

Geriatric Depression and Variables in Residential Homes Located around Religious Beliefs Tagged Land Area

Prakar Poudel

MBBS, Chitwan Medical College Geriatric Clinic, Devghat, Tanahun, Nepal
prakarpdl2020@gmail.com

Santosh Timalina

MD Assistant Professor, Research Unit, Chitwan Medical College and Teaching Hospital, Bharatpur, Nepal
timalina.santosh@cmc.edu.np

Sabin Rimal

MBBS
rimalsabin52@gmail.com

Corresponding Author

Prakar Poudel

Email: begoodto33n@gmail.com
Phone: +977-9841162592.

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Abstract

Depression is one of the psychiatric problems in geriatric population with a decrease in wellbeing. There was few prevalence studies carried out in old age residential homes located around spiritual and religious beliefs' tagged area. This study was to find prevalence of depression and its associations in residents of old-age homes located around spiritual and religious beliefs' tagged area. A cross-sectional study was carried out in four residential homes with face-to-face interviews using validated GDS-15 and PHQ-9 Nepali version questionnaires. Data were analyzed using percentage, mean, univariate analysis and logistic regression. Among a total of 108 respondents, GDS-15 screening detected 36.2% of residents to be depressed (cut-off 4/5) and PHQ-9 screening detected 37.1% to be depressed (cut-off 4/5). The mean age was 75.7 years (\pm 8.3). Two-thirds of residents were female and the

majority follow Hinduism religion. The majority were illiterate and were farmers in past. Odds of having depression decreases by 92% in self-reported better-satisfied status compared to unsatisfied status and by 89% in self-reported better-financed status compared to worse financed status. Geriatric depression is low in old age homes located around areas tagged with religious and spiritual beliefs. However further comparative study is required to find a correlation of depression with spirituality and religiousness in daily social living. Depression decreases more with self-satisfaction of old age people rather than financial stability.

Keywords: depression; geriatric assessment; old age homes; PHQ-9; spirituality

1. INTRODUCTION

1.1 Background:

Depression is one of the psychiatric illnesses affecting people of almost all age groups including old age people. World Health Organization on 2008 and “Senior Citizen Act of Nepal 2006” identified old age as a person above 60 years. This criterion might be legal clarification. However, ageing only follows natural senescence phenomenon as a basic rule.

1.2 Related current knowledge:

Devghat region area of Nepal has an essence of religious and spiritual values in society as well as is a cremation site for dead bodies. Residents living in nearby area observe these daily transactional cremations which envision their own life’s endpoint and make them vulnerable to idealize the concept of spirituality. Old age people are also living in nearby residential homes due to their self-desire, family decision, loss of spouse or lack of family care and support. So, it could be presumed that these old-age people living in these residential homes are vulnerable to depression.

1.3 Research Gap:

Few prevalence studies have been conducted to screen geriatric depression in social setting of this community.

1.4 Research Purpose:

So, this study was to find prevalence of depression and its associated factors among residents of old-age homes which are located around spiritual/religious beliefs tagged land area.

2. MATERIALS & METHODS

This is a cross-sectional study carried out during the covid-19 pandemic time. Cluster sampling technique was used to select residential homes from *Devghat* regional area. This study was performed within January month of 2021. Four residential homes named *Devghat Kshetra Bikash Samaj Briddashram*, *NRN Briddashram*, *Rotary Karunalaya* and *Sri Galeshwor Ashram* trust were selected. Among these, only *Galeshwor Ashram* trust provides ownership of a single individual house (“*Kuttee*”) for each person. These individual houses are scattered

around the main religious temple school. Other residential homes are either a single room or group stay in a confined bordered building provided with caregivers.

All residential homes had provided written permission for the study. After informing about the nature, purpose and procedures of the study, all invited participants gave verbal consent before interviews.

Residents who had been staying for at least one month and aged 60 years and above were considered eligible. Residents who have refused or not able to complete the interview, has major speech, hearing and visual loss and has cognitive impairment were excluded; i.e. they were unable to give correct answers to at least two of these questions (i) time of day [morning, afternoon or evening] (ii) location [outside or inside the house] and (iii) weekday [Sunday to Saturday].

The sample size was calculated using the formula,

$$\begin{aligned}n &= Z^2 \times p \times q / e^2 \\ &= (1.96)^2 \times 0.5 \times (1-0.5) / (0.1)^2 \\ &= 96\end{aligned}$$

Where,

n= minimum required sample size

Z= 1.96 at 95% Confidence Interval (CI)

p= prevalence taken as 50% based on past studies in the same place

q= 1-p

e= margin of error, 10%

A total of 108 available respondents were finally included from four homes and trust after a convenient sampling method.

Data was collected in a door-to-door survey with face-to-face interviews using structured questionnaires. Geriatric Depression Scale-Short Form (GDS SF-15) and Patient Health Questionnaire-9 (PHQ-9) in *Nepali* language were used for interviews.(Kohrt et al., 2016; Risal et al., 2020) GDS (SF-15) is originally a self-administered questionnaire tool.(Sheikh & Yesavage, 1986) Alden and the team recommended cut-off points for GDS-SF as 0–4 (normal), 5–9 (mild), and 10–15 (moderate to severe).(Alden et al., 1989) This instrument had already been validated and used with the geriatric population of *Nepal* in clinical primary care settings.(Risal et al., 2020) PHQ-9 is also a self-report screening tool developed based on PRIME-MD (Kroenke et al., 2001) for patients in various medical settings. PHQ-9 has also been validated trans-culturally in *Nepal*.(Kohrt et al., 2016) However, in lower literacy and developing countries like *Nepal*, these questionnaires being self-administered tools have to be delivered with an interview in a comprehensible way for respondents. Final structured interview questions consist of parts (i) personal and demographic characteristics (age, gender, past address, past occupation, self-claimed caste, self-claimed religion, educational level,

marital status, presence of partner); (ii) questions that map participant's physical condition with regard to chronic health problems (subjective report of any of the following diseases: diabetes, hypertension, heart disease, lung disease, kidney disease, bone diseases and/or mobility problems ; medication for psychiatry illness, habit of chewing /smoking tobacco) (iii) questions related to stay (stay duration, subjective satisfaction rating in stay and financial support, source of financial support, subjective feeling of loneliness) (v) questions from validated GDS-SF15 and PHQ-9 *Nepali* version. Subjective satisfaction rating is on the scale of 3 and subjective financial status is scaled in worse, low and good.

The questionnaires were asked in person with a 100% response rate. Responses were selected on basis of interview answers. Finally, data were analyzed with Statistical Package for Social Sciences (SPSS).

Depression status with two different tools is a dependent variable. Independent variables are dichotomized as gender (male and female), type of residence stay (individual stay in Trust area and group stay in other homes), spousal presence (yes or no), chronic illness presence (yes or no), tobacco use status (yes or no), intake of psychiatric medications (yes or no), old age allowances (yes or no) and self-perceived loneliness (low degree or high degree). Other independent variables are age, provinces of previous residence, caste, religion, past occupation, literacy level, marital status, stay duration, source of financial support.

3. RESULTS AND DISCUSSION

Among 108 elderly people, the prevalence of depression were 36.2 %(with GDS-15) and 37.1 %(with PHQ-9) as per Table 1.

Table 1. Prevalence of depression with different tools.

Mental status	GDS-15 score	PHQ-9 score
Normal /No depression	69 (63.8%)	68 (62.9%)
Mild depression	33 (30.6%)	29 (26.8%)
Moderate-to-severe depression	6 (5.6%)	11 (10.2%)

The median (IQR) score was 4 (2 – 6) for GDS-15 score and 3 (2 – 6) for PHQ-9 score. The mean age of the respondents was 75.7 years \pm 8.3 with Interquartile Range (IQR) of 70 - 82 years. Two-thirds of the respondents were females (66.7%) and more than three-quarters were of *Brahmin* ethnicity. A majority (96.3%) has a belief in *Hindu* religion followed by *Buddhism* (3.7%). A major number of respondents were illiterate (71.3%) while nearly a quarter of them (20.4%) can read and write in their own language. Agriculture is the main past occupation in more than half of respondents (58.3%) whereas more than a quarter (34.3%) were employees.

Minimal respondents (7.4%) were government officials or had their own business. Only 68.5 % (74) subjects were receiving an old-age allowance.

Table 2. Self-reported financial status scale.

Self-considered financial status	Frequency	Percentage
Worse	20	18.5 %
Low	28	25.9 %
Good	60	55.6 %

Nearly one-third of respondents do still have a partner alive. More than three-quarters (80.6%) respond to have some chronic illness while only 12 subjects were still smoking. Subjects were nearly half distributed as living in individual stay of Trustee (45.4%) and group stay in other homes (54.6%). 92.7% (102) of subjects perceived a low degree of loneliness compared to a high degree.

Table 3. Self-reported satisfaction rating scale.

Satisfaction rating with stay	Frequency	Percentage
Not good (1)	22	20.4 %
Acceptable (2)	40	37.0 %
Good (3)	46	42.6 %

In univariate analysis, only self-reported satisfaction rating of stay was significantly associated with depression ($p = 0.004$). Age, gender, ethnicity, religion, marital status, past occupation, educational level, presence of chronic illness, elderly care home stay duration (years) and self-reported financial status rating were not associated with depression.

However, in multivariate logistic regression analysis (Enter method), the following variables were found to be significant predictors of depression: age increment, female gender, widow/widower status, self-reported satisfaction rating and self-reported financial status rating. The odds of having depression in widow/widower decreases by 96% compared to married ones. Odds of having depression decreases by 92% in self-reported better-satisfied status compared to unsatisfied status. Whereas, the odds of having depression decreases by 89% in self-reported better-financed status compared to worse financed status (Table 4).

Table 4. Adjusted odds ratio for each of these predictors.

Variables	aOR (95% C.I)	P-value
Age	1.22 (1.09 – 1.36)	<0.001
Gender: Female (cp*: Male)	8.15 (1.14 – 58.14)	<0.05
Widow/Widower status (cp: Married)	0.04 (0.006 – 0.37)	0.004
Self-satisfaction rating-Excellent (cp: Not good)	0.08 (0.01 – 0.52)	0.008
Self-reported financial rating-Good (cp: Worse)	0.11 (0.02 – 0.61)	0.012

Table 5. Score classification used in this study.

Depression category	GDS-15 score	PHQ-9 score
Normal /No depression	0-4	0-4
Mild depression	5-9	5-9
Moderate-to-severe depression	10-15	10-27

The agreement between two screening instruments with the scoring system was fair (Cohen’s kappa = 0.365), with disagreements particularly in classifying mild and moderate to severe depression. Both GDS-15 and PHQ-9 showed acceptable internal consistency (Cronbach’s α = 0.756 and 0.789 respectively) (Table 5).

Based on this study finding, 36.2% of old-age home residents have depression screened with GDS-15 (cut off 4/5). Interestingly, the study finding is comparatively lower than past studies done in the same place using same cut-off; in 2012 being 58% (Chalise, 2014) and in 2017 study with female residents only being 67%.(Gauli & Shrestha, 2017) A 2017 study in a land area tagged with similar religious and spiritual beliefs showed a higher value of 62% residents having depression even with a higher cut-off 5/6 of GDS-15.(Shrestha et al., 2017)

The decline in prevalence of this study could be due to improvement in financial status of old age people with raise in old age allowance after implementation of Social Security Act in 2075 B.S.(Nepal, 2018) Another assumption for lower prevalence could also be due to attachment of old age people with religiousness and spirituality teachings highly evident in this area. Past studies in different countries also had shown that religiousness and spirituality are negatively associated with depression and positively associated with life satisfaction and general wellbeing.(Doolittle & Farrell, 2004; Peselow et al., 2014; Propst et al., 1992; Van Ness &

* cp: Compared to

Larson, 2002) This study also supports the above association with odds of having depression decreases more with higher satisfaction in stay rather than good financial status.

Moreover, the validity of GDS-15 use in community-based settings is debatable. Some studies indicated it is not an acceptable substitute for full GDS-30 in community-dwelling older adults,(Alden et al., 1989; Pedraza et al., 2009) which explains the above studies having variations in prevalence. In addition, these variations could also be due to the use of different methodologies, cut-off points and different socio-cultural demographic variables.

Two similar studies from *India*, with more or less similar socio-cultural attributes as *Nepal*, showed 19.7% and 47% old age home residents screened to have depression even with a higher cut-off 5/6 of GDS-15(N, 2013; Naveen et al., 2020) which is still lower than fifty percentages.

On the other hand, with PHQ-9(cut-off 4/5); 37.1% of residents screened to have depression in this study. A 2018 similar study in Indian community showed a similar prevalence of 28.5% with the same cut-off (Yadav et al., 2018) in regards to identical socio-cultural beliefs of these two countries.

Depression is observed higher with PHQ-9 (37.1%) than GDS-15 (36.2%). Meanwhile using cut-off 9/10 as suggested by authors,(Kohrt et al., 2016) PHQ-9 tool estimates only 10.2% of residents to have depression in this study. However, further study is required to validate the accuracy of PHQ-9, especially in the old age population group.

This study also reveals odds of having depression is higher with age increment and also in female similar to other studies;(Chalise, 2014; N, 2013; Naveen et al., 2020; Soni et al., 2016) which might be due to different perception of questions to answer scale by respondents. Moreover, an odd of depression in married one is more than widow/separated/divorced which contrasts with previous studies.(N, 2013; Naveen et al., 2020; Soni et al., 2016) The bereavement process in this single old age group could have been passed sooner with an additive effect of earlier attachment to spiritual or religious teachings.

Few limitations should be considered before generalization of this study. This being a cross-sectional study implies no causation with study variables. The study is conducted in a confined limited area which may not depict a scenario of a wider district, province or country as a whole. In regards to literacy limitations among participants, the interview had been conducted with clinical-based self-administered tools in this door-to-door survey. Observer bias is also a concern as the study being an interview rather than self-reporting.

4. CONCLUSION & RECOMMENDATION

Despite limitations, this study implies that depression prevalence is low in old-age residential homes located in an area with spiritual and religious belief tags and has decreased compared to past studies. It also emphasizes that focus should be made to satisfy old age people rather than merely financial stability, which can be an area for further researches. There is a need for a screening tool to be validated especially for old-age residential homes in *Nepal*. In addition, further comparative studies are needed to be done to find the association of religiousness or spirituality with depression in daily social living.

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