

The Utilization of Health Care Services and their Determinants Among the Elderly Population of Dhulikhel Municipality

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INTRODUCTION

Due to declining fertility and mortality as well as improved public health interventions, population ageing has been a world-wide phenomenon.¹ In Nepal 6.8% of the population is ≥60 years and within Kavre District the number is 7.4%.² In Nepal, the life expectancies are 60.1 years and 60.7 years for male and female respectively.³ With the increase in age, people lose their creativity, problem-solving ability, learning skills and develop short-term memory loss.⁴ The body's ability to maintain homeostasis becomes increasingly diminished, organ system cannot function at full efficiency and immunologic efficiency decreases. Thus, there is an increased incidence of the infections and the autoimmune diseases.⁵

ABSTRACT

Background

Population ageing is a common problem faced in many countries world-wide. Due to physiological and biochemical changes in the elderly, increased incidence of diseases is observed. There is often low use of health services by the elderly for a variety of reasons.

Objective

To examine the status of health care utilization and to determine the factors associated with utilization of health care among the elderly population of Dhulikhel Municipality.

Methods

A quantitative descriptive-cross sectional study, with a total number of 200 elderly people residing in Dhulikhel Municipality, was selected for the study. Data were collected across the months of June - July 2011 applying two-staged cluster and systematic random sampling method. Both descriptive and inferential statistics were measured.

Results

Sixty eight percent of the elderly visited medical personnel in the past year. Eight percent of them visited the emergency department where most of them reported with symptoms attributed to heart disease. Among 200 elderly, 12.5% of them were admitted to the hospital and 53.0% utilized diagnostic services. Age, marital status, activities of daily living, and regular medication showed significant association with health services utilization at 95% level of confidence ($p > 0.05$).

Conclusion

Marital status, daily living habits, existence of chronic disease, and regular medication demonstrated significant association with the utilization of health care. Social support services, informal education, and awareness programs targeting the senior citizens and studies covering a diverse population are recommended.

KEY WORDS

Elderly, Senior Citizens, Utilization of health care

Most Nepalese enter old age after a lifetime of poverty and deprivation, poor access to health care and diet that is usually inadequate in quality and quantity.^{1,6} Elderly today are vulnerable to malnourishment, loneliness, depression and many other physical diseases.^{1,3,6} Previous studies in Nepal revealed that the older population is increasing both in terms of absolute numbers and in percentage.^{1,3,6,7}

It is important for an elderly person to have a frequent doctor visits.⁸ The research work related to elderly population is very limited in Nepal. The health care needs and medical service utilization patterns of older persons have steadily increased in recent years. Hence, this study

was undertaken aiming to examine the status of health care utilization and extent to which specific factors demonstrate the relationship between health services utilization.

METHODS

A quantitative descriptive cross-sectional study design was used. Dhulikhel Municipality, one of the municipalities among three municipalities of Kavre district, in the central region of Nepal was selected as the site of the study. Ward numbers 2, 3 and 5 in the municipality were selected using two staged cluster and systematic random sampling method to interview 200 elderly residing in Dhulikhel Municipal area. Data were collected from 14th June to 1st July 2011 after pre-testing the Nepali version of survey questionnaire. According to Teijlingen van ER et.al, the term 'pilot studies' refers to mini versions of a full-scale study (also called 'feasibility' studies), as well as the specific pre-testing of a particular research instrument such as a questionnaire or interview schedule.⁹ The study was conducted after obtaining approval from institutional review committee of Kathmandu University School of Medical Sciences and Dhulikhel Municipality authority. Voluntary participation was ensured and verbal consent was taken before data collection. Only the persons currently residing in Dhulikhel Municipality provided consent and those who were able to comprehend the questionnaires were included in the study. The elderly who were severely ill, mentally unstable and having no will to participate were excluded from the study. Survey data were entered and analyzed in the SPSS version 16 using both descriptive (frequency, percentage, mean and standard deviation) and inferential (Chi square test at $p < 0.05$) statistical approaches.¹⁰

RESULTS

The current study focuses with the identification of the status of health care utilization and factors affecting utilization of health care among elderly population of Dhulikhel Municipal area.

The distributions of age groups, sex, marital status, education, ethnicity, occupation, monthly family income, family type and dependency on family for the elderly were appraised. The mean age of the respondents was 70.21 ± 8.26 years. There were more females than males, comprising of 56 and 44 percent respectively (Table 1).

The smoking behavior, alcohol drinking behavior, betel nut chewing behavior, tobacco chewing behavior, performing exercise, and activities of daily living of the elderly people were observed. Among 200 elderly, 30% of them were never smokers, 32.0% of them were never alcohol drinkers, 84.5% of them were never tobacco chewers and 56.5% of them were exercise performers (Table 2).

The rate of elderly persons visiting medical personnel in past one year in the study area was 68.0%. Reason

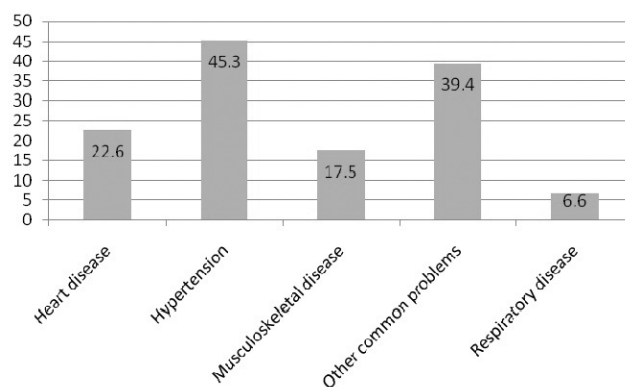


Figure 1. Reason for visiting medical personnel in past one year.

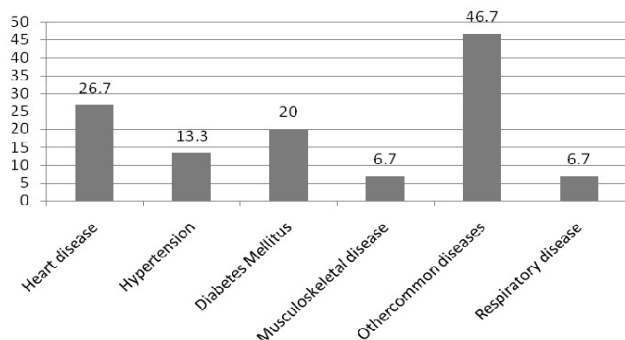


Figure 2. Reason for visiting emergency department in past one year.

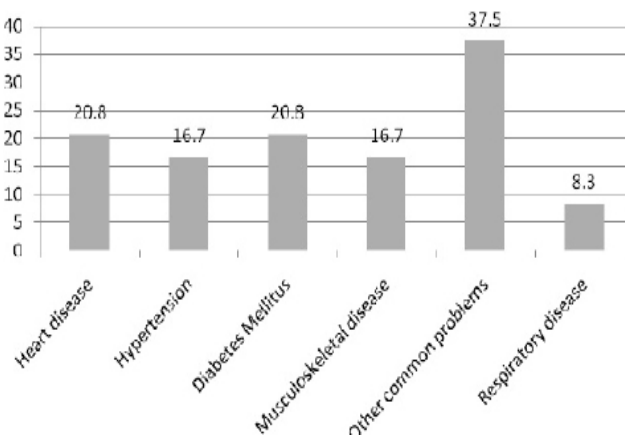


Figure 3. Reason for being admitted in hospital in past one year.

for visiting medical personnel in past one year, visiting emergency department, reason for visiting emergency department, being admitted in hospital, reason for being admitted in hospital, use of diagnosis services, belief in traditional healers and the preference for seeking health care for the elderly people were also illustrated (Table 3).

The association between the health services utilization and socio-demographic factors of the elderly were evaluated. Marital status, dependence on others for activities of daily living, existence of chronic diseases, and elderly already on medication showed significant association at 95% level of confidence ($p < 0.05$) (Table 4).

Table 1. Socio-demographic profile.

Age group in years	Frequency	Percentage
60 to 69	107	53.5
70 to 79	61	30.5
≥80	32	16.0
Total	200	100.0
Sex		
Male	88	44.0
Female	112	56.0
Total	200	100.0
Marital status		
Unmarried	3	1.5
Married	131	65.5
Widowed	66	33.0
Total	200	100.0
Education		
Able to read and write	57	28.5
Primary level	38	19.0
Secondary level	18	9.0
Higher secondary level	9	4.5
Illiterate	78	39.0
Total	200	100.0
Ethnicity		
Newar	195	97.5
Brahmin/ Chhetri	3	1.5
Tamang	2	1.0
Total	200	100.0
Occupation		
Agriculture	15	7.5
Business	35	17.5
Service	3	1.5
Housewife	52	26.0
No work	95	47.5
Total	200	100.0
Monthly family income in NRs (US\$ 1.00 = NRs 80.00)		
≤5000	16	43.2
5000-14999	15	40.5
≥15000	6	16.2
Total	37	100.0
Type of family		
Single	32	16.0
Joint	168	84.0
Total	200	100.0
Dependency on family		
Yes	163	81.5
No	37	18.5
Total	200	100.0

Table 2. Personal history of the respondents.

Smoking behavior	Frequency	Percentage
Never smoker	60	30.0
Ex-smoker	93	46.5
Current smoker	47	23.5
Total	200	100.0
Alcohol drinking behavior		
Never	64	32.0
Low amount	76	38.0
Medium amount	4	2.0
Ex-drinker	56	28.0
Total	200	100.0
Betel nut chewing behavior		
Never chewer	115	57.5
Ex-chewer	56	28.0
Current chewer	29	14.5
Total	200	100.0
Tabacco chewing behavior		
Never chewer	169	84.5
Ex-chewer	13	6.5
Current chewer	18	9.0
Total	200	100.0
Performing exercises		
Yes	113	56.5
No	87	43.5
Total	200	100.0

Table 3. The utilization of health care services by the respondents.

Visiting medical personnel in past one year	Frequency	Percent
Yes	136	68.0
No	64	32.0
Total	200	100.0
Visit to emergency department in past one year		
Yes	16	8.0
No	184	92.0
Total	200	100
Being admitted in hospital in past one year		
Yes	25	12.5
No	175	87.5
Total	200	100
Belief in traditional healers		
Yes	97	48.5
No	103	51.5
Total	200	100
Preference for seeking care		
Dhami/ Jhakri	38	19.0
Modern Health services	117	58.5
Ayurvedic	24	12.0
Home remedies	17	8.5
Astrologers	4	2.0
Total	200	100

Table 4. Comparison between utilization of health services and socio-demographic factors.

Variables	Utilization of health care		P value
	Yes (%)	No (%)	
Age			
60 to 69	70 (65.4)	37 (34.6)	0.666
70 to 79	44 (72.1)	17 (27.9)	
≥80	22 (68.8)	10 (31.2)	
Total	136	64	
Sex			
Male	56 (63.6)	32 (36.4)	0.241
Female	80 (71.4)	32 (28.6)	
Total	136	64	
Marital status			
Unmarried	1 (25.0)	3 (75.0)	0.014*
Married	86 (65.64)	45 (34.4)	
Widowed	49 (75.38)	16 (24.6)	
Total	136	64	
Education			
Able to read and write	32 (56.1)	25 (43.9)	0.145
Primary level (1-8)	29 (76.3)	9 (23.7)	
Secondary level (9-12)	14 (77.8)	4 (22.2)	
Higher level (>12 – PHD)	5 (55.6)	4 (44.4)	
Illiterate	56 (71.8)	22 (28.2)	
Total	136	64	
Dependency on family			
Yes	112 (68.7)	51 (31.2)	0.698
No	24 (64.9)	13 (35.1)	
Total	136	64	
Income per month			
<5000	9 (56.3)	7 (43.7)	0.487
5000-14999	10 (66.7)	5 (33.3)	
≥15000	5 (83.3)	1 (16.7)	
Total	24	13	
Having supportive family			
Yes	132 (67.7)	63 (32.3)	1.000
No	4 (80.0)	1 (20.0)	
Total	136	64	

Variables	Utilization of health care		P value
	Yes (%)	No (%)	
Satisfaction with medical care			
Satisfied	91 (68.9)	1 (31.1)	0.263
Somewhat Satisfied	37 (71.2)	15 (28.8)	
Not Satisfied	8 (50.0)	8 (50.0)	
Total	136	64	
Smoking			
Non-smoker	43 (71.7)	17 (28.3)	0.765
Ex-smoker	62 (66.7)	31 (33.3)	
Current smoker	31 (66.0)	16 (34.0)	
Total	136	64	
Activities of daily living			
Independent	95 (63.8)	54 (36.2)	0.039*
Dependent for 1 activity	3 (75.0)	1 (25.0)	
Dependent for >1 activity	38 (80.9)	9 (19.1)	
Total	136	64	
Health status			
Good	37 (60.7)	24 (39.3)	0.054
Fair	68 (66.7)	34 (33.3)	
Bad	31 (83.8)	6 (16.2)	
Total	136	64	
Feeling of need for care			
Yes	77 (64.2)	43 (35.8)	0.155
No	59 (73.8)	21 (26.2)	
Total	136	64	
Chronic diseases			
Yes	101 (83.5)	20 (16.5)	0.000**
No	35 (44.3)	44 (55.7)	
Total	136	64	
Elderly on medication			
Yes	103 (81.1)	103 (81.1)	0.000**
No	33 (45.2)	40 (54.8)	
Total	136	64	

*statistically significant at 95% level of confidence

**statistically significant at 99% level of confidence

DISCUSSION

In the past one year within the Dhulikhel Municipality health services were used by 68.0% of the elderly population ≥60 years of age. Hypertension (45.3%) was found to be the leading reason for visiting the health institutions. Eight percent of the study population had visited the emergency department, primarily for diabetes mellitus. A few respondents (12.5%) had been admitted to hospital and more than half (53%) of them utilized the diagnostic services. In Taiwan, the utilization of health services was 50%, in Spain it was 74.5% and in Canada the same was 76%.^{11,12} In Scandinavian countries almost 90% of elderly visited a physician in the past year while 24% were

hospitalized.¹⁴

In our current study, 72.1% of the elderly people aged 70 to 79 years visited health personnel in past one year followed by elderly people aged ≥80 years (68.8%) and then 60 to 69 years (65.4%). The results were consistent with the findings from studies done in Taiwan and Spain, but a contrasting result was seen in Thailand where 71.1% utilization was observed with the population of age group 60 to 69 year followed by 70 to 79 years (21.1%) and then ≥80 years (7.8%).^{11,13,15} Also a study done in Norway and Finland reflected increasing age caused a large increase in

the percentage of elders seeing the doctor, except after the age of 85 years when there was a large drop in consultation rate despite increasing illness.¹⁴ The discrepancy in these findings may be due to the differences in the geographical distributions, costs, travel distance and policies of the countries. Literate elderly with educational level up to secondary level were found to be visiting the medical personnel more than the individuals with primary and higher levels of education and elderly who were able to read and write only. The findings of our study were similar with the studies conducted in Thailand and Taiwan but inconsistent with the study conducted in Spain.^{11,12,14} But in contrast to the current study, study done in Ghana, it was found that a higher education level is directly or indirectly related with fewer visits, either because of a better self-reported health status, higher income level or better health status.¹⁸ In our study females (71.4%) made more visits to medical personnel than males (63.6%) which is consistent with the studies done in Canada, Ghana and Australia but inconsistent with the findings of the studies conducted in Thailand and Taiwan.^{12,13,15,18,20} Widowed elderly individuals visited more health services than the married and unmarried individuals, these findings were inconsistent with the findings of the studies done in Taiwan, Thailand and Ghana.^{13,15,18} Although the result was statistically not significant, income-wise, the highest utilization of health services was observed in respondents with a monthly income of \geq NRs. 15,000 (83.33%) followed by people with income ranging between NRs. 5000 to 14999 (66.6%) and then income of less than NRs. 5000 (56.25%) respectively (US\$ 1.00 = NRs 80.00). This finding was consistent with the findings of the study done in Taiwan, but inconsistent with the study done in New Mexico.^{13,17}

Respondents with chronic diseases accounted for 83.5% of those utilizing health services. The findings of our study were consistent with the study done in Ghana.¹⁸ Health service utilization was found highest among never smokers (71.7%) followed by ex-smokers (66.7%) and then current smokers (66.0%). Findings of the current study were consistent with the findings of the study done in Spain and contrasted with the study done in Taiwan.^{13,19} In our present study, elderly individuals who were dependent for more than one of their activities of daily living (80.9%) utilized the health services more than those who were dependent for one activity (75%) or independent (63.8%) which was similar to the findings of the study done in Spain which showed more utilization among dependent ones, but inconsistent with the study done in Taiwan.^{13,19}

This present study found that visits due to hypertension (45.3%) were most common and among other diseases: heart disease (22.6%), musculoskeletal diseases (17.5%), diabetes mellitus (10%) and respiratory disease (6.6%). These findings were similar to findings of the study done in Spain and dissimilar with the study done in Taiwan which showed diabetes mellitus accounted for majority (46.6%) of the visits followed by hypertension (42.5%) and heart

disease (45.2%).^{13,19} The trend of health service use was seen higher in respondents on regular medicine (81.1%) which was statistically significant at 95% level of confidence ($p < 0.05$) which was similar to the studies done in Taiwan and Spain.^{13,19}

This study discovered that 48.5% of the study population had positive belief in traditional healers. Among 200 elderly, 58.5% preferred visiting health institutions, 19.0% preferred visiting traditional healers, 12.0% preferred Ayurvedic measures first for seeking health care and 8.5% preferred home remedies. A similar study done in Thailand showed that 24.1% the elderly visited traditional healers, 18.9% of them preferred self treatment and 49.8% preferred going to health institutions.¹⁵

The respondents were selected from Dhulikhel Municipality area only, so it might be difficult to generalize the findings to whole population of Nepal. The responses regarding type of chronic disease and reason for visits to medical personnel including admission and emergency visit in past one year were entirely based upon the verbal response of

CONCLUSION

The utilization of health care services among elderly population living in Dhulikhel Municipal area was assessed, nearly half (48.5%) of them believe on traditional healers. A majority of the respondents preferred going to health institutions for health care. Marital status, activities of daily living, having chronic disease, and regular medication demonstrated significant association with the utilization of health care. Social support services in order to help maintain their independence with their socio-economic status, informal education targeting the senior citizens, and awareness education focused on health conditions and services available to elderly people are highly recommended. Similarly study covering a diverse population and geographical location is also recommended.

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