried to assess depression and its associated factors in these population.

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**METHODS:**

This was an observational cross-sectional study conducted over a period of two weeks from 1st May, 2019. Ethical approval was taken from Institutional Review Committee of Lumbini Medical College (IRC-LMC 03-C/019) before starting the study. Consent was also taken from the head of the 'Geriatric Home' and Chairman of the corresponding wards from where cases and comparison group were selected.

People 60 years of age or older residing in 'Shiva Parbati Geriatric Home' at Ramdi of Syangja district, Nepal were included. As a comparison group, sex and age ( $\pm$  five years) matched individuals were selected at ratio of 1:1 from Tansen municipality ward nine.

People who did not consent to the study or were unable to communicate and complete the interview process were excluded.

**Sample size calculation:**

There were a total of 59 elderly in the geriatric home fulfilling the inclusion criteria but not all of them were available throughout the study period. Using Slovin formula,  $N/(1+Ne^2)$  for finite population, where N is the total population and e is sampling error, minimum sample size was 52 with 5% error. Hence, we included 52 participants for the cases by census enumeration technique. Similarly, 52 sex and age ( $\pm$  five years) matched comparison group were included.

Consent was taken from each respondent after explaining the purpose of the study.

We developed a semi-structured questionnaire in Nepali language to collect data on socio-demographic characteristics and other relevant information. Depression of the participants was scored with Long Form of 'Geriatric Depression Scale' (GDS) comprising 30 questions, widely used in South East Asian countries in more than 30 languages.[7] The cutoff score of the GDS is the original scoring method i.e. normal= 0-9; mild depression = 10-19; severe depression = 20-30. The scale was translated into Nepali language by forward and backward translation with the help of available language experts. Both the questionnaire and scale were pretested on six participants (10% of the study sample size) of Tansen Municipality, ward number eight of Palpa district for completeness, comprehensiveness and appropriateness, and

required changes were made by the language expert. These participants were not included in the study.

Data collection was done by the researcher herself with the help of maid of the geriatric home. A comfortable and confidential environment was chosen for interview. The researcher introduced herself to the respondents, established rapport with them and explained the purpose of the study. Data were collected in demographic questionnaire and the Depression scale by face to face interview technique. Data were collected from the comparison group in similar fashion. Respondents were appreciated for their participation and co-operation. The data were preserved in a file to prevent from damage. They were then entered into Statistical Package for Social Sciences (SPSS™) software version 16 for analysis.

Descriptive statistics were presented as frequency and percentages. Relationship of depression with various categorical variables was analyzed with Chi-square test and Fisher Exact test whichever was appropriate. Odds Ratio of presence of depression among old age home to that among comparison group was calculated. P value less than 0.05 was considered statistically significant.

**RESULTS:**

There were 52 respondents in each group. Their demographical details is presented in Table 1. The table reveals that the relationship between literacy and geriatric home stay is statistically significant. Similarly, relationship between having children and geriatric home stay is also statistically significant.

Among the participants from the geriatric home, 36 (69.2%) had depression whereas, among those residing in their own home, only 10 (19.2%) had depression as shown in Table 2. This difference is statistically significant ( $X^2=26.4$ ,  $df=1$ ,  $p<0.001$ ). The OR (odds ratio) of depression among geriatric home to that of general community was 9.45. Hence, people residing in old age home were 9.45 times more likely to have depression compared to those residing in own home.

To analyze the risk factors of geriatric home depression, we studied the data of geriatric home only. Thus, we calculated data of 52 old age residents of the geriatric home. Their results are presented in Table 3. The table shows that gender is statistically associated with depression. Females are more likely to have depression in old age home. Other factors like literacy status, family type, whether they have

Table 1: Demographic details of the participants of geriatric home and own home

| Variables           | Geriatric Home (n=52) | Own Home (n=52) | Statistics |
|---------------------|-----------------------|-----------------|------------|
| Age group, n (%)    | 60 - 69               | 18              | 19         |
|                     | 70 - 79               | 22              | 23         |
|                     | 80 - 89               | 9               | 9          |
|                     | 90 and above          | 3               | 1          |
| Gender, n (%)       | Male                  | 14              | 14         |
|                     | Female                | 38              | 38         |
| Ethnic Group, n (%) | Brahmin/Chhetri       | 41              | 31         |
|                     | Janajati              | 11              | 20         |
|                     | Dalit                 | 0               | 1          |
| Literacy            | Literate              | 18              | 39         |
|                     | Illiterate            | 34              | 13         |
| Type of family      | Nuclear               | 23              | 17         |
|                     | Joint                 | 29              | 34         |
|                     | Extended              | 0               | 1          |
| Having children     | Yes                   | 34              | 51         |
|                     | No                    | 18              | 1          |

children, visit by relatives in the geriatric home, and their health status were not statistically significant.

## DISCUSSION:

Table 2: Level of depression in elderly of geriatric home and those living in own homes

| Level of Depression | Own homes (n 52) | Geriatric home (n 52) |
|---------------------|------------------|-----------------------|
| No depression       | 42 (80.76%)      | 16 (30.76%)           |
| Mild depression     | 10 (19.23%)      | 33 (63.46%)           |
| Severe depression   | 0 (0%)           | 03 (5.76%)            |
| Total               | 52 (100%)        | 52 (100%)             |

This study is aimed to determine the level of depression of geriatric population of geriatric home and compare them with those living in their own homes. The study found that the people going to geriatric home were more likely to be illiterate than those living in their own homes. Relationship between geriatric home stay and literacy was statistically significant. This might be due to the impact of education on their quality of life and support of family members, decision making ability

so that illiterate elderly are more likely to be in geriatric home. Similarly, relationship between having children and geriatric home stay was also statistically significant, meaning those who are childless are more likely to stay in geriatric home. Demographic findings of the study revealed that nearly half of the respondents (48%) belonged to the age group 70-79 years which is consistent with the study done in Mangalore, India where (48%) belonged to the same age group.[8] With regards to the gender, more than half of the respondents 73.1% were female, similar to the study done in West Bengal, India, where 67.08% of total respondents were female.[9]

Regarding length of stay in geriatric home, 57.7% of the respondents lived in the old age home for more than one year which is consistent with the study of Narkhede V. et al.[10] Current study revealed that 44.2% of the respondent lived in geriatric home due to lack of family caregivers. This finding is supported by the study of Sharma K. et al., in which majority (80%) of the respondents lived in geriatric home due to lack of family caregivers. [11] But other factors like literacy status was not statistically significant with depression of people

Table 3: Relationship between various factors and depression among the Geriatric home population (N=52)

| Variables          | Depression |            | Statistics                          |
|--------------------|------------|------------|-------------------------------------|
|                    | Absent, n  | Present, n |                                     |
| Gender             | Male       | 8          | X <sup>2</sup> =6.26, df=1, p=0.01  |
|                    | Female     | 6          |                                     |
| Literacy           | Literate   | 8          | X <sup>2</sup> =2.4, df=1, p = 0.12 |
|                    | Illiterate | 10         |                                     |
| Family type        | Nuclear    | 8          | X <sup>2</sup> =0.3, df=2, p=0.058  |
|                    | Joint      | 15         |                                     |
| Have children      | Yes        | 8          | X <sup>2</sup> =0.94, df=1, p=0.33  |
|                    | No         | 22         |                                     |
| Visit by relatives | Yes        | 4          | X <sup>2</sup> =0.03, df=1, p=0.85  |
|                    | No         | 14         |                                     |
| Health status      | Good       | 15         | p=0.4                               |
|                    | Poor       | 1          | Fisher Exact                        |

in geriatric home. This might be due to irrespective of their education the participants had the pattern in life to balance themselves positively in different hurdles of life. Having children, visit by relatives in the geriatric home, and their health status were not statistically significant.

Among the participants from the geriatric home, 36 (69.2%) had depression whereas, among the general community only 10 (19.2%) had depression. This difference was statistically significant (X<sup>2</sup>=26.4, df=1, p<0.001). The OR of depression among geriatric home to that of general community was 9.45. Hence, people residing in old age home were 9.45 times more likely to have depression compared to those residing in own homes. This finding is supported by the findings of Chalise HN, where prevalence of depression was 57.8%. [11] There were similar findings with prevalence rate of depression as 52.73% in old-age home and 25.45% in community[12]. Also, another study of D'souza L. et al. showed 109 (51.9%) elderly were depressed.[13] Present study showed that there was no statistically significant association between the level of depression and having children (p=0.3). This finding is consistent with those of the studies done in Nepal and China where suffering from depression

and having children was not statistically significant. [6,14]

This study also showed that there was no significant association (p=0.66) between the level of depression and age of respondents. This finding is supported by the finding of the study of Subba R. et al.[7] Gender was statistically associated with depression, i.e. females were more likely to have depression in old age home. This finding is similar to that of the study by D'souza L. et al. and another study by Suganathan S. where level of depression was statistically significant with the female gender of elderly respondents (p<0.001 in both studies) respectively.[13,15]

**Limitations:** The study population was taken from a single center. Inclusion of multi-centric population would increase the external validity of the study.

## CONCLUSION:

This study revealed that more than half of the respondents of geriatric home had depression whereas, among the general community only one third of the residents had depression. Gender was associated with depression at statistically significant

level.

### Conflict of interest:

The authors declare that no competing interests exist.

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