Original Article

Factors Associated with Depression among Elderly Living in Old Age Homes in Kathmandu Valley

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Abstract

Introduction: The elderly people not only face physical problems as they are age, they also experience mental health related problems. The main objective of the study was to identify the level of depression and the factors associated with them among elderly living in old age homes in Kathmandu Valley of Nepal.

Methods: The cross-sectional descriptive analytical study design was used among 173 respondents who were selected by purposive sampling method. Interview was carried out using socio-demographic and other variables related tool, the partially adopted coping checklist and the Geriatric Depression Scale (GDS). The data analysis was done by using Epidata and SPSS software version 16. Chi-square test and odds ratio were calculated.

Results: This study revealed that 126 (72.8%) respondents had depression. Out of them, according to GDS, 98 (56.6%) and 28 (16.2%) respondents had mild and severe depression respectively. Among 45 male respondents, 28 (62.2%) had depression as compared to 98 (76.6%) out of 128 female respondents. The respondents who had chronic physical health problems; different types of worries like financial security, lack of social relation, lack of favorite activities, fear of future and dissatisfaction with environment of the elderly homes; feeling of stress and even those respondents who used coping strategies like self blame were found to have depression.

Conclusion: Based on these findings, it can be suggested that new coping strategies as well as mind diversional activities should be sought for preventing depression among elderly living in old age homes.

Key Words: Factors Associated with Elderly Depression

Introduction

Aging, a progressive development in the life span is a marker of life's journey towards growth and maturity. World Health Organization (WHO) defines senior citizens as people 60 years and above. The Senior Citizens Acts of Nepal 2063, also defines the senior citizens as "people who are 60 years and above". According to the 2011 census of Nepal, there were 12, 78,880 elderly over 65 years old inhabitants, which constitute 4.4 percent of the total population in the country. Life expectancy in Nepal has increased from approximately 27 years in 1951 to 66.16 years in 2011[1].

Depression constitutes a major public health problem worldwide and their prevalence rates range between 10 and 55% [2, 3, 4, 5, 6, 7]. A study in lone elderly population showed that male gender, living in geriatric homes and age group 60 to 70 [8] were found to have depression. A case control study on elderly in Kwala Lumpur Hospital (HKL) and

Universiti Kebangsaang Malasia Hospital (HUKM) found that elderly with lower social support were eight times more at risk for developing depression according to GDS[9]. Studies in elderly females of Ludhiana City, India[10] and elderly home residents in Iran[11] showed that economic status, social relations, dissatisfaction with old age, lack of favorite activities, behavior of family members, stress and strain, loneliness and feeling of neglect were the significant factors for depression.

Several studies in Nepal show that the long established culture and traditions of respecting elders are eroding day by day. Younger generations move away from their birthplace for employment opportunities elsewhere. Consequently, more elderly today are living alone and are vulnerable to mental problems like loneliness, depression and many other physical diseases[12]. Moreover, the elderly do not get anyone to look after and listen to the problems. Therefore, the elderly need to search the better option for their difficult life. In Nepalese society too, the elderly would like to stay in elderly homes for their better life. In Nepal, there are about 71 organizations registered with the government spread all over Nepal. These organizations vary in their organizational status, capacity, facilities, and the services they provide. Most of them are charity organizations. About 1,500 elders are living in these old-age homes at present[13].

The studies conducted in Nepal for identifying the level of depression and factors associated to it among elderly living in old age homes are limited and focused on ill patients which can be an overestimated result and cannot be generalized to elderly living in old age homes. Therefore, this study was aimed to identify the level of depression and factors associated with it among elderly living in old age homes in Kathmandu valley.

Methods

The cross-sectional descriptive analytical study design was used. The study area were Samaj Kalyan Kendra Briddhashram, Nishahaya Sewa Sadan, Old Age Management/ Social Welfare Trust, Matatritha Bridhashram, Tapasthali Old Aged Homes, Divya Sewa Niketan, Kathmandu Siddhi Smriti Bridhashram, Sahara Care Centre, Bhaktapur, Senior Citizen Home & Dev Corner Bridhashram, Lalitpur. Out of 412 elderly living in those old age homes, 173 respondents; who were 60 and above 60 years of age, willing to participate, able to listen and give response, had no severe psychiatric disorder and had no severe sickness and disability in terms of having neurological problems, were included by purposive sampling methods. The data were collected individually by interview technique using socio-demographic and other variables related tool; the partially adopted coping checklist from coping checklist by Rao, Subbakrishna, and Prabhu (1989) and the Geriatric Depression Scale (GDS) developed by J.A. Yesavage and others (1982). The data analysis was done by using Epidata software and SPSS version 16. Descriptive statistics as well as inferential statistics; chi-square test and odds ratio were calculated. Ethical approval was taken from Nepal Health Research Council. The respondent's rights were protected by taking informed consent before data collection and keeping the collected information confidential.

Results

Out of 173 respondents, majority of the respondents, 83 (48.0%), belong to Pashupati Bridhashram and minority, 2 (1.2%) respondents, belong to Senior Citizen Home. Majority 70 (40.5%) respondents were between 70-79 years age group and minority, 11 (6.4%) respondents were between 90-99 years age group. Majority of the respondents, 128 (74.0%), were female and remaining, 45 (26.0%) respondents, were male. This may be due to the fact that majority of old age homes provide shelter for elderly female only.

Table No. 1: Depression Level of Respondents, (n=173)

Characteristics	Frequency	Percentage (%)
Normal	47	27.2
Mild	98	56.6
Severe	28	16.2
Total	**173**	**100.0**

Above Table No. 1 displays that regarding their depression level, 47 (27.2%) respondents were normal and 126 (72.8%) had depression. Out of theses 126 respondents, 98 (56.6%) and 28 (16.2%) respondents had mild and severe depression respectively according to GDS. This study also reveals that out of 45 male respondents, 28 (62.2%) had depression as compared to 98 (76.6%) out of 128 female respondents.

Table 2: Association between Depression and Socio-demographic Factors

Characteristics	Depression		P Value	Odds Ratio	95% Confidence Interval
	Present No. (%)	Absent No. (%)			
Types of Organization					
Government Supported*	62 (74.7)	21 (25.3)			
Private	64 (71.1)	26 (28.9)	0.596	0.834	0.425-1.634
Sex					
Male*	28 (62.2)	17 (37.8)			
Female	98 (76.6)	30 (23.3)	0.063	1.612	0.989-2.627
Marital Status					
Married*	98 (65.3)	52 (34.7)			
Unmarried	19 (82.6)	4 (17.4)	0.099	0.397	0.128-1.228
Education					
Literate*	31 (67.4)	15 (32.6)			
Illiterate	86 (67.7)	41 (32.3)	0.968	0.985	0.480-2.024

*: **Reference** **p< 0.05: Significant**

Above Table 2 displays that there was no association between depression and socio-demographic factors. But the odds ratio revealed that females had 1.612 times risk of having depression than males.

Table 3: Association between Depression and Individual Factors

Characteristics	Depression		P Value	Odds Ratio	95% Confidence Interval
	Present No. (%)	Absent No. (%)			
CPHP	115 (76.2)	36 (23.3)	0.010*	3.194	1.278-7.9
GI Problem	57 (79.2)	15(20.8)	0.408	1.376	0.646-2.932
Respiratory	46 (75.4)	15 (24.6)	0.859	0.933	0.436-1.997
Hypertension	58 (80.6)	14 (19.4)	0.226	1.599	0.745-3.430
Diabetes Mellitus	20 (86.9)	3 (13.1)	0.187	2.316	0.646-8.300
Musculoskeletal	41 (73.2)	15 (26.8)	0.514	0.776	0.361-1.666
Others	21 (63.6)	12 (36.4)	0.056	0.447	0.745-3.430
Worries	120 (79.5)	31 (20.5)	0.000*	10.323	3.730-28.568
Financial Security	66 (88.0)	9(12.0)	0.010*	2.988	1.271-7.024
Lack of Social Relation	56 (90.3)	6 (9.7)	0.006*	3.646	1.395-9.526
Dissatisfaction with Old Age	85 (83.3)	17 (16.7)	0.090	2.000	0.890-4.494
Lack of Favourite Activities	74 (87.1)	11(12.9)	0.009*	2.925	1.285-6.658
Fear of Future	104 (83.2)	21 (16.8)	0.013*	3.095	1.235-7.757
Dissatisfaction with Environment Old Aged Homes	50 (94.3)	3 (5.7)	0.001*	6.667	1.920-23.147
Dissatisfaction with Officials	41 (85.4)	7 (14.6)	0.217	1.779	0.707-4.477

***p< 0.05: Significant** **Note: CPHP:** Chronic Physical Health Problems

Above Table No. 3 illustrates that there was association between depression and chronic physical health problems as well as depression and worries with p value 0.010 and 0.000 respectively. The odds ratio showed that the respondents who had chronic physical health problems had 3.194 times more risk and those having worries regarding different issues had 10.323 times more risk of having anxiety. On the other hand, when CPHP was taken separately, there was no association found between depression and GI, HTN, DM, musculoskeletal, respiratory and other problems. Yet, in the same case the OR revealed that the respondents who had DM, HTN and GI problems had 2.316, 1.599 and 1.376 times more risk of having depression respectively. The respondents who had respiratory, musculoskeletal and other problems exhibited no risk for depression, with OR 0.933, 0.776 and 0.447 respectively. Regarding different worrying issues, there was association between depression and financial security, lack of social relation, lack of favorite activities, fear of future and dissatisfaction with environment of the elderly homes with p value 0.010, 0.006, 0.009, 0.013 and 0.001 respectively. No association was found between depression and dissatisfaction with old age, dissatisfaction with elderly home officials and other worrying issue. The odds ratio signifies that the respondents had 6.667, 3.646, 3.095, 2.988, 2.925, 2.00 and 1.779 times risk for having depression in those who had worry regarding dissatisfaction with environment of the old aged homes, lack of social relation, fear of future, financial security, lack of favorite activities, dissatisfaction with old age and dissatisfaction with elderly home official respectively.

Above Table No. 4 illustrates that there was association between depression and feeling of stress (p value 0.041). But the OR signifies that the respondents who felt stress had 2.357 times risk of having depression. Regarding different coping strategies used by respondents, there was association between depression and self blame (p values 0.014), depression and others coping strategies (p value 0.016). But the respondents who used passive avoidance coping strategies (PACS) like visiting different (3.778 times), who used avoidance coping strategies (ACS) like self blaming (2.917 times), cigarette smoking (2.605 times) and staying alone (1.714 times), who used emotion focused coping strategies (EFCS) like crying alone (1.057 times), seeking social support coping strategies (SSCS) like sharing problems to peers (1.071 times) and those who used religious coping strategies (RCS) like reading religious books (1.650 times) and praying (1.166 times) were at risk for depression.

***p< 0.05: Significant**

Above Table 5 displays that there was no association between depression and duration of stay, depression and caregivers' availability and depression and MDA. But, the respondents who stayed in old age homes for more than 1 year had 1.351 times risk of having depression than those staying less than 1 year. Concerning depression

Table 4: Association between Depression and Individual Factors

Characteristics	Depression		P Value	Odds Ratio	95% Confidence Interval
	Present No. (%)	Absent No. (%)			
Feeling of Stress	110 (75.9)	35 (24.1)	0.041*	2.357	1.018-5.458
Coping Strategies					
Go to Religious Places	43 (75.4)	14 (24.6)	0.924	0.963	0.443-2.094
Listening Religious Music	54 (71.1)	22 (28.9)	0.156	0.570	0.261-1.244
Shares the Problems with Peers	33 (76.7)	10 (23.3)	0.872	1.071	0.463-2.480
Visit in Different Places	11 (91.7)	1 (8.3)	0.182	3.778	0.470-30.356
Pray to God	76 (76.8)	23 (23.2)	0.709	1.166	0.521-2.613
Reading Religious Books	10 (83.3)	2 (16.7)	0.528	1.650	0.344-7.918
Crying Alone	23 (76.7)	7 (23.3)	0.908	1.057	0.410-2.727
Self Blame	51(86.4)	8 (11.7)	0.014*	2.917	1.218-6.987
Take Cigarettes	15 (88.2)	2 (11.8)	0.204	2.605	0.565-12.003
Staying Alone	33 (82.5)	7 (17.5)	0.249	1.714	0.681-4.315
Others	1 (25.0)	3 (75.0)	0.016*	0.098	0.010-0.0973

***p< 0.05: Significant**

Table 5: Association between Depression and Contextual Factors

Characteristics	Depression		P Value	Odds Ratio	95% Confidence Interval
	Present No. (%)	Absent No. (%)			
Duration of Stay					
<1 Year*	21 (67.7)	10 (32.3)			
>1 Year	105 (73.9)	37 (26.1)	0.482	1.351	0.583-3.134
Caregivers Availability	47 (65.3)	25 (34.7)	0.059	0.524	0.266-1.031
Mind Diversional Activities	78 (70.9)	32 (29.1)	0.452	0.762	0.374-1.551
Religious Activities	59 (71.1)	24 (28.9)	0.943	1.035	0.399-2.684
Prabachan	18 (75.0)	6 (25.0)	0.618	**1.300**	0.463-3.649
Others	18 (56.3)	14 (43.7)	**0.030**	**0.386**	0.161-0.925

and caregivers' availability, the respondents had no risk of getting depression (OR 0.524). Regarding availability of different MDA, the respondents had 1.300 and 1.035 times more risk of having depression in those who used prabachan and religious activities as coping strategies respectively. No risk was found in those who used other MDA (OR 0.386).

Discussion

Regarding level of depression, 47 (27.2%) respondents were normal and 126 (72.8%) had depression. Out of theses 126 respondents, 98 (56.6%) and 28 (16.2%) respondents had mild and severe depression respectively according to GDS. This study also reveals that out of 45 male respondents, 28 (62.2%) had depression as compared to 98 (76.6%) out of 128 female respondents. Thus, this study concludes that female respondents have more depression than male respondents (Table No. 1). A similar research finding revealed that out of 100 senior citizens, the prevalence of depression in the study population was 56%, of which 23.2 % had severe depression according to GDS[14]. The prevalence of depression was found to be 30.1% according to GDS[15] in one study whereas in another study it was 25%[16]. Some other studies have varied results: out of 250 elderly, 23.6% had depression[17]. Therefore, it can be concluded that such a high prevalence in this study could be attributed to poor health awareness and underdeveloped psychiatric medical services in the country as well as an inadequate social support system provided by family and government to the elderly living in old aged homes.

There was no association between depression and socio-demographic factors. But the odds ratio revealed that females were more at risk of having depression than males (Table 2). A similar study revealed that gender and ethnicity were found to be significantly associated with depression among the elderly respondents[18]; females were more likely to suffer from depression as compared to males. Other factors associated with risk for depression in the respondents were being uneducated[19], being unmarried and living alone[15].

There was association between depression and CPHP as well as depression and worries. The odds ratio showed that the respondents who had chronic physical health problems and those having worries regarding different issues were more risk of having depression. On the other hand, when CPHP was taken separately, there was no association found between depression and GI, HTN, DM, musculoskeletal, respiratory and other problems. Yet, in the same case the OR revealed that the respondents who had DM, HTN and GI problems were more at risk of having depression. The respondents who had respiratory, musculoskeletal and other problems exhibited no risk for depression (Table No. 3). One such study showed that there was significant association between chronic diseases and depression[14, 18].

There was association between depression and feeling of stress. The OR also signified that the respondents who felt stress were more at risk of having depression (Table 4). The literature also revealed that psychosocial and environmental stressors are known risk factors for depression. Genetics research indicates that environmental stressors interact with depression vulnerability genes to increase the risk of developing depressive illness[20].

Regarding different coping strategies used by respondents who felt stress, there was association between depression and self blame, depression and other coping strategies. But the respondents who used coping strategies like visiting different places, self blaming (i.e. PACS), cigarette smoking

and staying alone (i.e. ACS), crying alone (i.e. EFCS), sharing problems with peers (i.e. SSSCS), reading religious books and praying (i.e. RCS) were found risk of having depression. But, no risk was found in those who used other RCS like going to religious places and listening to religious music (Table No. 4). One similar study revealed a positive effect of religious coping in ameliorating the stress effect on individual life. The study further revealed that positive form of religious coping was highly correlated with stress-related growth[21]. Therefore, it can be concluded that the elderly who used religious coping strategies had lower risk for depression.

Conclusion

The main objectives of this study was to identify the level of depression and the factors associated with it among elderly living in 10 old age homes in Kathmandu Valley of Nepal. The study showed that majority of elderly had depression. Among them, more were females. The respondents who had CPHP, different types of worries, feeling of stress and those who used coping strategies like self blame were found to have depression. This study also concludes that the female respondents and those who have DM, HTN and GI problems, were more at risk of having depression. The respondents who had worries regarding financial security, lack of favorite activities and lack of social relation, dissatisfaction with old age and dissatisfaction with elderly home officials, fear of future and dissatisfaction with environment of the elderly homes , were more at risk of having depression. Surprisingly, the respondents who used coping strategies like EFCS, ACS, PACS and SSSCS were found to be more at risk of having depression. Moreover, the respondents who used RCS like reading religious books and praying to god were more at risk of having depression. The respondents using MDA like prabachan and religious activities were more at risk of having depression. Therefore, it can be concluded that the coping strategies and mind diversional activities which the respondents used were not adequate and appropriate to reduce depression. Based on the results of the study, it can be suggested that new coping strategies as well as mind diversional activities should be sought to prevent their depression and to develop effective prevention and treatment policies. Factors associated with depression in elderly should be further examined in longitudinal research with quantitative and qualitative approach.

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