

Correlates of loneliness among older Newar adults in Nepal

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Objective The purpose of this study was to identify significant factors for loneliness in older adults in Nepal.

Methods The subjects (N = 195) were members of the Newar caste/ethnicity, aged 60 years and above (mean (\pm SD) 68.81 (\pm 7.69) years and 52% male) and living in Katmandu City. Data were collected by face-to-face interview using a three-item loneliness scale, developed based on the University of California at Los Angeles (UCLA) Loneliness Scale and prepared with a translation and back translation technique from English into Nepalese. The data were analyzed using logistic regression analyses.

Results More than two-thirds of Newar elderly experience some type of loneliness. A statistically significant correlation was found between feelings of loneliness and age, sex, household status, total family size, network size, social participation, self-reported health, chronic health problems, working status, instrumental activities of daily living (IADL), and perceived economic satisfaction. Results of logistic regression analyses showed age, network size, and perceived economic satisfaction to be significant factors for loneliness.

Conclusion Loneliness is an important public health issue, predicting low quality of life among older adults. The present results indicate many elderly Nepalese experience some form of loneliness, with age, network size and perceived economic satisfaction as significant factors. However, this result may not be generalized to the greater population of Nepalese older adults and the external validity of the UCLA Loneliness Scale is an important criterion to examine in future research.

Key words : loneliness, older adults, network size, Nepal

I. Introduction

Loneliness in old age is a significant challenge for gerontological researchers and practitioners with the increasing life expectancy worldwide. It has been estimated that 25% of the world's population experience episodes of loneliness on a regular basis¹⁾, and its reported prevalence in the elderly varies from 7%²⁾ to 49%³⁾. Moreover, almost 60% of people aged 70 years and older experienced some type of loneliness in one population studied in the United States⁴⁾. The experience of loneliness impacts on individuals across the life spectrum and has physical, psychological and social repercussions⁵⁾. Loneliness lowers quality of life and is associated with poor medical outcomes in old age²⁾. There is also a strong relationship between depressive symptoms and loneliness^{6~8)}, and this latter predicts increased use of health services^{9,10)} and early

institutionalization^{11,12)}. Loneliness has further been shown to predict cognitive decline^{12,13)} and increase the risk of mortality^{12,14,15)}.

Loneliness is a complex concept and difficult to define. However, it is generally considered an unpleasant emotional state in which a person feels apart from, yet in need of others¹⁶⁾. Social scientists have emphasized that loneliness is a subjective experience and is not synonymous with objective isolation (i.e., solitude or aloneness, because loneliness may occur in the presence of other people)¹⁷⁾. According to Sullivan¹⁷⁾, intense loneliness may be manifested by diminished feelings of self-worth, a lack of confidence in interpersonal relationships, and disrupted decision-making abilities. Peplau and Perlman (1982)¹⁸⁾ asserted that loneliness results from a deficiency in a person's social relationships. A person might feel lonely when no one else is present, when a particular person is absent, when interaction partners treat the individual differently than what is desired, or when aspects of the situation make that person feel alienated from those with whom he or she could develop a satisfying relationship.

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Several studies have identified predictors of loneliness among older adults and various models of causation have been suggested^{19~21}). Five sets of factors have been shown to be consistently associated with loneliness: socio-demographic attributes (i.e., living alone, being a woman, being 75 or more years of age, and the presence or absence of surviving children), material wealth (poverty, limited education and low income), health resources (disability, poor self-perceived health, poor mental health, poor cognitive functioning, and anxiety/depression), social resources (size of social support network, presence of a confidant), and life events (recent bereavement and/or admission of a relative/spouse into care facilities). For a comprehensive review, see De Jong-Gierveld (1998)¹⁹).

Nepal is one of the poorest countries of the world, with approximately 40% of the population living below the national poverty line²²). The average life expectancy is 61.0 years and Nepal is one of the exceptional countries in the world where men live longer than women²³). The proportion of the elderly 60 years and above is 6.5% and the elderly population has been increasing rapidly in recent decades^{23,24}). More than 80% of the elderly live with their children^{23~25}), most likely in joint or extended families. There is a general lack of research related to elderly issues and no comprehensive studies have hitherto been performed in Nepal specifically for loneliness in older adults. We have therefore focused on this problem in the hope for facilitating policy to increase the quality of life for the Nepalese elder in the future.

Preliminary findings of our survey using data for Brahmin elderly have already been published²⁶). The present paper replicated the previous findings and confirmed the cross-cultural validity using data for Newar (N = 195) caste/ethnicity elderly 60 years and above, an indigenous population of the Kathmandu valley where the proportion of Newar is still highest. This study aimed to whether stronger extended-family bonds in developing countries like Nepal would limit the loneliness that older adults in those extended families experience. In particular, the study aimed to analyze significant variables for loneliness among Newar older adults.

II. Methods

Study site and sampling

The data for this study were taken from a cross-sectional field survey of Nepalese elderly conducted in July/August 2005 in Kathmandu City. The study site was Kathmandu Metropolitan City, the capital and largest city of Nepal with a population of 671,846²⁷). Kathmandu Metropolis is divided into

35 wards. For this survey, an administratively and geographically well defined convenient ward (a total population of 34,488) with a total household number of 7,848 was selected²⁷). According to an unpublished source from the Central Bureau of Statistics, there were 1,287 households in total having at least one older adult of 60 years and above.

Study population inclusion criteria

The targeted study area was visited by the researcher before the data collection and cooperation from social workers and community leaders was solicited. In this survey Brahmin, Chhetri and Newar elderly were selected. These three caste/ethnicity older adults were chosen because they made up the majority of the population (around 75%) in this ward. Inclusion criteria included only those older adults who were not severely suffering from dementia¹ at the time of survey and who could communicate in the Nepali language². House-to-house visits were made to locate all eligible elderly households/families as well as eligible elderly. During the door-to-door field survey, 985 households/families having at least one older adult of the selected three caste/ethnic groups were identified. As the elderly suffering from dementia or who could not speak the Nepali language were omitted, the eligible sample size (household/family) was reduced to 663. Only one individual elderly was included from each household/family in the case where more than one elderly was living in the household at the time. Finally, interviews were successfully completed with 509 elderly. Among the 154 whom we could not include in the study, 67 refused to participate, interviews could not be completed with 56, and 31 couldn't be found at the time of the interview.

Ethical considerations

The study protocol was approved by the Institutional Review Board of the Graduate School of Medicine of the University of Tokyo in June, 2005. We also obtained permission from the local ward office officer in Kathmandu for this study. The purpose of the study was explained and verbal informed

¹ Dementia was determined based on the local social worker's, neighbor's and family member's perceptions.

² There are no exact data on how many elderly can communicate in the Nepali language. The mother tongue of both Brahmin and Chhetri is Nepali, but Newar have their own language (Newari) and some older adults may not be able to communicate well in the Nepali language, despite its official recognition as the national language of Nepal.

consent was obtained from all participants before interviews. Respondents were assured of the confidentiality. The interviews were conducted in the respondents' homes and took an hour on average. No other family members were present at the time of interview.

Measurements

To ensure the questionnaire's quality and sensitivity, the loneliness scale and instrumental activities of daily living (IADL) were translated into Nepali from English and then back translated into English by English language teachers proficient in both languages. Different individuals conducted the back translation to ensure accuracy. A pilot study of 31 respondents from the non-study area was used to identify potential problems with the questionnaire.

1) Dependent variable

In this study, loneliness was the dependent variable as determined by a three-item loneliness scale²⁸⁾ developed from the Revised UCLA Loneliness Scale²⁹⁾ (R-UCLA). Studies from the United States, United Kingdom and many Asian countries have shown that the R-UCLA can be employed with different cultures and ethnicities. The three-item loneliness scale questionnaire included 'How often do you feel lack of companionship?', 'How often do you feel left out?' and 'How often do you feel isolated from others?' The responses were categorized and coded as 'Hardly ever-1', 'Some of the time-2' and 'Often-3'. Hughes and others (2004)²⁸⁾ tested the scale's psychometric properties in two studies and found a Cronbach's alpha of 0.72 on both studies. They also found a high correlation (0.82) between the three-item loneliness scale and the R-UCLA. In the present study, internal consistency was maintained with a Cronbach's alpha of 0.84. Results of the principal component analysis showed the first component with loadings greater than 0.8 and explaining more than 75% of the total variance.

2) Independent variables

The functional abilities of older adults were measured using a five-item scale (traveling by public transportation, shopping for groceries, preparing meals, doing light house work, and taking medicine) from the seven-item instrumental activities of daily living (IADL) scale³⁰⁾. For the present study, responses were dichotomized as 'unable to do at all' and 'with some difficulty' coded 0 and 'without help' coded '1'. The internal consistency reliability of this scale was 0.88 in the present study. Furthermore, the result of the principal component analysis showed the first component with loadings greater than 0.7 and explaining more than 68% of the total variance.

Age was assessed as a continuous variable, sex

as 'male' and 'female', coded 1 and 0 respectively, and marital status as 'married' and 'widow or widower', coded 1 and 0 respectively. 'Widow or widower' included 'unmarried, divorced and separated' though the proportion of the latter was very low. Household status was classified as 'ordinary family member' or 'household head', coded 0 and 1 respectively. Education status was classified as 'illiterate' coded 0 and 'literate' coded 1. Total family size was measured as a continuous variable. Living arrangements in this study were classified 'living with children' and 'others', coded 1 and 0 respectively. Social participation was 'yes' and 'no', coded 1 and 0 respectively. Total network size (sum of persons in contact, including children living apart, relatives and friends & neighbors, except members of the total family size) was also measured as continuous. Answers to having a chronic health problem, 'no' or 'yes', were coded 0 and 1 respectively. Self reported health was assessed on a three-point scale with 'bad' coded as 1, 'fair' coded as 2, and 'good' coded as 3. Currently working for cash or kind was determined simply as 'yes' or 'no', coded 1 and 0 respectively. Past occupation was classified as working in 'agriculture' or 'non-agriculture', coded 0 and 1 respectively. Financial satisfaction, as a widely used measure of self perceived financial condition, was assessed by the respondents' estimate of present financial condition on a five-point Likert scale: 'not satisfied' as 1 and 'very satisfied' as 5. For the present study, a three-point scale was applied with 'not satisfied' coded as 1, 'fair' as 2, and 'satisfied' as 3.

Analysis

Descriptive statistics were used to determine the characteristics of the study variables. The results of the loneliness scale were skewed and binary analyses were performed. Those reporting 'no loneliness' or 'loneliness' up to 3 were coded '0' (no loneliness), while those with 4 to 9 were coded '1' (loneliness).

Selected background variables such as age, sex, marital status, household status, education status, social participation, and chronic health problems, as well as currently working for cash or kind, past occupation, functional ability, living arrangement and self perception of economic satisfaction and their correlation with the loneliness scale were all examined using Spearman's correlation. The variables that significantly correlated with loneliness were then used in logistic regression analyses as potential predictors of loneliness. Data were analyzed using SPSS 14.0.

III. Results

The distribution of social, demographic and health-related characteristics of the 195 Newar caste/

ethnicity subjects is shown in Table 1. Subjects ranged in age from 60 to 97 years with a mean (\pm SD) age of 68.81 (\pm 7.69) years. One hundred and one (51.8%) were male, and one hundred and five (53.8%) were married. Eighty nine (45.6%) were literate (who could read or write, including those receiving only informal education). About 70% of the elderly participated in social activities. Regarding self-reported economic satisfaction, 43.1% of the elderly reported their situation to be fair. The majority of older adults were living with their children. The average household size was 6.47 (\pm 3.03). Their total network size was 11.01 (\pm 5.13), not including family members living together. Mean functional ability of the elderly was 4.18 (\pm 1.53).

Table 2 gives an overview of findings for loneliness questions obtained in the study. Some 13.3% of the elderly reported they often felt a lack of companionship, 39.0% felt left out some of the time and 60.5% hardly ever felt isolated from others. A total of 68.7% of older adults reported suffering from loneliness some of the time or often. The mean loneliness score was 4.79 (\pm 1.73).

Table 1. Selected Background Characteristics of Newer Elderly Subjects (N=195)

Characteristics	N	%	Mean	SD	Range
Age			68.81	7.69	60-97
Sex (male)	101	51.8			
Marital status (married)	105	53.8			
Household status (head)	142	72.8			
Education (literate)	89	45.6			
Total family size			6.47	3.03	1-19
Living arrangement					
With children	171	87.7			
Social participation (yes)	138	70.8			
Total network size			11.01	5.13	0-29
Chronic health problem (yes)	119	61.0			
Self reported health					
Bad	48	24.6			
Fair	100	51.3			
Good	47	24.1			
Instrumental Activities of Daily Living			4.18	1.53	0-5
Working for cash or kind (yes)	64	32.8			
Past occupation					
Non-agriculture	71	36.4			
Economic satisfaction					
Not satisfied	55	28.2			
Fair	84	43.1			
Satisfied	56	28.7			

SD = Standard Deviation

Table 3 shows results of bivariate analysis of loneliness with selected background variables. Age ($P=0.000$), sex ($P=0.022$), household status ($P=0.022$), total family size ($P=0.001$), social participation ($P=0.048$), total network size ($P=0.000$), chronic health problem ($P=0.022$), self-reported

Table 2. Responses in the Three-item Loneliness Scale (N=195)

Questions	Hardly ever %	Some of the time %	Often %
1. How often do you feel lack of companionship?	40.5	46.2	13.3
2. How often do you feel left out?	51.3	39.0	9.7
3. How often do you feel isolated from others?	60.5	31.3	8.2

Proportion reporting feeling of loneliness (some of the time or often) for any of the the above three question was 68.7% (N=134)

	Mean	SD	Range
Loneliness	4.79	1.73	3-9

SD = Standard Deviaton

Table 3. Correlation and Bivariate Analysis of Loneliness with Some Socio-demographic and Health Variables (N=195)

Variables	Spearman's correlation coefficients (r_s)	P
Age	0.251	0.000
Sex (male)	-0.164	0.022
Marital status (married)	0.108	0.135
Household status (head)	-0.164	0.022
Education (literate)	0.085	0.236
Total family size	-0.228	0.001
Living arrangement (with children)	-0.118	0.100
Social participaiton (yes)	-0.142	0.048
Total network size	-0.341	0.000
Chronic health problem (yes)	0.164	0.022
Self-reported health (good=3)	-0.259	0.000
Instrumental Activities of Daily Living	-0.143	0.023
Working for cash or kind (yes)	-0.235	0.001
Past occupation	-0.041	0.568
Economic satisfaction (satisfied=3)	-0.318	0.000

Table 4. Logistic Regression of Loneliness
(N = 195)

Variables	OR	95%CI		P
		Lower	Upper	
Age	1.090	1.014	1.171	0.019
Network size	0.846	0.759	0.943	0.003
Economic satisfaction	0.386	0.220	0.678	0.001
Hosmer & Lemeshow's Test- 2 Log likelihood	$P=0.872$ 177.070			

OR = odds ratio, CI = confidence interval

* Only significant variables are shown from the variables entered: age, sex, household status, family size, social participation, total network size, chronic health problem, self-reported health, IADL, working status and economic satisfaction

health ($P=0.000$), IADL ($P=0.023$), working status ($P=0.001$) and economic satisfaction ($P=0.000$) were significantly positively or negatively correlated with loneliness and were included in logistic regression analyses. Non-significant predictors were removed from the model.

Results of the logistic regression of loneliness are shown in Table 4. We also conducted separate analyses according to sex, but found basically the same results. The goodness of fit statistics (Hosmer and Lemeshow's test $P=0.872$ and -2 Log likelihood = 177.070) indicated a satisfactory fit for the model. Significant predictors of loneliness in the model were age (OR = 1.090, 95% CI 1.014–1.171, $P=0.019$), small network size (OR = 0.846, 95% CI 0.759–0.943, $P=0.003$) and lack of economic satisfaction (OR = 0.386, 95% CI 0.220–0.678, $P=0.001$).

IV. Discussion and conclusions

In recognition of increasing worldwide concern for issues affecting the elderly, loneliness has recently been recognized as an important public health issue, predicting, among other things, low quality of life among older adults. The primary purpose of the present study was to examine the experience of loneliness and significant related variables in Nepalese (Newar) older adults.

In a previous study²⁶⁾ using data for Brahmin caste/ethnicity from the same survey, social support (i.e., sources of social support received and provided) proved to be an important variable when assessing subjective well-being and loneliness of the elderly in Nepal. In this study we therefore focused on the social network of the elderly using data for the Newar caste/ethnicity.

The mean score for loneliness in the present

study using a three-item loneliness scale (range 3–9) was 4.79 (± 1.73), similar to the previous finding for Brahmin elderly²⁶⁾. The percentages of those suffering from some degree of loneliness were also approximately equal. It is difficult to compare this result with other populations as only one further study²⁸⁾ has been published using this scale. Compared to the mean score of 3.89 reported by Hughes and others (2004)²⁸⁾, our values for Nepalese older adults are relatively high. As the majority of respondents were illiterate unable to read and write, the higher value could have been a reflection of the face-to-face nature of the interview. It is difficult to say why loneliness might be particularly prevalent among Nepalese elderly, but some studies^{31,32)} have shown such feelings are influenced by the cultural background and beliefs.

Different studies have shown that loneliness is associated with old age^{33–35)}, although not all observations have been consistent^{33,36)}. Our findings were in line with data for Korea³⁷⁾, in that elderly with large networks are less lonely, a broader variety of people providing resources to cover a greater diversity of social needs³⁸⁾. Other studies also indicated loneliness to be negatively related to network size and the linked social support³⁹⁾. Our findings are also in agreement with the literature regarding economic satisfaction^{40,41)}. While a higher education and income may be linked to a broader social network⁴¹⁾, in the present study we did not find any correlation with education.

Also consistent with other studies, a negative correlation was found with male gender^{1,2,35)} (women are more lonely), participation in social activities⁴⁰⁾, and higher functional ability⁴²⁾. On the other hand, having a chronic health problem⁴³⁾ may increase the risk of loneliness. Poor subjective health and loneliness were in fact found to be related in several studies^{31,33,36,40,44)}. The reason why gender, participation in social activities, self-reported health, having a chronic health problem and functional disability did not remain predictors of loneliness in the final analysis is, most likely, because these are significantly related to age, economic satisfaction and network size, which have greater influence on feelings of loneliness. Furthermore, we found marital status not to be related to loneliness in this study.

This study revealed a heavy societal burden in terms of addressing the needs of older adults who are suffering from loneliness. Although more than 85% of the elderly were living with their children, feelings of loneliness appeared high due to very little communication with family members and feeling of being neglected²⁶⁾. Loneliness is thought to be the result of many factors, including health, social and

psychological conditions³³⁾. However, few studies have examined factors associated with loneliness in later life^{1,19~21,37)}. Further research is needed to identify risk factors of increasing loneliness among the elderly so that their longevity can be accompanied with improved quality of life.

This study had several limitations. First, it was cross-sectional in nature; thus, the results did not establish causal relationships for the study variables. Second, the data came from one area of Kathmandu City and covered the elderly of only one caste/ethnicity who can speak Nepali. So the results on the prevalence of loneliness may be biased and may not be able to be generalized to other castes, ethnicities or populations, although they appear comparable to those of our previous study on Brahmin older adults in Nepal. While, the validity of the Revised UCLA Loneliness Scale was not examined in this study, it has been used to assess the loneliness of individuals of various ethnicities in the United States as well as many Asian countries. Therefore, we assume it can be applied to Nepalese.

In spite of the limitations, the findings of this study suggest that feelings of loneliness are a serious problem among Nepalese Newar older adults, despite the majority of older adults living with their children. This indicates that living in the joint family does not necessarily predict nor mitigate loneliness. Moreover, the external validity of the loneliness scale should be studied so that results can be comparable. Qualitative research is needed to further explore the causes of loneliness. This should contribute to the empowerment of the elderly and, thus, enhance their quality of life in the future.

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