

DOI <https://doi.org/10.33314/jnhrc.v0i0.1561>

# Loneliness and Depression among Older People Living in a Community of Nepal

Rashmi Devkota,<sup>1</sup> Kamana Mishra,<sup>1</sup> Shovana Shrestha<sup>1</sup><sup>1</sup>Department of Nursing, Nepal Medical College, Attarkhel, Jorpati, Nepal.

## ABSTRACT

**Background:** Loneliness and depression are the noteworthy mental health issues which are prevalent among older people but only a few studies have addressed this aspect especially in developing countries. So, this study is an attempt to shed light to this aspect of older adult's life, in order to assess the level of loneliness and depression, to identify associated factors, and to find out the correlation between loneliness and depression.

**Methods:** A descriptive cross-sectional study design was used to collect data from 124 older people of age  $\geq 60$  years living in a community using purposive sampling technique. A structured questionnaire, University of California, Los Angeles scale version 3 loneliness scale, and geriatric depression scale short form (GDS-15) were used to collect data. Mean, Standard deviation, frequency, percentage, chi-square test, and Spearman rank correlation was used to analyze data.

**Results:** Older people felt loneliness either at a moderate level (38.7%) or at a severe level (16.9%). While people with (49.2%) and without depression (50.80%) were in nearly equal proportion. Age, education level, marital status, living arrangement, childlessness, perceived health status, sleep quality, and sleeping hour, and perceived economic satisfaction showed statistically significant association with both dependent variables. While the presence of disease condition was associated with the level of loneliness, the level of depression showed significant statistical association with perceived stress. Further, loneliness and depression seemed to be positively correlated.

**Conclusions:** Older people experiencing loneliness and depression is quite noteworthy and emphasis should be given towards implementation of research approaches to unleash this aspect of older people.

**Keywords:** Community; depression; loneliness; Nepal; older people.

## INTRODUCTION

Loneliness is an unpleasant subjective feeling of deficient social relations<sup>1,2</sup> and a major contributor of depression.<sup>3,4</sup> Persistent sadness, discouragement, and loss of self-worth are the characteristics of depression which significantly reduces older peoples' quality of life.<sup>3,4</sup> Moreover, loneliness and depression are associated with increased health care use, financial burden, cognitive decline and suicide.<sup>1,5-9</sup> Globally, depression affects 7% of the older population and is predicted to become second leading cause of disability by 2020.<sup>10</sup>

Research in depression and loneliness is still in infancy stages in Nepal.<sup>11</sup> With the aim to contribute to the knowledge gap, this problem area is chosen for the study. This study aims to assess the level of loneliness and depression, their correlation and associated factors. The researcher expects that this study may provide evidence to prioritize prevention of loneliness and depression and

may be helpful to draft research questions and goals for further research studies.

## METHODS

This was a descriptive cross-sectional study conducted in one of the randomly selected ward (ward no. 8) of Gokarneshwor municipality situated in Kathmandu, Nepal. Sample size (n=124) was calculated using the formula for known population and p-value: 11.7%.<sup>11</sup> Lottery method was used to select a ward and purposive sampling method was used to select the sample population. People of  $\geq 60$  years of age and people willing to participate were included in the study. While, older people who were unable to comprehend with the researcher, and the person with physician-diagnosed (current) all forms of psychiatric conditions were excluded from the study. However, the physician diagnosed depression were included in the study as one of our objectives was to assess the level of depression.

**Correspondence:** Ms Rashmi Devkota, Department of Nursing, Nepal Medical College, Attarkhel, Jorpati, Nepal. Email: [rashmidevkota1@gmail.com](mailto:rashmidevkota1@gmail.com), Phone: +9779840068329.

Formal ethical approval was obtained from the institutional review committee of Nepal Medical College and from Gokarneshwor municipality. Informed written consent and assurance of confidentiality prior to data collection were obtained from each participant.

Tools used for data collection were a semi-structured questionnaire for socio-demographic and health-related data of the respondents; the University of California, Los Angeles (UCLA) scale version 3 for assessing loneliness and Geriatric Depression Scale short form (GDS-15) to assess depression.<sup>12-14</sup> A structured interview was done by the student who was trained for the data collection technique and total data collection duration was of three weeks dated 21<sup>st</sup> January 2018 to 7<sup>th</sup> February 2018. Permission to use the UCLA tool was obtained from the developer of the tool: Professor Daniel W. Russell, Ph.D., Department of Human studies, Iowa State University. However, GDS-15 tool is in the public domain so permission to use the tool was not required.

UCLA and GDS-15 are the standard tools which have been used widely in assessing loneliness and depression in various studies around the world including Nepal. The researcher assessed the appropriateness of the tool in the context of Nepali community through literature review. Conducting a literature review for tool appropriateness also helped us to understand that these tools addressed the main descriptors of loneliness and depression among older people. However, the specificity of the tool was not assessed. Cultural translation of the tool using standard procedure was not conducted for this study. Thus, this might act as a limitation in terms of the content validity of the tool for cultural adaptation in the local context of Nepal. However, consultation with Nepali language expert and subject expert for language verification and contextual applicability (for translating the tool in the Nepali language) was carried out.

GDS-15 scale is a dichotomous scale that consists of 15 statements with a score ranging from 0-15. Respondents were asked to rate their current situation as 'Yes' or 'No' on the basis of the questions provided. Each depressive response was scored as '1' and non-depressive response as '0'. On the other hand, UCLA scale is a 4-point Likert scale with 20 items. The score ranges from 20-80 as '1' for 'never', '2' for 'rarely', '3' for 'sometimes' and '4' for 'often'. Nine questions are reversed scored and the questions no. 1, 5, 6, 9, 10, 15, 16, 19 and 20.

A pretest was conducted in 10% of the total sample population. A total of 13 older people were selected purposively from one of the randomly selected ward (no. 5) of Gokarneshwor municipality. This ward was

excluded from the sampling for main study. Cronbach's alpha for UCLA loneliness scale and Gutmann split half coefficient for GDS 15 scale were calculated in the pretested data (10% of the sample population in ward 5 of Gokarneshwor municipality) which was found to be 0.813 and 0.912, respectively. SPSS version 16 was used for data entry and analysis. Shapiro Wilk test was used to verify the normality of the quantitative variables and the data were not found to be normally distributed ( $P < 0.05$ ).

## RESULTS

A total of 124 older people were interviewed and respondents experiencing loneliness (69) were higher in number when compared to those who did not experience any loneliness (55). On the other hand, older people with and without depression were approximately equal in number (Table 1).

Table 1. Frequency and percentage distribution of respondents by the level of loneliness and depression.

Variables	Frequency	Percentage (%)
<b>Level of loneliness</b>		
No loneliness	55	44.4
Moderate loneliness	48	38.7
Severe loneliness	21	16.9
<b>Level of depression</b>		
No depression	61	49.2
Mild depression	35	28.2
Severe depression	28	22.6

Majority of the respondents belonged to age between 60 and 75 ( $70.26 \pm 7.698$ ). Female respondents (54.8%) and married older people (75%) were higher in number. On the other hand, most were illiterate (59.7%) i.e. not being able to read and write; the greater proportion was co-residing with their family (94.35%), and a significant number were not involved in any form of employment (58.06%) (Table 2 and 3).

Very few proportions of respondents perceived their health status as good in this study (19.3%) and few of the respondents were physically disabled (2.4%). About one-third of the older people (40.3%) were currently suffering from diseases. Even though the sleeping hour of nearly half of the respondents is less than 5 hours, 65.3% of respondents had a good perception of their sleep quality. It is notable that higher numbers of respondents were economically unsatisfied (51.6%). Only a few of them had a family history of depression (3.2%) (Table 4 and 5).

Table 2. Percentage and frequency distribution of respondents by levels of loneliness to socio-demographic variables and their association.

Variables	Levels of loneliness			Total	Chi-square value (x <sup>2</sup> )	p-value
	No loneliness	Moderate loneliness	Severe loneliness			
<b>Age</b>						
60-75	45(47.4)	40(42.1)	10(10.5)	95(76.6)	11.894	0.003*
>75	10(34.5)	8(27.6)	11(37.9)	29(23.38)		
<b>Gender</b>						
Male	30(53.6)	19(33.9)	7(12.5)	56(45.16)	3.745	0.154
Female	25(36.8)	29(42.6)	14(20.6)	68(54.83)		
<b>Current job status</b>						
Employed	27(51.9)	20(38.5)	5(9.6)	52(41.93)	3.991	0.136
Unemployed	28(38.9)	28(38.9)	16(22.2)	72(58.06)		
<b>Source of income</b>						
Present	38(53.5)	22(31)	11(15.5)	71(57.25)	5.911	0.052
Absent	17(32.1)	26(49.1)	10(18.9)	53(42.74)		
<b>Education level</b>						
Illiterate	24(32.4)	32(43.2)	18(24.3)	74(59.67)	12.772	0.002*
Literate	31(62)	16(32)	3(6)	50(40.32)		
<b>Marital status</b>						
Unmarried	0(0%)	1(50%)	1(50%)	2(1.61)	10.583	0.014**
Married	45(48.3%)	38(40.9%)	10(10.8%)	93(75)		
Widow/widower	10(34.5%)	9(31.0%)	10(34.5%)	29(23.38)		
<b>Living Arrangement</b>						
Alone	1(14.3%)	2(28.6%)	4(57.1%)	7(5.64)	6.710	<0.025**
With family	54(46.2%)	46(39.3%)	17(14.5%)	117(94.35)		
<b>Childlessness</b>						
Parent	54(46.2)	47(40.2)	16(13.7)	117(94.35)	15.664	<0.00*
Childless	1(14.3)	1(14.3)	5(71.4)	7(5.64)		

\*p-value significant at less than 0.05 at 95% confidence interval. \*\*Fisher's exact test. Percentage in parenthesis.

Table 3. Percentage and frequency distribution of respondents by levels of depression to socio-demographic variables and their association.

Variables	Level of depression			Total	Chi-square value(x <sup>2</sup> )	p-value
	No depression	Mild depression	Severe depression			
<b>Age</b>						
60-75	54(56.8)	24(25.3)	17(17.9)	95	10.044	0.007*
Above 75	7(24.1)	11(37.9)	11(37.9)	29		
<b>Gender</b>						
Male	31(55.4)	15(26.8)	10(17.9)	56	1.873	0.392
Female	30(44.1)	20(29.4)	18(26.5)	68		
<b>Source of income</b>						
Present	34(47.9)	22(31)	15(21.1)	71	0.661	0.718
Absent	27(50.9)	13(24.5)	13(24.5)	53		
<b>Education level</b>						
Illiterate	32(43.2)	19(25.7)	23(31.1)	74	7.616	0.022*
Literate	29(58)	16(32)	5(10)	50		
<b>Marital status</b>						
Unmarried	1(50.0)	0(0)	1(50.0)	2	8.149	0.044**
Married	51(54.8)	26(28.0)	16(17.2)	93		
Widow/widower	9(31.0)	9(31.0)	11(37.9)	29		

<b>Living Arrangement</b>						
Alone	1(14.3)	2(28.6)	4(57.1)	7		
With family	60(51.3)	33(28.2)	24(20.5)	117	5.247	0.055
<b>Current job status</b>						
Employed	25(48.1)	19(36.5)	8(15.4)	52		
Unemployed	36(50.0)	16(22.2)	20(27.8)	72	4.269	0.118
<b>Childlessness</b>						
Parent	61(52.1)	35(29.9)	21(17.9)	117	25.436	0.001*
Childless	0(0)	0(0)	7(100)	7		

\*p-value significant at less than 0.05 at 95% confidence interval. \*\*Fisher's exact test. Percentage in parenthesis

Table 4. Percentage and frequency distribution of respondents by levels of loneliness to health-related variables and their association.

Variables	Levels of Loneliness			Total	Chi-square value(x <sup>2</sup> )	p-value
	No loneliness	Moderate loneliness	Severe loneliness			
<b>Perceived health status</b>						
Good	43(53.1)	10(41.7)	1(4.2)	24(19.35)		
Neither good nor poor	32(46.4)	29(42)	8(11.6)	69(55.64)	14.759	0.005*
Poor	10(32.3)	9(29)	12(38.7)	31(25)		
<b>Perceived sleep quality</b>						
Good	43(53.1)	35(43.2)	3(3.7)	81(65.32)	29.385	<0.00*
Poor	12(27.9)	13(30.2)	18(41.9)	43(34.67)		
<b>Sleeping hour</b>						
0-5 hours	25(42.4)	18(30.5)	16(27.1)	59(47.58)	8.947	0.011*
5-10 hours	30(46.2)	30(46.2)	5(7.7)	65(52.41)		
<b>Disease condition</b>						
Present	20(40)	16(32)	14(28)	50(40.32)	7.389	0.025*
Absent	35(47.3)	32(43.2)	7(9.5)	74(59.67)		
<b>Perceived economic satisfaction</b>						
Satisfied	32(53.3)	26(43.3)	2(3.3)	60(48.38)	15.455	<0.00*
Dissatisfied	23(35.9)	22(34.4)	19(29.7)	64(51.61)		
<b>Disability</b>						
Present	2(66.7)	0(0)	1(33.3)	3(2.41)	2.023	0.364
Absent	53(43.8)	48(39.7)	20(16.5)	121(97.58)		

\*p-value significant at less than 0.05 at 95% confidence interval. Percentage in parenthesis

Table 5. Percentage and frequency distribution of respondents by levels of depression to health-related variables and their association.

Variables	Level of depression			Total	Chi-square value (x <sup>2</sup> )	p-value
	No depression	Mild depression	Severe depression			
<b>Perceived health status</b>						
Good	13(54.2)	7(29.2)	4(16.7)	24		
Neither good nor poor	40(58)	19(27.5)	10(14.5)	69	14.045	0.007*
Poor	8(25.8)	9(29)	14(45.2)	31		
<b>Perceived sleep quality</b>						
Good	52(64.2)	22(27.2)	7(8.6)	81	30.881	<0.001*
Poor	9(20.9)	13(30.2)	21(48.8)	43		
<b>Sleeping hour</b>						
0-5 hours	20(33.9)	21(35.6)	18(30.5)	59		
5-10 hours	41(63.1)	14(21.5)	10(15.4)	65	10.650	0.005*

<b>Disease condition</b>						
Present	21(42)	14(28)	15(30)	50	2.925	0.232
Absent	40(54.1)	21(28.4)	13(17.6)	74		
<b>Perceived stress</b>						
Present	18(27.7)	23(35.4)	24(36.9)	65(52.41)	27.763	<0.001*
Absent	43(72.9)	12(20.3)	4(6.8)	59(47.58)		
<b>Disability</b>						
Present	1(33.3)	2(66.7)	0(0)	3	2.461	0.292
Absent	60(49.6)	33(27.3)	28(23.1)	121		
<b>Family history of depression</b>						
Present	1(25)	2(50)	1(25)	4(3.22)	1.197	0.550
Absent	60(50)	33(27.5)	27(22.5)	120(96.77)		
<b>Perceived economic satisfaction</b>						
Satisfied	40(66.7)	17(28.3)	3(5)	60	23.127	<0.001*
Dissatisfied	21(32.8)	18(28.1)	25(39.1)	64		

\*p-value significant at less than 0.05 at 95% confidence interval. Percentage in parenthesis

Age, education level, marital status, childlessness, perceived health status and sleep quality, sleeping hour, and perceived economic satisfactions showed statistically significant association ( $P < 0.05$ ) on the feeling of loneliness and level of depression among older people (Table 2,3,4 and 5). When it came to living arrangement and disease condition, only loneliness showed a statistically significant association ( $P < 0.05$ ) (Table 2 and 4). Assessment of association between perceived stress and level of depression revealed statistical significance, while a family history of depression did not reveal any significant association (Table 5).

The test of parallel lines showed that the significance of the chi-square statistics was smaller than 0.05 ( $\chi^2 = 47.894$ ,  $P = 0.011$ ). This suggests that the proportional odds assumption is violated, and thus the ordinal regression analysis was not assessed. This limited study in terms of understanding the exact predictors that were responsible for predicting the level of loneliness and depression among older people. Results from Spearman rank correlation analysis showed that an increase in the level of loneliness increases the level of depression among the older population (Table 6).

Table 6. Results of correlation on loneliness and depression scores.

Variables	Spearman Rank Correlation (r)	p-value
Loneliness Vs Depression	0.682	<0.001*

\*Correlation is significant at the level of 0.01

## DISCUSSION

Contrast to few studies identified,<sup>3,15,16</sup> more than half the number of older people in this study experienced some level of loneliness (69) and depression (63) which is a noticeable proportion in this study. A higher proportion of older people in this study were married couples with both partners being alive and the majority lived with their family rather than alone. Studies indicate that having somebody to talk to and share their feelings with, decreases the chances of feeling lonely and depressed.<sup>8,15-19</sup> However, this was not the case in this study as a higher number of married older people and those living with a family experienced some form of loneliness and depression. This might raise question toward the quality of family support received by older people as this may influence the loneliness and depression experience of older people. In this study, the researcher did not attempt to assess the quality of family support received by older people. Exploring this aspect through qualitative research design would be worthwhile to consider for future study. The researcher would also like to acknowledge the unequal distribution of the number of older people in the subcategory of the independent variables: marital status and living arrangement. Having a few numbers of respondents in one of the categories might have decreased the power of the study. This means that the test might not have detected the actual existing difference among the group. Thus, the researcher would like to emphasize to be cautious in making inferences regarding the association of these variables.

As people age, dependency on their family members for

physical, emotional, social and financial needs increases and these needs might not be addressed at various times. This might be one of the reasons for the significant association of age with loneliness and depression in this and other studies.<sup>16-19</sup> However, there are studies which have revealed contrast findings as well.<sup>15,20</sup> Contrast findings in these studies conducted in Asia (which have similar socio-cultural dynamics as Nepal) might relate to the difference in sample size and sampling technique. On the other hand, gender difference did not reveal any significant association with loneliness and depression in this study which is in line with findings from other various studies.<sup>8,15,17,20</sup> Contrast to this, findings of significant association has been documented in some of the studies.<sup>18,19</sup> Majority of older people in this study were female and this might be one of the reasons for the insignificant association.

Education helps individuals to shape their opinions and perspective of looking at life which enhances the development and use of positive coping skills to tackle changes that occur in life. Not having a positive outlook towards aging changes might link to the feeling of loneliness and depression among older people. Few studies have revealed that older people who were illiterate felt a high level of loneliness and depression which is a similar finding in this study as well.<sup>15,18-20</sup> While, work opportunities provide financial independence to older people giving them economic satisfaction and increases their self-esteem and worth among the family members and society. Having a source of income and satisfaction with one's economic status helps to accomplish a sense of fulfillment and life satisfaction during old age. This may relate with the statistically significant result of this study indicating majority economically satisfied older people having a low level of loneliness and depression. However, in contrast to other studies, source of income and current job status did not show any statistically significant association.<sup>15,17-20</sup> It is worth to note that the proportion of illiterate and unemployed older people were quite high in this study and low sample size might affect the association.

Children may help their parents during their old age to fulfill their social, financial, and emotional needs and thus older people achieve a sense of social security.<sup>15</sup> Surprisingly, feeling of loneliness and depression is quite high among those older people who have children in the present study showing statistically significant result. Involvement of only a few childless older people in this study may point towards the reason behind no association. The present study did not compare the difference in the level of loneliness and depression

among older people who had daughters only, sons only and both. Thus, this could be an interesting topic to explore further.

Perceived health status was found to be significantly associated with loneliness and depression in one study<sup>15</sup> and this result is shared by the current study as well. Older people perceiving their health at a good state will not feel a burden to their family and thus that might give them a sense of satisfaction. Perception of a good state of health also depends upon proper sleep duration and its quality and this links to experiencing loneliness and depression as adequate sleep are vital for the proper functioning of the body.<sup>15,21</sup> Adequate sleeping hour and good perception about the quality of sleep were observed to be significantly associated with loneliness and depression in this study.

Older people who suffer from diseases need assistance from their family members to perform their activities of daily living and at times these needs are not met, making older people feel worthless because of this dependency. This feeling of worthlessness might lead to the experience of loneliness and depression among older people. Studies have shown a significant association of loneliness, depression, and presence of diseases,<sup>17,11</sup> which is in line with this study with regard to the experience of loneliness only. It is worth to note that there was no difference in depression experience among people with and without disease condition revealing a statistically insignificant association.

Older people with a family history of depression are more likely to experience depression.<sup>22</sup> While disability could be another reason for the experience of depression and loneliness among older people.<sup>17</sup> Majority of older people participated in this study did not have any family history of depression and neither had they any form of disability. This might point out the reason for no association between these independent variables with depression and loneliness. Apart from the above-mentioned reasons, perceiving stress could affect aging adults' mental, physical health and well-being leading towards the path of depression.<sup>15,22</sup> Higher proportion of older people who perceived stress were found to be experiencing depression in this study indicating a significant result.

The positive correlation between loneliness and depression in this study is in accordance with the findings obtained from various other studies.<sup>23-25</sup> Older people who feel lonely develop negative feelings and a consistent feeling of loneliness for a longer period of time may link to

depression. Thus, minimizing loneliness might be helpful in decreasing the experience of depression among older people. However, factors showing statistically significant association with loneliness and depression should also be taken into consideration.

## CONCLUSIONS

Significant number of older people didn't feel lonely or depressed. There was a positive correlation between loneliness and depression among older age group, family education, better health care services, strengthening of social support through various activities is of paramount importance to care this aged population so that they can spend their old age life as healthy as possible physically, mentally and socially.

## ACKNOWLEDGMENTS

Authors would like to thank the institutional review committee of Nepal Medical College for granting permission to conduct this study. Special thanks to Mr. Prem Prasad Panta, Statistician of Nepal Medical College for his guidance in data analysis. Lastly, we are grateful to all the participants without whom this study would not have been possible.

## REFERENCE

- Barg F, Huss-Ashmore R, Wittink M, Murray G, Bogner H, Gallo J. A Mixed-Methods Approach to Understanding Loneliness and Depression in Older Adults. *J Gerontol B Psychol Sci Soc Sci*. 2006;6(6):329-39. [\[PubMed\]](#)
- Singh A, Mishra N. Loneliness, Depression and Sociability in Old Age. *Ind Psychiatry J*. 2009;18(1): 51-5. [\[PubMed\]](#)
- Cong L, Dou P, Chen D, Cai L. Depression and Associated Factors in the Elderly Cadres in Fuzhou, China: A Community-based Study. *Int J Gerontology*. 2015;9(1):29-33. [\[Google\]](#)
- Kim JI, Choe MA, Chae YR. Prevalence and predictor of geriatric depression in community dwelling elderly. *Asian Nurs Res*. 2009; 3(3): 121-9. [\[Elsevier\]](#)
- Kafle B, Sharma VD, Ojha SP, Chapagain M, Tulachan P, Dhungana S. Prevalence of Depression among elderly living in old age homes of Kathmandu Valley and its association with Sociodemographic variants. *Adv Aging Res*. 2014; 3(1): 6-11. [\[Google\]](#)
- Chalise HN. Depression among elderly living in Briddashram (old age home). *Adv Aging Res*. 2014; 3(1): 6-11. [\[Google\]](#)
- Fiske A, Wetherell JL, Gatz, M. Depression in older adults. *Annu Rev Clin Psychol*. 2009; 5: 363-389. [\[PubMed\]](#)
- Chauhan P, Kokiwar P, Shridevi K, Katkuri S. A study on prevalence and correlates of depression among elderly population of rural South India. *Int J Comm Med Public Health*. 2016; 3(1):236-39. [\[Google\]](#)
- Kang H, Park M, Wallace (Hernandez) J. The impact of perceived social support, loneliness, and physical activity on quality of life in South Korean older adults. *J Sport Health Science*. 2018; 7(2):237-244. [\[Google\]](#)
- World Health Organization. Mental health of older adults, addressing a growing concern [Internet]. Yasamy MT, Dua T, Harper M, Saxena S: Department of mental health and substance abuse; 2013 [cited 30<sup>th</sup> May 2018]. Available from: [\[Link\]](#)
- Risal A, Manandhar K, Mattias L, Steiner TJ, Holen A. Anxiety and depression in Nepal: prevalence, comorbidity and associations. *BMC Psychiatry*. 2016;16:102. [\[Google\]](#)
- Gautam R, Houde S. Geriatric Depression Scale for community dwelling older adults in Nepal. *Asian J Gerontol Geriatr*. 2011;6(2): 93-9. [\[Google\]](#)
- Yesavage JA, Brink TL, Rose TLS, Lum O, Huang V, Adey M, et al. Development and validation of a geriatric depression screening scale: A preliminary report. *J Psy Res*. 1982-1983; 17(1):37-49. [\[Google\]](#)
- Russell DW. UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. *J Pers Assess*. 1996;66(1):20-40. [\[Google\]](#)
- Vakili M, Mirzaei M, Modarresi M. Loneliness and its related factors among elderly people in Yazd. *Elderly Health J*. 2017; 3(1): 10-5. [\[Google\]](#)
- Teh JKL, Tey NP, Ng ST. Family Support and Loneliness among Older Persons in Multiethnic Malaysia. *Scientific World J*. 2014:1-11. [\[Google\]](#)
- Subramaniam M. Prevalence of Depression among Older Adults-Results from the Well-being of the Singapore Elderly Study. *Ann Acad Med Singapore*. 2016; 45(4):123-33. [\[Google\]](#)
- Swarnalatha N. Prevalence of Depression among the Rural Elderly in Chittoor District, Andhra Pradesh. *J Clin Diag Res*. 2013;7(7):1356-60. [\[PubMed\]](#)
- Rashid A, Manan A, Rohana S. Depression among the Elderly Malays Living In Rural Malaysia. *Internet J. Public Health*. 2010;1(2):1-10. [\[Google\]](#)
- Jain RK, Aras RY. Depression in geriatric Population in Urban Slums of Mumbai. *Indian J public Health*. 2007;51(2): 112-3. [\[Pub med\]](#)
- Chhantyal A, Timalina R. Factors Associated with insomnia

- among Elderly of a selected community of Lalitpur. *J Gerontol Geriatr Res.* 2017;6:410. [[Google](#)]
22. Monroe SM, Slavich GM, Gotlib IH. Life stress and family history for depression: The moderating role of past depressive episodes. *J Psychiatr Res.* 2014; 49:90-95. [[PubMed](#)]
23. Barua A, Kar N. Screening for depression in elderly Indian population. *Indian J Psychiatry.* 2010; 52(2): 150-3. [[PubMed](#)]
24. Drageset J, Espehaug B, Kirkevold M. The impact of depression and sense of coherence on emotional and social loneliness among nursing home residents without cognitive impairment – a questionnaire survey. *J Clin Nurs.* 2012;21(7-8): 965-74. [[Hinari](#)]
25. Stek ML, Vinkers DJ, Gussekloo J, Beekman AT, van der Mast RC, Westendorp RG. Is depression in old age fatal only when people feel lonely? *Am J of Psychiatry.* 2005;162(1): 178–180. [[Google](#)]