PREVALENCE OF CHRONIC DISEASES AND QUALITY OF LIFE AMONG ELDERLY PEOPLE OF KATHMANDU, NEPAL

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ABSTRACT

The world is experiencing growth in the number and proportion of older population and their population are found to be growing much faster in the developing countries. The ageing population tends to have a higher prevalence of chronic diseases worldwide. These problems can lead to decrease in quality of life of elderly. The current study aimed to study the prevalence of chronic diseases and quality of life among elderly people of Kathmandu. This is a community based cross sectional study done among 200 elderly people who are more than or equal to 60 years at Budanilkantha Municipality-13, Chunikhel. The information was obtained using semi structured questionnaire. A standardized tool of the WHOQOL-BREF questionnaire was used to assess the quality of life (QoL) of participants. Among various chronic diseases, the prevalence of hypertension was highest. The mean score of environment domain was better than physical health, psychological and social relationships domain respectively. QoL was statistically significant with increase in literacy status, education of head of family and their involvement in decision making. The overall mean score of QoL among both the diseased and not diseased elderly were similar. Thus, the present study provides valuable information regarding the QoL of the elderly in the community.

KEYWORDS

Quality of Life, WHOQOL-BREF, elderly people, Kathmandu

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INTRODUCTION

Aging is a complex process leading to deterioration in physiological, psychological and social factors of an individual with advancement of age and is associated with increased prevalence of chronic disease.[1,2] It is a global issue of importance and government of Nepal has also given the priority to this issue as fertility rate has been declining in recent years and also the mortality is declining and the life expectancy is continuing to increase.[3] Presently while overviewing the world population, people aged 60 years and above is increasing rapidly. This is associated to longer life expectancy, low fertility rates, remarkable public health policies and advances in medicine and health care.[4]

People in both developed and developing countries are living longer. Throughout the world every country is experiencing growth in both the size and the proportion of older persons in the population. It is estimated that 1 in 6 people in the world will be aged 60 years or over by the year 2030. Likewise, by 2050, the world's population of people aged 60 years and older will double (2.1 billion). Whereas, the number of persons aged 80 years or older is expected to triple between 2020 and 2050 to reach 426 million.[5] For a developing country like Nepal whose life expectancy in 1991 was around 54 years is now expected to be increased. In every two years interval average life expectancy is increasing by one year as per data of Nepal and also the elderly population growth rate is higher than the population growth rate. According to 2011 census in Nepal, the total proportion of elderly is 8.1%.[6] A long period of treatment is required for chronic diseases that leads to increase in demand of healthcare services and changes its nature. The long-term care for chronic diseases can lead to decline in the QoL of elderly individuals.[7] QoL is an interdisciplinary concept, with no single definition in the literature and different views on quality of life have emerged in all the fields of study which is related to human existence.[8]

The WHO has defined QoL as "an individual's perception of life in the context of culture and value system in which he or she lives and in relation to his or her goals, expectations, standards and concerns."[9] In the developing countries, the number of elderly population is increasing due to demographic transition, whereas their condition is deteriorating as a result of fast eroding traditional family system coupled with rapid modernization and urbanization. The QoL of elderly population can be affected by the transition of diseases.[10] There is increased risk of multiple co-morbidities among elderly population which can be leading cause of disability and this chronic illnesses can influence the QoL during ageing.[11] The urban population often faces increasing pressure on different socioeconomic fronts such as health-care expenditures and fiscal disciplines, which can affect the life of the elderly population and also work migration, small size of family and condensed earning capacity may lead to further deterioration of QoL among the urban elderly population.[12]

With the increase of life expectancy, more emphasis has been made on the importance of better QoL, and the maintenance of good health for as long as possible. Different global leading health organizations have highlighted the importance of QoL and well-being as a goal across all life stages.[13] It is imperative to determine the QoL of the elderly population. Accordingly, the present study aimed to explore about chronic diseases and quality of life among elderly people of Kathmandu.

MATERIALS AND METHODS

This is a community based cross sectional study using Convenience Sampling Method. It was conducted among elderly people who are more than or equal to 60 years of Budanilkantha Municipality-13, Chunikhel in Kathmandu. Assuming 50% of the elderly population have a good QoL, and using an appropriate statistical formula ($N=z^2pq/d^2$), the total sample size collected were 200. The study period was of six months from February 2022 to July 2022. Ethical approval was taken from Institutional Review Committee (IRC) of Nepal Medical College Teaching Hospital. Elderly people who were not willing or not in position to give information due to any reason (like bed ridden, hearing problem, speech impairments or mental illness) were excluded. Study participants in this study were explained about the purpose of the visit and consent was obtained. The information was obtained using semi structured questionnaire. During the interview with the participants the information regarding age, sex, marital status, occupation, education, socio-economic status and any chronic disease if present were collected. A standardized tool of the WHOQOL-BREF questionnaire which is short version was used as a method of assessing the QoL. The WHOQOL-BREF consists of 26 questions covering 4 domains- physical health (7 questions), psychological (6 questions), social relationships (3 questions), and environment (8 questions) with remaining 2 questions related with individual's overall perception of QoL and individual's overall perception of

their health respectively. All the 26 items of the WHOQOL-BREF questionnaire were assigned the individual score of "1," "2," "3," "4," and "5"as per the response of the elderly people. As per the WHO user manual, raw scores for the domains of WHOQoL-BREF were calculated by adding values of single items. The mean scores are then multiplied by 4 in order to make domain scores comparable with the scores used in the WHOQOL-100 and were then transformed on the scale ranging from 0 to 100, where 100 is the highest and 0 is the lowest QoL. Statistical analysis of the data collected were carried out using SPSS 16. Frequency distribution of the morbidity condition were calculated. Chi-square test, Fisher test, Independent *t*-test and analysis of variance (ANOVA) test were applied.

RESULTS

Total 200 participants were in this study, out of which 111 (55.5%) were female and 89 (45.5%) were male. Chronic health problems were reported by 129 (64.5%) of the study population.

As shown in Table 1, out of 200 elderly people, 129 had different types of chronic diseases whereas 71 were free of diseases. The prevalence of hypertension (20%) was highest in compare with other diseases. The prevalence of other diseases were COPD 9.5%, diabetes mellitus 9.5%, joint pain 3.5%, CVD 2.5%, cataract 2%, cancer 1.5% and thyroid problem 1.5%. Around 14.5% had multiple health problem. The prevalence of diabetes mellitus was significantly high among the female in comparison to male.

Table 1: Prevalence of chronic diseases among elderly people

Chronic diseases		Male (%)	Female (%)	Total (%)	P value
Hypertension	Present	20 (22.5)	20 (18)	40 (20)	0.43
	Absent	69 (77.5)	91 (82)	160 (80)	
COPD	Present	5 (5.6)	14 (12.6)	19 (9.5)	0.094
	Absent	84 (94.4)	97 (87.4)	181 (90.5)	
Diabetes mellitus	Present	4 (4.5)	15 (13.5)	19 (9.5)	0.03*
	Absent	85 (95.5)	96 (86.5)	181 (90.5)	
Multiple health problems	Present	17 (19.1)	12 (10.8)	29 (14.5)	0.09
	Absent	72 (80.9)	99 (89.2)	171 (85.5)	
Joint pain	Present	1 (1.1)	6 (5.4)	7 (3.5)	0.1
	Absent	88 (98.9)	105 (94.6)	193 (96.5)	
Cardiovascular Disease (CVD)	Present	3 (3.4)	2 (1.8)	5 (2.5)	0.48
	Absent	86 (96.6)	109 (98.2)	195 (97.5)	
Cataract	Present	1 (1.1)	3 (2.7)	4 (2)	0.42
	Absent	88 (98.9)	108 (97.3)	196 (98)	
Cancer	Present	1 (1.1)	2 (1.8)	3 (1.5)	0.69
	Absent	88 (98.9)	109 (98.2)	197 (98.5)	
Thyroid problem	Present	-	3 (2.7)	3 (1.5)	0.11
	Absent	89 (100)	108 (97.3)	197 (98.5)	

Table 2: Gender wise distribution of chronic diseases among elderly people

Morbidity Condition	Male n = 52 (%)	Female n = 77 (%)	Total n = 129 (%)
Hypertension	20 (22.5)	20 (18)	40 (20)
COPD	5 (5.6)	14 (12.6)	19 (9.5)
Diabetes mellitus	4 (4.5)	15 (13.5)	19 (9.5)
Multiple health problems	18 (19.9)	11 (9.9)	29 (14.5)
Joint pain	1 (1.1)	6 (5.4)	7 (3.5)
CVD	3 (3.4)	2 (1.8)	5 (2.5)
Cataract	1 (1.1)	3 (2.7)	4 (2)
Cancer	1 (1.1)	2 (1.8)	3 (1.5)
Thyroid problem		3 (2.7)	3 (1.5)

Table 3: Mean scores of Quality of life (QoL) of participants

QoL domain	Mean	SD
Physical health domain	52.32	18.62
Psychological domain	51.68	18.03
Social relationships domain	48.70	15.06
Environment domain	57.14	19.06
Total	**52.46**	**13.88**

As shown in Table 2, the commonest health problem present among the elderly was hypertension (20%) and was high among male in compare to female. Most of the diseases were high among female like COPD, diabetes mellitus, joint pain, cataract, cancer and thyroid problem. Among males hypertension, multiple health problems and CVD were high.

As depicted in Table 3, the mean score on environment domain was better than physical health, psychological and social relationships domain respectively. The total score for QoL was 52.46 on 0-100 scale.

As shown in Table 4, most of the elderly (53%) were of age group 60-69 years and least of elderly (15%) were of 80 years and above. QoL was statistically significant with increase in literacy status, education of head of family and involvement in decision making. QoL of elderly was better among male, married couple,

Table 4: Comparison of mean score of quality of life among various categories of the variables

Variables		n (%)	Quality of life score Mean ± SD	t/F	p-value
Age (Years)	60-69	106 (53)	52.02±14.77	0.78	0.460
	70-79	64 (32)	54.08 ± 12.44		
	80 and above	30 (15)	50.52 ±13.60		
Sex	Male	89 (45.5)	53.33 ± 14.37	0.80	0.422
	Female	111 (55.5)	51.75 ± 13.49		
Marital status	Married	134 (67)	53.6772 ± 13.78	1.77	0.078
	Widowed and others	66 (33)	49.9811 ± 13.84		
Literacy status	Illiterate	150 (75)	51.25 ± 13.35	2.14	0.033*
	Literate	50 (25)	56.06 ± 14.91		
Socioeconomic Status	Lower middle and lower	74 (37)	51.64 ± 12.93	2.56	0.079
	Upper lower	82 (41)	50.98 ± 14.25		
	Upper middle	44 (22)	56.57 ± 14.22		
Involvement in decision making	Yes	129 (64.5)	54.09 ± 14.15	2.275	0.024*
	No	71 (35.5)	49.4789 ± 12.94		
Use of social media	Yes	34 (17)	53.23 ± 14.98	0.358	0.375
	No	166 (83)	52.2982 ± 13.68		
Education of head of family	Illiterate	76 (38)	49.42 ± 15.10	3.689	0.027*
	Up to secondary	82 (41)	53.2805 ± 13.27		
	Secondary and above	42 (21)	56.3333 ± 11.66		
Occupation status of the respondent	Farmer	44 (22)	52.83 ± 14.56	0.586	0.625
	Housewife	85 (42.5)	52.16 ± 12.87		
	Unemployed	53 (26.5)	51.32 ± 15.35		
	Other	18 (9)	56.25 ± 12.61		

Table 5: Scoring pattern of different domains of quality of life according to chronic disease status

QoL Domains	Normal Mean ± SD	Diseased Mean ± SD	t	p-value
Physical health domain	55.68 ± 2079	50.47 ± 17.10	1.907	0.058
Psychological domain	52.44 ± 19.78	51.26 ± 17.05	0.439	0.661
Social relationships domain	48.21 ± 14.92	48.81 ± 15.13	0.270	0.788
Environment domain	53.49 ± 19.40	59.14 ± 18.64	2.02	0.045*
Overall	52.45 ± 16.02	52.45 ± 12.61	0.02	0.998

literate, upper middle class, who are involved in decision making, who uses the social media, literate head of family and employed elderly. It also showed that as the age is 80 years or above, the QoL was decreased.

As shown in Table 5, the maximum effect of chronic disease in QoL was present in physical health domain where the mean difference between not diseased and diseased is 5.21. In environment domain the mean score among the diseased (59.14) was high than the not diseased population. The overall mean score of the both the diseased and not diseased were similar.

DISCUSSION

The study conducted by Alharbi *et al*[14] showed most common chronic illnesses were cardiovascular diseases (71.8%), dyslipidemia (57.4%) and diabetes (56.1%). Among the elderly females, the chronic respiratory and endocrine diseases were common (P value 0.004, P value <0.001) whereas the most significant problem among males was disease of genitourinary system. In the similar study done by Yadav *et al*,[15] the prevalence of individual conditions included osteoarthritis 41.7% (men 37.5%; women 45.9%), cardiovascular disease 2.4% (men 2.8%; women 2.0%), diabetes 5.3% (men 6.0%; women 4.6%) and COPD 15.4% (men 13.3%; women 17.5%). In this study, the prevalence of chronic illnesses present were hypertension (20%), multiple health problems (14.5%), COPD (9.5%) and diabetes mellitus (9.5%). Most of the diseases were high among female like COPD, diabetes mellitus, joint pain, cataract, cancer and thyroid problem whereas among males hypertension, multiple health problems and CVD were high. In the similar study conducted by Balakrishnan *et al*,[16] the most common morbidities among the participants were hypertension, osteoarthritis, chronic respiratory diseases, with an overall prevalence of 31.6%, 28.6%, and 18%, respectively.

In the study conducted by Shah *et al*[17] among the elderly people of urban area showed that mean score of social relationships domain was maximum (69.4±9.7) whereas the scores for other domains were physical health domain 64.9±17, psychological domain 66.2±12.3 and environment domain 57.6±10, respectively. In the similar study conducted by Parsuraman *et al*[18] among the elderly people of urban area showed the highest mean score was of environment domain (61.49±11.787) whereas the scores of other domains were physical health domain was 55.615±14.67, psychological domain was 60.08 ± 10.98, and social relationships domain was 59.16±11.98. In this study, the total mean score of QoL was 52.46±13.83 whereas the highest mean score was of environment domain (57.14±19.06) and the scores of other domains were physical health domain (52.32±18.62), psychological domain (51.68±18.03) and social relationships domain (48.70±15.06) respectively. In the study conducted by Singh *et al*[19] among elderly of rural area, the overall mean score of QoL was 48.86±21.93 whereas the mean score for social relationships domain was maximum (52.79±22.91) and was minimum for the environment domain (44.79±23.41).

In the study conducted by Raj *et al*,[20] the mean quality of life score was 63.14±15.09 in male as compared to 59.44±16.99 in female. The difference among groups also found to be significant (F= 3.85, p value= 0.011) in respect to occupations, the mean score of quality of life is highest for those who were doing jobs (68.60±10.85) and regarding educational status, the mean quality of life score was 67.58 ± 13.22 in higher educated elderly. This difference was also found to statistical significant (p values< 0.05) in respect to education of elderly. In this study, QoL was statistically significant with increase in literacy status, education of head of family and involvement in decision making. As the age is 80 years or more, the QoL was decreased. QoL of elderly was better among male, married couple, literate, upper middle class, who are involved in decision making, who uses the social media, literate head of family and employed elderly.

In the study done by Kumar *et al*,[21] the effect of chronic disease was significant on all the domains of QoL i.e. physical health, psychological, social relationships and environment. The maximum effect of chronic disease was found on physical health domain where mean difference between diseased and not diseased person was 17.50. The mean score on psychological domain was 69.73 among normal persons while with chronic disease it was 57.29. The mean score on social relationships domain was 72.15 for normal persons while among chronically ill person it was 61.69. The mean score on environment domain was 69.83 for normal persons while with chronic disease it was 59.69. In this study, the mean score of social relationships domain was similar in diseased and not diseased elderly whereas it was more in physical health and social relationships domain of not diseased person. The mean score of environment domain was high among the diseased person.

The study showed that the elderly people have impaired QoL on social relationships domain compared with physical health, environment and psychological domains. The quality of life was better among male in compared to female. The mean score of quality of life was similar among both the diseased and not diseased elderly. QoL was statistically significant with increase in literacy status, education of head of family and involvement in decision making. The highest prevalence among the chronic diseases was found in hypertension.

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