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Research Article

Geriatric Depression and its Associated Factors among Elderly People in Basamadi of Makwanpur District, Nepal

Sunita Shrestha[1], Bishal Budha[2]*, Dhiraj Poudel[2], Anish Sah[2], Rozy Manandhar[1] and Manish Kumar Sah[3]

[1]*Department of Health Science, Nobel College, Kathmandu, Nepal*

[2]*Maharajgunj Medical Campus, Institute of Medicine, Tribhuwan University, Maharajgunj, Kathmandu, Nepal*

[3]*Manipal College of Medical Sciences, Pokhara, Nepal*

***Corresponding Author:** Bishal Budha, Maharajgunj Medical Campus, Tribhuwan University, Kathmandu Nepal.

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Abstract

Background: Worldwide, with the rapidly growing elderly population, depression is becoming a major public health problem. Various studies show depression is a leading cause of disability worldwide and is a major contributor to the overall global burden of disease due to increasing aging. Prevalence of depression in elderly is found to around 13% in the community sample in various countries. The associated factors are age, sex, chronic illness, educational status are significant with depression.

Methods: A cross sectional descriptive design study was conducted among elderly by using probability stratified sampling technique. Data were collected using face to face interview technique and Geriatric Depression Scale-Short to assess depression and self-developed questionnaire to assess its associated factors among 274 elderly people. Data analysis was done using statistical program for the social science (SPSS) version 20, which include frequency, percentage, mean, and chi- square test.

Result: Among 279 respondents, 59.1% of respondent had depression. There was association between depression and sex (0.044), educational status (0.004) marital status (0.001) living arrangements (0.002), financial support (0.023) (chronic illness (0.001), death of spouse (0.001), worried of being elderly (0.001).

Conclusion: The present study was concluded that more than half of the respondents had depression and there is significant association between sex, educational status, and marital status, living arrangements, financial support, chronic illness, death of spouse and worried of being elderly. Local authority can conduct awareness program related to geriatric depression and ways to prevent associated factors with involvement of family members to care and support to the elderly people.

Keywords: *Elderly; Geriatric Depression; Geriatric Depression Scale*

Abbreviations

DASS: Depression Anxiety Stress Scales; GDS: Geriatric Depression Scale; IRC: Institutional Review Committee; SPSS: Statistical Program for the Social Science; WHO: World Health Organization

Introduction

Globally, the number and proportion of people over the age of 60 are increasing. In 2019, the number of people aged 60 and over exceeded 1 billion. This number is expected to increase to 1.4 billion in 2030 and 2.1 billion in 2050. By 2050, 80% of elderly people was live in low- and middle-income countries [1]. The proportions of the elderly population are increasing rapidly in Nepal too. There are 2.97

million older people in Nepal as of the 2021 census which is a 38.2% increase compared to the previous census of 2011. The proportion of the elderly population reached 10.21% of the total population of Nepal [2]. Elderly population faces various challenges that are associated with physical and psychological changes commonly associated with the aging process [3]. The incidence of mental health problems is expected to increase among adults as well as in elderly populations in particular. Depression is a leading cause of disability worldwide and is a major contributor to the overall global burden of disease [4]. It is also one of the most common geriatric psychiatric disorders and a major risk factor for disability and mortality in older patients. The estimates for the prevalence of depression in the aging differ incredibly [5]. WHO estimated that the global depressive disorder among older adults ranged between 10 and 20% [6] and there are 40% of all mentally ill people are diagnosed with depression [7]. As per the study shows that the prevalence of depressive symptom cases ranged from 25.5% to 60.6% in the community level of Nepal [2]. Apart from a scattered studies conducted in nursing homes (Briddhashram), outpatient hospitals and Rai ethnic communities, which reported prevalence rates of 47.3% and 89.1% in nursing homes [8], 53.2% in outpatient settings [9], and 29.7% in community settings of Rai [10]. Geriatric depression is a serious public health concern which is undiagnosed in about 50% of cases. In fact, it may be ignored issue in developing nations like Nepal where other competing wellbeing issues take need. The prevalence of depression in older adults within the wider community setting and recognize potential contributory risk factors is more developed in Nepal [11]. In countries like Nepal, there is still a widespread belief that disclosure of mental illness is an embarrassment and may lead to discrimination [12]. Nevertheless; most of the existing local studies have been conducted in geriatric homes and in clinical settings. Conducting these studies in this place is essential to address the prevalence of geriatric depression among elderly and its associated factors which causes the depression in the aging population. It helps elderly people to get benefits from early diagnosis and treatment because it increases their quality of life, lower their risk of morbidity and significantly lowers their medical expenses.

Purpose of the Study

The purpose of this study is to assess the geriatric depression and its associated factors among elderly people in selected community.

Materials and Methods

Study area and design

The study was a descriptive cross-sectional study design with a community-based approach. It was conducted at Hetauda Sub metropolitan; Basamadi ward no 19 Makwanpur District, Bagmati Province, Nepal.

Sample size determination

The finite elderly population of the Ward no. 19 was 873.

Sample size (n) was calculated using Yamane formula:

n = N/ 1+ N*

n= 873/ 1+873*0.05^2= 274.31

Where N (Total Finite Population) = 873

d is Margin of Error = 0.05.

For this study sample size came out to be 274. By using proportionate method of equal halves the sample size was 279.

Sampling techniques and procedure

The population was collected through census of Nepal 2021, which served as the study sampling frame. Purposively the ward no. 19 was selected with sample size 274. Stratified technique was used to randomize the population via sex strata where male was 134 and female was 145. As per the sample size of the research, conveniently sample was collected.

Data collection procedure

The permission was obtained from the administration of Nobel College and also permission from selected authorities was taken. After getting formal written permission from, data collection was done. The objective of the study was made clear to the respondent and informed verbal and written consent was taken before data collection by the researcher. They were informed about the voluntary participation and their right to quit anytime during the research. Privacy was maintained by taking separately face to face interview. All the data was checked rechecked and also review daily for its competency, consistency and accuracy.

Data collection: Tools and techniques

Face to face interview were conducted using a self-developed questionnaire was used to collect data to assess the factors (socio-demographic, family, socio-economic and personal factors).

The depression was assessed using the Geriatric Depression Scale (GDS-15) [12]. It includes the 15 questions in which 10 indicate the presence of depression if endorsed positively, while rest of the 5 question (1, 5, 7, 11, and 13) indicates depression when endorsed negatively. Each question was graded on a scale of 1 to 0. Bold Yes/No represent depression and Un-bold Yes/No represent no depression. Depression score was classified as 0-4 = No depression and ≥5 = Depression. The tool had already used in Nepal. To ensure the quality of questionnaire the instrument was developed in English version which was translated in Nepali language break Inish language. A pre-testing of 29 respondents from the non-study area was conducted to identify potential problems with the questionnaire.

Data analysis

All the data was coded, entered, edited, and organized using Statistical Package for Social Sciences, SPSS 20. The analysis and interpretation was done based on objective of the study using descriptive statistics such as (frequency, percent, mean, standard deviation) and inferential statistical method (chi-square test) to assess the association the data was presented on the tabular form.

Results

Socio-demographic variables

Variable	Frequency (f)	Percentage (%)
Age (in completed years)		
60-69 years	177	63.4
70-79 years	79	28.3
80-89 years	23	8.2
Mean ± SD (67.8 ± 6.696)		
Sex		
Female	145	52
Male	134	48
Educational Status		
Who can read and write	167	59.9
Who cannot read and write	112	40.1

Educational Level		
Basic	91	32.6
Secondary	49	17.6
Higher Secondary	27	9.7
Marital Status		
Married	184	65.9
Widow/Widower	67	24
Unmarried	15	5.4
Divorced	13	4.7

Table 1: *Respondents' response towards socio demographic factors.*

Table 1 shows that 63.4% were between the ages of 60-69 years, half of responders (52%) were women. Considering the educational status more than half of the respondents (59.9%) can read and write among them majority (32.6%) achieved basic level education. Majority of respondents (65.9%) were married.

Family factors

Variables	Frequency (f)	Percentages (%)
Family Type		
Joint Family	160	57.3
Nuclear Family	119	42.7
Living Arrangement		
Son and Daughter in law	119	42.7
Husband/wife	98	35.1
Alone	38	13.6
Daughter and Son in law	24	8.6
Financial Support		
Yes	205	73.5

Table 2: *Respondents response on family factors.*

Table 2 shows that highest (57.3%) respondents were from joint family. Regarding living arrangements, less than half (42.7%) of the respondents live with their son and daughter in law. Likewise, majority (73.5%) of the respondents used to get financial support from other family.

Socio-economic factors

Variables	Frequency (f)	Percentage (%)
Working Status		
Yes	152	54.5
If working, which work		
Agriculture	45	16.1

Business	42	15.1
Homemaker	29	10.4
Driver	12	4.3
Job	12	4.3
Labor	11	3.9
Personal Income		
Yes	170	60.9
If Yes, what source		
Allowance	81	29
Pension	34	12.2
Room Rent	24	8.6
Land Lease	18	6.5
Animal Husbandry	14	5
Monthly Income		
Rs15000- Rs30000	175	62.7
Rs31000- Rs60000	104	37.3

Table 3: *Respondents response on socio- economic factors.*

Table 3 shows that highest (54.5%) respondent of were engaged in work. Among them most (16.1) were engaged in agriculture, more than half (60.9%) of the respondents had their own personal income and among them majority (29%) of them had allowance provided by government of Nepal as the main source of income. Similarly, majority of the respondents (62.7%) had monthly income of Rs.15000-Rs30000.

Personal factors

Variables	Frequency (f)	Percentage (%)
Chronic Illness		
Yes	210	75.3
***If Yes, which illness (n = 210)**		
Hypertension	94	33.7
Diabetes Mellitus	113	40.5
Respiratory Illness	35	12.5
Cardiovascular Disease	39	14
Musculoskeletal Problem	56	20.1
Cancer	11	3.9
Chronic Kidney Disease	6	2.2
Thyroid Problem	30	10.8
Skin Disease	6	2.2
Smoking Habit		
Yes	135	48.4

Alcohol Habit		
Yes	80	28.7
Death of Spouse		
Yes	65	23.3
If Yes, which year (n= 65)		
Within 1 year	25	8.6
More than 1 year	40	14.3
Worried of being elderly		
Yes	188	67.4
If Yes, Type of worriedness (n =188)		
Financial insecurity	77	27.6
Dissatisfaction with old age	72	25.8
Reduced interest in different activities	39	14

Table 4: *Respondents' response on personal factors.*

Table 4 shows that most (75.3%) of the respondents had chronic illness. Among them, majority (40.5%) of them had Diabetes Mellitus. Less than half (48.4%) had smoking habit as well as less than half (28.7%) had alcohol habit. Similarly, 23.3% had lost their spouse among them 14.3% respondents had lost their spouse within 1 year. Most (67.4%) of the respondents were worried about being aged and among them 27.6% of the respondents were worried due to financial insecurity.

Prevalence regarding geriatric depression

Variables	Frequency (f)	Percentage (%)
Depression		
No Depression	114	40.9
Depression	165	59.1

Table 5: *Respondents' prevalence regarding depression.*

Table 5 shows that the more than half (59.1%) of respondents had depression and 40.9% had no depression.

Associations of geriatric depression

Socio-Demographic	Level of Depression		Chi-Square (χ^2)	p-value
	No Depression	Depression		
Age (in completed year)				
60-74 years	97	136	0.347	0.556
75-90 years	17	29		
Sex				
Female	51	94	4.042	0.044*
Male	63	71		

Educational Status				
Who can read and write	80	87	8.541	0.004*
Who cannot read and write	34	78		
Marital Status				
Married	94	90	23.388	0.001*
Unmarried	20	75		

Table 6: *Association between levels of respondents' socio- demographic factors and depression.*

Table 6 has been divided into two parts i.e. depression and no depression. This table revealed that there was association between depression and socio-demographic variables (sex (0.044), educational status (0.004) and marital status (0.001)) except age.

Family Factors	**Level of Depression**		**Chi-Square (χ^2)**	**p-value**
	No Depression	**Depression**		
Family Type				
Joint Family	71	89	1.918	0.166
Nuclear Family	43	76		
Living Arrangement				
With Family	107	134	9.167	0.002*
Alone	7	31		
Financial Support				
Yes	92	113	5.163	0.023*
No	22	52		

Table 7: *Association between levels of respondents' family factors and depression.*

Table 7 revealed that there was association between depression and family factors like living arrangement (0.002) and financial support (0.023)) but there was no association of depression with type of family.

Socio-Economic Factors	**Level of Depression**		**Chi-Square (χ^2)**	**p-value**
	No Depression	**Depression**		
Working Status				
Yes	63	89	0.047	0.827
No	51	76		
Personal Income				
Yes	71	99	0.147	0.701
No	43	66		
Monthly Income				
Rs15000-Rs30000	65	110	2.658	0.101
Rs31000-Rs60000	49	55		

Table 8: *Association between levels of respondents' socio-economic factors and depression.*

Table 8 revealed that there was no association between depression and socio economic variables.

Personal Factors	Level of Depression		Chi-Square (χ^2)	p-value
	No Depression	Depression		
Chronic Illness				
Yes	74	136	11.107	0.001*
No	40	29		
Smoking Habit				
Yes	51	84	1.028	0.311
No	63	81		
Alcohol Habit				
Yes	28	52	1.594	0.207
No	86	113		
Death of Spouse				
Yes	11	54	20.094	0.001*
No	103	111		
IF Yes				
Within a year	2	23	1.549	0.213
More than a year	8	32		
Worried of being elderly (ageing anxiety)				
Yes	61	127	16.884	0.001*
No	53	38		

Table 9: *Association between levels of respondents' personal factors and depression.*

Table 9 revealed that there was association between depression and personal factors like chronic illness (0.001), death of spouse (0.001) ageing anxiety (0.001) but not associated with the year of death of spouse smoking habit, alcohol habit.

Discussion

Depression is a common mental health problem among the elderly that causes substantial morbidity, diminished cognitive and physical abilities, disability, and a lower standard of living. It has a detrimental effect on the healing process from medical conditions, raises the suicide rate, and raises the cost and consumption of healthcare services [12].

The present study showed the total prevalence of depression was 59.1%. This study was supported by the study conducted in Thabang Rural Municipality of Rolpa District that 68.4% had depression [13]. Similarly the study supported by the study conducted in Pharping, Kathmandu that 60.6% had depression [11]. Likewise, the study conducted in Kavre district that 53.1% had depression [14]. This might be due to similarity in study population. But in contradiction a study conducted in Nepal found 15.4% had depression [15]. This variation may be due to different tool DAS 21 used to assess depression GDS-15 was used for this study.

The conducted study shows association between geriatric depression and socio-demographic factors, personal factors, socio-economic factors and family factors. The study shows there was association between depression and socio-demographic factors such as

sex, educational status and marital status but there was no significant association with age. In line with other study of Bhairahawa shows similar findings as per our study which have association between depression and sex, educational status and marital status [16].

This study showed that there was association between depression and family factors such as living arrangements and financial support. The problem might be ascribed to the children' hectic lives and insufficient care for their loved ones. This finding is similar with the findings of the study done in Chitwan [17], and Pharping Kathmandu [11].

Study found no any association between depression and socio-economics factor such as working status, personal income and monthly income. This findings is similar with the findings of the study done in Kavre [14]. But the study conducted in Rasuwa shows statistically significant between depression and working status and monthly income [18].

This study showed association between depression and personal factors such as chronic illness. This may be due to chronic illness can be caused by the vascular depression through blocked of blood vessel in the brain which may contribute to the development of depression. This finding is similar with the findings of the study done in Rasuwa [18]. Similarly its shows association between depression and death of spouse. This might be due to loss of loved ones it wakes a breakthrough in family as well as had difficult to adopt the fact of losing loved ones. As well as there was association between depression and worried of being elderly. This facts may be due to financial insecurity or fear of future about the exclusion. This findings is similar with the findings of the study done in Kavre [14].

Conclusion

The present study was concluded that more than half of the respondents had depression and there is significant association between sex, educational status, and marital status, living arrangements, financial support, chronic illness, and death of spouse and worried of being elderly. Local authority can conduct awareness program related to geriatric depression and ways to prevent associated factors with involvement of family members to provide care and support to the elderly people.

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Conflict of Interest

The authors declare no conflict of interest.

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