

Depression among elderly living in Briddashram (old age home)

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ABSTRACT

Introduction: Depression is a common public health issue with the increasing life expectancy worldwide and depression is associated with morbidity as well as disability among the elderly. There are very few studies related with depression among elderly from developing countries. **Objective:** The purpose of this study was to assess the prevalence of depression and its correlates among the elderly living in Briddashram (old age home). **Methods:** This is a cross-sectional study carried out in 2012. Data were collected by face-to-face interview using short version of Geriatric Depression Scale. The data were analyzed using percentage, mean, simple correlation and regression. **Results:** The subjects (N = 185) were elderly aged 60 years and above living in Devghat area, Nepal. Mean age of the subjects was 73.67 (± 3.23) years old and 51% were male. 94% elderly belong to Khas ethnicity. Nearly one third (31%) elderly were from nuclear family background, 25% were married, and only 18% elderly were literate. Majority of the elderly (93%) had health problems and self reported health shows 86% elderly reported their health fair. This study shows mean functional disability score was 2.53 (± 2.05). Finding shows the prevalence of depression was 57.8%. Among them 46.7% had mild, 8.9% had moderate and 2.2% had severe depression. A statistically significant correlation was found between feelings of depression and age, sex, previous family type, ethnicity, feeling of loneliness and instrumental activities of daily living. Regression analysis shows that being women, feeling of loneliness and higher the dependency in IADL were predictors

of depression. **Conclusion:** This study indicates that many elderly living in the Briddashram are suffering from depression. There should be some interruption from the concerned authorities so that depression can be reduced which will support to the well-being and quality of life of elderly.

KEYWORDS

Depression; Elderly; Briddashram; Old Age Home; Nepal

1. BACKGROUND

Old age is usually discussed in connection with the different types of problems encountered by the aged and the welfare measures associated with providing them a better quality of life. It has been observed that physical diseases, psychological illness and adjustment problems are quite common during this phase of life. People in general are apprehensive and speak about the difficulties that they face during the fag end of their lives. In elderly physical changes include wrinkling of skin, stopped posture, flabbiness of muscles, decreased vision and hearing, a decreased efficiency of cardiovascular system. The theme of this age period is loss, which may be identified like loss of physical abilities, loss of intellectual processes, loss of work role and occupational identification (Retirement), loss of intimate ties, such as death of spouse, friends and other acquaintances [1].

Depression is common in the elderly and is a major public health problem. The WHO (2005) also emphasizes that depression, which is the fourth most common illness, can lead to physical, emotional, social and economic problems [2]. The prevalence rate of depression varies worldwide and their prevalence rates range be-

tween 10% and 55% [3-6]. A study shows the depression ranges from 34.6% to 77.5% in old age home [7]. Depression in late life is associated with significant morbidity, including deficits in a range of cognitive functions and considerable influence on functional impairment, disability [8], decreased quality of life, and has a negative effect on the body's recovery from illness, increases the rate of suicide, increases use of health care services and expenses and can result in early death and disturbance in the general state of wellness [9,10].

Depressive symptoms are associated with greater impairment and decreased quality of life among patients with coexisting chronic illnesses, such as emphysema, cancer, and diabetes. When depression coexists with other medical conditions, the resulting disability appears to be additive [11]. However, even in older adults without a disability, depression significantly increases the risk for subsequent incident ADL and mobility disability [12]. Further, studies show that "depressed persons, including depressed elderly persons, use two to three times as many medical services as people who are not depressed [11]." Other studies have estimated that "elderly persons with depressive symptoms accrued 50% higher health-care costs from more frequent use of medical services" than do other older adults not suffering from depression [13].

Unfortunately, depression is particularly problematic in developing countries, where data on the prevalence and scope of the disease as well as the resources to address it are sorely lacking. Cost-effective interventions are available, but do not often reach those who need them because of a number of overwhelming challenges in low-resource settings—lack of facilities and trained mental health personnel, questions about effective population-based screening, and the general stigma surrounding mental disorders [14].

Although Nepal is one of the least developed countries in the world, elderly is increasing rapidly both in absolute number and proportion. According to latest census of 2011, the proportion of elderly 60 years and above reached 8.2 percent of total population. But the government has not given priority to identify the problems of the elderly through research and to implement existing senior citizen act for the wellbeing of elderly. Depression among elderly in Nepal has not been well studied. Little is known about the true rates of depression, its correlates and predictors. There is no exact figure reported for the incidence of depression among Nepali elderly. However, a study was performed among elderly patients attending the outpatient department of a hospital in 2006 showed that the incidence of depression was as high as 53.2% [6].

In Nepal traditionally Briddashram (old age home) is designed only for the elderly who do not have their

children to take care of them. And many of these Briddashram are located in the religious places. But recently with the effect of modernization, urbanization, nucleation of family, migration of youths to urban area, and foreign countries those people who prefer to live in the Briddashram are increasing. But, due to limited capacity and limited number of Briddashram, community people have started to open Briddashram in the different parts of the country.

The aim of this study is to determine the prevalence of depression and its predictors among elderly living in Briddashram. The rationale for this study is the widely held impression that depression is common in elderly and results in more days of disability than chronic medical conditions such as heart disease, hypertension and diabetes [15].

2. METHODS

Study Site and Sample

This is a cross-sectional study carried out in Devghat, which is one of the holiest places in the Nepal for Hindus. The area is surrounded by the rivers from all four sides linked by a suspension bridge from the main entry. It has wonderful panoramic view and is believed that gods come to take a dip in the holy confluence. There were some Briddashram and Trust providing shelter to older people as well as some people is living in their own residence. For the purpose of this study we included elderly either living or dependent in Briddashram (old age home) or in the trust, namely: Devghat Area Development Committee Briddashram, NRN Briddashram, Rotary Karunalaya, Sri Galeshor Ashram Trust. There were respectively 34, 58, 32 and 150 elderly living in the above Briddashram or Trust. All the elderly living in these four residences were approached to include in this study. Elderly people who had been staying for at least six month were considered eligible. Those suffering from severe mental and physical illness e.g., psychosis, dementia, hearing impairment, and dumbness were excluded. This study was carried out in two month March-April of 2012. During this time we approached 191 eligible elderly but questionnaire was completed with 180 elderly only.

The study protocol was approved by the Research Committee of Asian College for Advance Studies, Lalitpur. A request letter for the permission of data collection was submitted to each institution of Devghat. Verbal consent was obtained after explaining the purpose and method of study. The inmates were explained the purpose of interview and oral informed consent was obtained from all participants before interviews [16].

To ensure the questionnaire's quality and sensitivity Geriatric Depression Scale Short Form (GDS (SF = 15))

[17] was translated into Nepali from English and then back translated into English by English language teachers proficient in both languages. Different people conducted the back translation. A pilot study of 15 respondents from the non-study area was conducted to identify potential problems with the questionnaire.

3. MEASUREMENTS

3.1. Dependent Variable

In this study Depression was dependent variable and measured using GDS (SF = 15) [17]. GDS (SF = 15) was the short version of widely used Geriatric Depression Scale (GDS) [18]. Studies from the United States, United Kingdom and many Asian countries have shown that the GDS can be employed with different cultures and ethnicities. Further, a previous study carried out in Nepal has already proved GDS was a reliable tool to screen depression in the Nepalese patients [6]. Reliability of GDS measured through Cronbach's Alpha = 0.865 shows quite high in this study. Many studies have proved very high correlation between GDS and GDS (SF = 15) [19]. GDS (SF = 15) had 15 statements with yes or no response. Theoretically sum of the response ranged from 0 to 15. For the interpretation of situation of depression, Sheikh & Yesavage (1986) have suggested score 0 - 4 as normal, 5 - 8 as mild depression, 9 - 12 as moderate depression and 13 - 15 as severe depression [17].

3.2. Independent Variables

Sex was measured as a dichotomous variable with male coded "1" and female "2". Age was measured as a continuous variable. Previous family type was a dichotomous variable of "nuclear" coded "1" and "joint" coded "2". Marital status was dichotomized "married" coded "1" and "widow or widower" coded "2". Widow or widower includes unmarried, divorced and separated. The proportion of unmarried divorced and separated was very low. Educational level was categorized as literate "1" and illiterate (who can not read and write) "2". Feeling of loneliness was measured as "yes (often and some time)" coded "1", "no" coded as 3.

Functional capabilities of older adults were measured using five items (traveling by public transportation, shopping for groceries, preparing meals, doing light house work, and taking medicine) from the seven item IADL scale [20]. Two items from the IADL scale, use of the telephone (look up the number, dial and answer) and management of money (write checks and pay bills) were not included in the final questionnaire because these were not applicable for the majority of Nepalese elderly [16,21,22] because they cannot read number and dial the telephone and even write the name also. Responses were categorized as "unable to do at all", "with some difficul-

ty/need some help" and "without help". For the present study, responses were coded as "Self" coded as "1" and "with some difficulty /need some help" coded as "2" and "cannot do at all—3". To calculate the level of functional disability the sum of the above five items was added and measured as a continuous variable. Higher the value of IADL score indicates the higher the dependency. Internal consistency reliability of IADL in this study measured through Cronbach's alpha 0.908 shows quite satisfactory.

4. RESULTS

The distribution of social, demographic and health-related characteristics of the respondents of this study is given in **Table 1**. Subjects ranged in age from 60 to 95 years with a mean (\pm SD) age of 73.67 (\pm 3.23) years. Ninety one (50.6%) were male, one hundred seventy (94.4%) were Khas ethnicity, fifty five (30.6%) were from nuclear family, forty five (25.0%) were married, thirty two (17.8%) were literate, 92.8 percent had health problems, majority of the subjects reported their health fair (86.1%), 77.8% had feeling of loneliness. Mean functional limitation in IADL score was 2.53.

More than ninety percent (93.9%) elderly had some health problem recently. Mean functional disability of the elderly was 6.11 (\pm 2.05). More than fifty percent (50.9%) elderly felt loneliness some time, 33 percent often and 15.8 felt loneliness rarely. Average income of the elderly was NRs 10181.82 (\pm 2403.05) and 61% elderly spent less time with the family members.

Table 2 shows the situation of depression of the subjects elderly included in this study. For the measurement of Depression GDS (SF = 15) was used. This study found mean depression score of elderly was 5.6 (\pm 2.19) ranging from 3 to 13.

Severity of depression is measured on the basis of depression score. This study shows that 42.2 percent elderly had normal depression score, 46.7% had mild depression, 8.9% had moderate and 2.2% had severe depression. From this data we can say that prevalence of depression was 57.8% in this population. For the further regression analysis depression score was now dichotomized score 0 - 4 no depression and score 5 and above as having depression.

Table 3 shows results of bivariate analysis of depression with selected background variables. Age ($P = 0.001$), sex ($P = 0.001$), previous family type ($P = 0.000$), type of ethnicity ($P = 0.000$), limitations in IADLs ($P = 0.000$), and feeling of loneliness (0.000) were significantly positively or negatively correlated with depression and were included in logistic regression analyses. Non-significant predictors were removed from the model.

Results of the logistic regression of depression are shown in **Table 4**. The goodness of fit statistics (Hosmer

Table 1. Selected background characteristics of elderly living in Briddashram, Devghat, N = 180.

Variables	N	%	Mean	SD ^a	Range
Sex (male)	91	50.6			
Age			73.67	3.23	60 - 95
Ethnicity (Khas)	170	94.4			
Previous Family Type (nuclear)	55	30.6			
Marital Status (married)	45	25.0			
Literacy Status (literate)	32	17.8			
Presence of any disease (yes)	167	92.8			
Feeling of loneliness (yes)	140	77.8			
Self reported health					
Good	21	11.7			
Fair	155	86.1			
Poor	4	2.2			
Living arrangement					
Galeshor Ashram	68	37.8			
NRN Bridashram	52	28.9			
Rotary Karunalaya	30	16.7			
Government Briddashram	30	16.7			
Problem with IADL ^b			2.53	2.05	0 - 9

^aStandard deviation; ^bHigher score indicates worse functional disability.

Table 2. Situation of depression in elderly living in Briddashram, Devghat, N = 165.

Variables	N	%	Mean	SD	Range
Sum of GDS			5.6	2.19	3 - 13
Severity of Depression					
Normal	76	42.2			
Mild Depression	84	46.7			
Moderate Depression	16	8.9			
Severe Depression	4	2.2			
Total	180	100.0			

Table 3. Correlation and bivariate analysis of depression with some socio-demographic and health variables, N = 165.

Variable	Spearman's Correlation Coefficient (rs)	P
Sex	0.250**	0.001
Age	0.236**	0.001
Previous family type	0.272**	0.000
Type of ethnicity	0.544**	0.000
Marital Status	0.041	0.584
Living place	-0.099	0.187
Literacy status	0.082	0.271
Having health problem	-0.122	0.102
Limitations in IADL	0.492**	0.000
Feeling of loneliness	0.443**	0.000

**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).

Table 4. Logistic regression of depression, N = 165.

Variables*	Regression Coefficients (B)	Standard Error	Odds Ratio	95% CI		P
				Lower	Upper	
Limitation in IADL	0.452	0.143	1.671	1.21	2.312	0.000
Feeling of loneliness	0.399	0.112	2.008	0.997	7.074	0.029
Sex	0.341	0.213	1.371	1.002	2.103	0.021
Hosmer and Lemeshow's Test P = 0.352						
-2 Log likelihood = 140.341						

OR = Odds Ratio, CI = Confidence Interval; *Only significant variables are shown from the variables entered: age, sex, previous family type, ethnicity, limitations in IADLs, feeling of loneliness.

and Lemeshow's test P = 0.352 and -2 Log likelihood = 140.341) indicated a satisfactory fit for the model. Significant predictors of depression in the model were limitation in IADL (OR = 1.671, 95% CI 1.21 - 2.312, P = 0.005), being woman (OR = 1.371, 95% CI 1.002 - 2.103, P = 0.041) and feeling of loneliness (OR = 2.008, 95% CI 0.997 - 7.074, P = 0.000).

5. DISCUSSION AND CONCLUSIONS

Depression is recognized as an important public health and social issue, predicting, among other things, low quality of life among older adults. There are very little studies from least developed countries about the situation of depression among the elderly. The primary purpose of the present study was to examine the prevalence of depression and correlates of depression in older adults living Biddashram (Old age home).

This study found the prevalence of depression measured through GDS (SF = 15) among Briddashram living Nepalese elderly was 57.8 percentages. This study found mean depression score of elderly was 5.6 (\pm 2.19) ranging from 3 to 13. Similar to his study, a recent study carried out in elderly living in old age home in India shows prevalence of depression was 63.8% and mean Geriatric Depression Scale score was 6.86 (\pm 0.17) [23]. This shows the prevalence of depression was quite high. Further another recent study by Sethi *et al.* (2013) also found elderly subjects living in Old age home are more affected in terms of depression as compared to community dwelling elder subjects [24]. Reason for higher prevalence might be that the institutionalized elderly feel lonelier and depressed as they lack social network support and do not feel "the level of kinship" felt by non-institutionalized aged.

Impaired in instrumental activities of daily living (IADL) is an expression of functional dependence and one of the most commonly used measures in assessing health in old age. This study found having functional disabilities in IADLs is an important predictor of loneli-

ness. This findings is consistent with many other studies across the world [25-27]. Symptoms of depression may cause or exacerbate physical disability in older individuals and may do so to a greater extent than other common chronic diseases such as hypertension, arthritis, heart disease, and diabetes [11]. Many researchers see a mutual causality between depression and disability such that “illness and physical disability cause depression, and also that depression leads to illness and physical decline, either because of behavioral factors (e.g., failure to take care of personal health) or biological factors (e.g., improper functioning of the immune or endocrine system) [28].”

This study found being woman was another predictor of depression. This finding is consistent with many other studies [29-31]. Loneliness was also another predictor of depression in the elderly living in Briddashram. This study finding was also consistent with previous study from Nepal showing loneliness was quite high among Nepalese woman elderly compared to male [16] and loneliness was found significantly correlated with depression in this study. There is not any exact reason why depression is high among Nepalese elderly. This may be due to differences in how elderly men and women perceive to answer the scale used to measure the depression. A study carried out by Singh & Mishra (2009) also found a significant relationship between loneliness and depression [32]. Mohan & Begum also found positive correlation between depression and loneliness [33].

Although this was a first attempt to study the prevalence of depression in the elderly living in Briddashram, several limitations of this study should be considered before its generalization. First, it was cross-sectional in nature; thus, the results did not establish causal relationships for the study variables. Second, the data covered Briddashram of only one area. Third, the validity of the GDS was not examined in this study, although the previous study reported GDS is a valid measure to measure the depression in Nepali elderly.

In spite of the limitations, the findings of this study suggest that feelings of depression are a serious problem among Nepalese older adults living in Devghat area which is considered a sacred place for Hindus. Further research using qualitative method also needed to identify risk factors of increasing depression among the elderly. This may contribute to the empowerment of the elderly and, thus, enhance their quality of life in the future.

CONFLICT OF INTEREST

There is no conflict of interest regarding the publication of this manuscript.

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