Original Research Article

A study to assess the health care utilization and the activities of the daily living status amongst the geriatric population residing in urban and rural field practice areas of a medical college in Tamil Nadu

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ABSTRACT

Background: The prevalence of disability in the activities of daily living (ADL), could probably have a significant impact on the healthcare utilization amongst the geriatric population with disability.
Methods: A cross-sectional study in the urban and rural field practice areas of a medical college in Tamil Nadu, using a sample size of 402 elderly individuals. Using the pre-tested, semi-structured questionnaire; the socio-demographic variables, healthcare utilization variables and a comprehensive Katz ADL assessment were used.
Results: The overall prevalence of ADL limitation amongst the elderly was seen in 49 (12.2%) elderly individuals mostly with a score of 5 (mildest form) was found in 36 (74%) of the elderly. There was an association found between the follow-up care at health centres, frequency of visits, distance from home to health centres and the ADL limitation with a P- value less than 0.05 (C.I.-95%) using the Pearson chi-square test using SPSS v.26.0.
Conclusions: The association between ADL limitation and healthcare utilization calls for initiatives at the family and community level.

Keywords: Elderly, ADL, Chronic disease, Katz assessment scale, Healthcare utilization

INTRODUCTION

The trends in the mortality and morbidity of various health conditions have been a major public health concern, especially in the elderly population. There is a steady increase in the number and proportion of the elderly population. In the year 2019, the elderly population was 1 billion which will increase to 1.4 billion by 2030 and 2.1 billion by 2050 this might occur at an unprecedented rate in the upcoming decades according to the prediction of the world health organization.[1] The process of ageing poses a lot of challenges in the primary health care setup in both acute and long-term care.[1]

Between the years 2015 and 2050; the proportion of the world's population over 60 years will be doubled from 12% to 22%. In India, the elderly population is expected to increase by 10% in 2025 to 18% by 2050.[2]

The population ageing could increase the financial pressure in the LMIC countries especially on the old-age healthcare support systems.[2] Nearly 84% of the burden of chronic disease disability arises in countries with low and middle incomes amongst the elderly.[3] In about 11 countries; the non-communicable diseases and injuries, years lived with disabilities (YLDs) constituted nearly 50% of the disease burden amongst the elderly.[4]

The two main factors that influence a lot in elderly health care are poverty and social disempowerment which simultaneously could affect the prevalence of chronic diseases, co-morbidities and disability leading to inadequate healthcare utilization.[5]

The ADL, was first established by Sidney Katz in 1950s. The ADL is a term used to collectively describe the basic skills to independently care for oneself such as eating, bathing and mobility.[6] The Andersen healthcare utilization behaviour model is a well-known model that predicts healthcare services and outcomes. The Prevalence of chronic ADL in the elderly can affect healthcare utilization to a significant level, which perhaps is clearly described through the Anderson healthcare utilization model. In the 1990s, the framework was eventually finalized with the fourth phase; subsequently divided into predisposing, need and enabling factors.[7] Healthcare utilization is a major issue in the elderly care assessment. The majority of the studies had established age, socio-economic status, co-morbidities, compliance in medications, lack of support (financial; familial) and multiplicity of drugs (polypharmacy) as the major factors affecting healthcare utilization[7]. Due to the co-morbidities and poly-pharmacy could result in adverse drug reactions and hospitalizations in the elderly population in the forthcoming decades with the improving compliance even.[8]

Despite reasonable healthcare services for the elderly, the day-to-day responsibilities fall on the individuals, families, planners and organizers of the care program to function efficiently. Currently, there is a relatively less number of studies that are related to the geriatric population and the prevalence of disabilities including their healthcare utilization, especially in the rural and semi-urban areas of south India. Hence, this study was carried out in both the urban and the rural field practice areas of the medical college, Tamil Nadu.

Aim and objectives

Aim and objectives were to assess the health care utilization amongst the geriatric population and their functional level of dependence and to find the association between socio-demographic variables, Healthcare utilization variables and the ADL amongst the elderly population in urban and rural areas.

METHODS

An observational, cross-sectional study was done during the months from October 2020 to September 2022. The study area was the urban and rural field practice areas of medical college hospital and research centre, Tamil Nadu. In this study, a total of four sectors in the field practice areas of UHTC and five villages in the RHTC were utilized. In the rural area, out of 19,820, the male elderly were 543 and the female elderly was 637 with a total of 1180 elderly population. In the urban area, out of 22,142, the male elderly were 750 and the female elderly was 701 with a total of 1451 elderly population.

Inclusion criteria

The elderly individuals aged 60 years and above residing for more than one year in the field practice areas of the UHTC and rural health training centre (RHTC) attached to a medical college and research centre, Tamil Nadu and those who gave consent to participate in this study were included.

Exclusion criteria

The seriously ill patients were excluded from the present study.

Sampling frame

The total number of male and female elderly to be sampled was pre-determined in both the urban and rural areas. The list of all the elderly populations in both the urban and rural areas was found in the family registers at the respective urban and RHTCs.

Sample size estimation

The sample size calculation was done based on a study done by Anandraj et al in rural Pondicherry-2017.[9] The prevalence of the disability in elderly in that particular study was 14%. Based on this prevalence, the sample size was calculated using the formula; $n=(1.96)^2 \times pq/d^2$, where "p" is the previous prevalence (14%) and q=86% (non-prevalence=100-14%). Using an absolute precision of 5%, the sample size necessary, with a 95% confidence interval was calculated to be 370 for both the urban and rural areas. Allowing for 10% non-response rates, the final required sample size was calculated to be 407. Simple random sampling was used during the data collection. The first person was selected by using the random number generator. The data collection was continued until the desired sample size was reached. The same procedure was carried out, both in the urban and rural field practice areas. In the final analysis, the data of the 402 subjects was available because five subjects were not able to be traced despite repeated attempts. Hence, only the data from 402 subjects were used.

Study instruments

A pre-tested; semi-structured validated questionnaire was used in this study to estimate the prevalence of disability in the elderly and their healthcare utilization. The questionnaire included the following sections with specific questions in each section. The questionnaire is divided into two sections: Section I-Socio-demographic variables and healthcare utilization. Section II-Katz assessment and other factors related to the care of the elderly.

Section I: Socio-demographic variables

Age, gender, education, income, religion, occupation, type of family, residential status, marital status, the total number of family members, socio-economic status using the modified updated BG Prasad scale, personal habits and the average dietary pattern on a weekly basis.[10]

Section I: Health care utilization

Health care-seeking behaviours of the elderly people's place for routine follow-up care, frequency of visiting the health centres, satisfaction with the health care, distance of the health centre, mode of transport and its type.[7,12]

Section II: Katz disability grading assessment

In 1963 Sidney Katz introduced the Katz index of daily living (ADL assessment). There are six functions originally described by Sidney Katz and they are as follows; bathing, dressing, feeding, transferring, toileting and continence.[6] Along with the Katz assessment, the following questions were also used in the study i.e. the principal caregiver, meal preparation, food consumption. More attention was given to the toilet assistance and presence of bowel or bladder incontinence if any to supplement the comprehensive Katz assessment.

After obtaining the institutional ethical clearance from the institutional ethical committee, medical college and research centre. All 402 participants were chosen in this study in both the urban and rural field practice areas. After obtaining the formal consent, face-to-face interviews were conducted among the study participants on a household basis. Those participants who were not willing and did not consent were not considered for this study.

Statistical analysis

The data collected were entered in Microsoft office (2007) excel sheets and coded numerically. The data of the individual categorical variables were entered in excel format for analysis. The pie charts, bar diagrams and comparison tables were used appropriately for this study. Data were expressed in numbers, percentages and proportions. The association between the independent variables and the dependent variable (Katz scale) were tested by Pearson's Chi-square tests with appropriate p values. The p value of less than 0.05 was considered to be significant, and was mentioned alongside the tabulation. All statistical analysis was done using SPSS-version 26.0.

RESULTS

In the present study, there were nearly 223 (55.5%) elderly females and 179 (44.5%) elderly males in which a total study population of 215 (53.5%) elderly belonged to the urban area and 187 (46.5%) elderly belonged to the rural area. In the urban area, there were 99 (46%) male elderly and 80 (43%) in the rural area. Likewise; in the urban area there were 116 (54%) female elderly and 107 (57%) female elderly in the rural area (Table 1).

In this study, the highest number of the elderly population was in the 60-70 years age group around 291 (72.4%) of the total study population. However; there was one patient in the more than 100 years age group in the rural area. The predominant family type in our study was extended type in 195 (48.5%) families followed by nuclear family in 168 (41.8%), living alone in 28 (7%) and joint family in 11 (2.7%) respectively (Table 1).

In the present study, there were a total of 187 (46.5) elderly with primary school education and 131 (32.6%) elderly were illiterates. Those who underwent primary education in the urban area were 108 (50.2%) elderly and rural was 79 (42.2%). In the middle school education, there were 28 (13%) and 28 (15%) in the urban and rural elderly. In the higher secondary there were 9 (4.2%) and 8 (4.3%) among the elderly in the urban and rural areas respectively. The graduates were only about 6 (2.8%) and 6 (2.7%) among the elderly in the urban and rural areas (Table 1).

In the present study, among the majority of the elderly families, about 388 (96.5%) elderly had up to 4 members. Around 13 (3.2%) families had between 5-8 family members. In around 1 (0.2%) family, there were more than 9 family members. In the up to 4-members group; the urban families had more family members, about 208 (96.7%) families, and in the rural, it was around 180 (96.2%) (Table 1).

In the present study the majority of them belonged to modified BG Prasad class V socio-economic status in about 165 (41%). The rest were class IV in 73 (18.2%), class III in 71 (17.6%), class II in 69 (17.2%) and class I in 24 (6%) of the corresponding families.

Our study showed that the majority of the elderly population 249 (62%) were married and more in the urban area with more males 82 (82.8%) than females 56 (48.3%). This was followed by the widowed 132 (32.8%) elderly predominantly in the urban areas with 68 (31.6%) elderly population. In the present study, the most prevalent religion was Hindu in about 360 (89.5%) of the total study population; around 31 (7.7%) of the elderly were Christians and the remaining 11 (2.7%) elderly were Muslims.

In the present study nearly 245 (60.9%) of the study participants suffered from chronic conditions. Our study showed that the majority of the elderly 371 (92.3%) consumed a mixed diet, followed by a predominantly non-vegetarian diet in 22 (5.5%) of the elderly population. About 9 (2.2%) of the elderly study population consumed a pure vegan diet. The pure vegan diet was observed in 2 (0.9%) of the elderly in the urban area and about 7 (3.7%) of the rural area. The mixed diet

habit was more prevalent in the urban area in about 208 (96.7%) elderly with around 163 (87.2%) elderly individuals in the rural area. The non-vegetarian diet was observed in 17 (9%) of the elderly population in the urban area and about 5 (2.3%) of the urban area (Table 2).

In the present study there was use of tobacco usage in smokeless form in about 19 (4.7) elderly and then followed by betel nut and pan chewing in 16 (4%) of the elderly. Smoking was observed in 14 (3.5%) of the elderly population. Alcohol consumption was seen in around 6 (1.5%) of the elderly population with 2 (0.9%) elderly in the urban area and 4 (2.1%) in the rural area (Table 2).

In our study, the majority of the elderly attended the healthcare facility every month 382 (95%) of the study population. In the present study, we found that the majority 396 (98.5%) of the elderly were satisfied with respect to the healthcare facilities attended, amongst these 212 (98.6%) elderly study population belonged to the urban area and 184 (98.4%) belonged to the rural area. However, about 6 (1.5%) of the total elderly individuals did not get satisfaction with the treatment received at their respective healthcare centres (Table 3).

Our study revealed that the majority had to travel around 1 to 5 kilometres, about 215 (53.5%) elderly of the study population. Our study revealed that most of the elderly 231 (57.5) used the Bus as the main transport then followed by the use of two-wheelers 79 (19.6%) and taxi in 34 (8.4%) of the elderly population (Table 3).

The present study revealed that about 239 (59.45%) elderly used public modes of transport. In about 163 (40.5%) elderly individuals the use of private transport facilities was seen.

In our study, it showed that 367 (91.3%) elderly had their relatives (spouses) as the principal caregiver. Our study revealed that 374 (93%) elderly had meals prepared by their relatives. In the remaining 24 (6%) elderly prepared their meals on their own; in nearly 4 (1%) elderly had some help from an unrelated neighbour. In our study, the majority of the elderly 389 (96.8%) were able to consume food on their own. This showed a better effect in the urban area than the rural area in about 211 (98.1%)

elderly and 178 (95.2%) of the elderly population respectively (Table 4).

The majority of the urban elderly 130 (60.5%) attended the UHTC and the rural elderly 112 (27.9) attended the RHTC. Of those who attended primary health centre 43 (10.7%) and government hospitals 36 (8.9%) of the elderly population

The present study conducted amongst the elderly population revealed that the overall prevalence of disability using the Katz assessment scale in both the urban and rural areas was found to be 49 (12.2%) among elderly individuals. Amongst the elderly with a disability, the majority of them had only a mild form of disability with a Katz score of 5 in nearly 36 (73.3%) elderly individuals. In the adjacent table, there are details regarding the care support which supports the Katz assessment for the present study.

Our study revealed that 28 (57.1%) elderly who suffered from disability through Katz assessment had to travel a distance between 1 to 5 kilometres to reach their healthcare centres (Table 5).
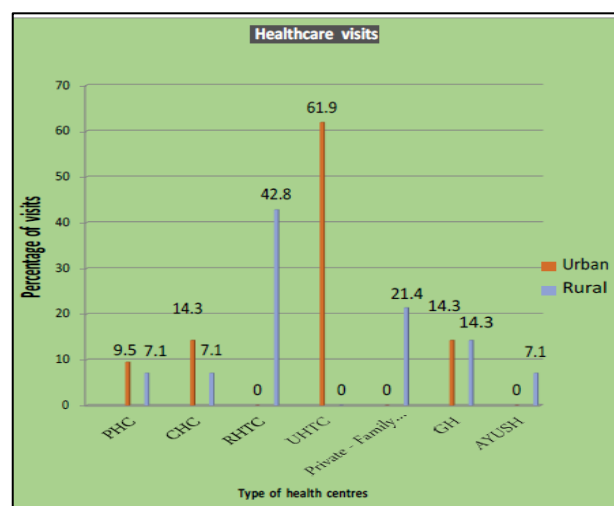
Figure 1: The distribution according to the visits to different types of health centres amongst the study population in both the urban and rural field practice area covering a medical college in Tamil Nadu (n=49).

Table 1: The distribution of socio-demographic variables amongst the elderly study population in both the urban and rural field practice area covering a medical college in Tamil Nadu (n=402).

Socio-demographic variables	Urban N (%)	Rural N (%)	Total N (%)
Gender			
Male	99 (46)*	80 (43)	179 (44.5)
Female	116 (54)	107 (57)	223 (55.5)
Age group (in years)			
60-70	149 (69.3)*	142 (76)	291 (72.4)
71-80	49 (22.8)	32 (17.1)	81 (20.1)
More than 80	17 (7.9%)	13 (6.9)	30 (7.4)

Continued.

Socio-demographic variables	Urban N (%)	Rural N (%)	Total N (%)
Family arrangement			
Living alone	18 (8.4)*	10 (5.3)	28 (7)
Nuclear	87 (40.4)	81 (43.3)	168 (41.8)
Joint	5 (2.3)	6 (3.2)	11 (2.7)
Extended	105 (47.9)	90 (48.1)	195 (48.5)
Education			
Illiterate	64 (29.8)*	67 (35.8)	131 (32.6)
Primary, middle and higher secondary	145 (67.4)	115 (61.5)	260 (64.6)
Graduate	6 (2.8)	5 (2.7)	11 (2.7)
Number of family members			
Up to 4	208 (96.7)*	180 (96.2)	388 (96.5)
More than 4	7 (3.2)	7 (3.7)	14 (3.4)

*Denotes number in percentage.

Table 2: The distribution of chronic conditions, personal and dietary habits amongst the elderly study population in both the urban and rural field practice area covering a medical college in Tamil Nadu (n=402).

Chronic conditions	Urban, N (%)	Rural, N (%)	Total, N (%)
Co-morbidity			
Yes	123 (57.2)*	122 (65.2)	245 (60.9)
No	92 (42.8)	65 (34.7)	157 (39)
Personal habits			
Smoking	3 (1.4)*	11 (5.9)	14 (3.5)
Smokeless tobacco	11 (5.1)	8 (4.2)	19 (4.7)
Alcohol	2 (0.9)	4 (2.1)	6 (1.5)
Others (betel nut, pan and quid)	10 (4.6)	6 (3.2)	16 (4)
No habits	189 (87.9)	158 (84.5)	347 (86.3)
Diet			
Vegetarian	2 (0.9)*	7 (3.7)	9 (2.2)
Mixed	213 (99)	180 (96.2)	393 (97.8)

*Denotes number in percentage.

Table 3: The distribution of frequency of health care visits, satisfaction of care received, distance to healthcare and mode of transport towards health centres amongst the elderly study population in both the urban and rural field practice area covering a medical college in Tamil Nadu (n=402).

Health care centres	Urban, N (%)	Rural, N (%)	Total, N (%)
Frequency of health care visits			
Weekly	1 (0.5)*	0 (0)	1 (0.2)
Fortnightly	5 (2.3)	4 (2.1)	9 (2.2)
Monthly	204 (94.8)	178 (95.1)	382 (95)
Three monthly	4 (1.9)	4 (2.1)	8 (2)
As required	1 (0.5)	1 (0.5)	2 (0.5)
Satisfaction received at healthcare centres			
Yes	212 (98.6)*	184 (98.4)	396 (98.5)
No	3 (1.4)	3 (1.6)	6 (1.5)
Distance to healthcare centres from home			
Less than 1 kilometer	62 (28.8)*	60 (32)	122 (30.3)
1-5 kilometres	115 (53.5)	100 (53.5)	215 (53.5)
More than 5 kilometres	38 (17.7)	27 (14.4)	65 (16.1)
Mode of transport			
Bus	127 (59)	104 (55.6)	231 (57.5)
Own car	23 (10.7)	14 (7.5)	37 (9.2)
Taxi	15 (7)	19 (10.1)	34 (8.4)
Two-wheeler	38 (17.7)	41 (21.9)	79 (19.6)
Walking	12 (5.6)	9 (4.8)	21 (5.2)

*Denotes number in percentage.

Table 4: The distribution of principal caregivers, meal preparation and food consumption amongst the elderly study population in both the urban and rural field practice area covering a medical college in Tamil Nadu (n=402).

Care support	Urban, N (%)	Rural, N (%)	Total, N (%)
Principal caregiver			
Relative (spouse)	197 (91.6)	170 (90.9)	367 (91.3)
Unrelated (neighbour)	5 (2.3)	6 (3.2)	11 (2.7)
Self (own)	13 (6)	11 (5.9)	24 (6)
Meal preparation			
Relative (spouse)	197 (91.6)	177 (94.6)	374 (93)
Unrelated (neighbour)	3 (1.4)	1 (0.5)	4 (1)
Self (own)	15 (7)	9 (4.8)	24 (6)
Food consumption on their own			
Yes	211 (98.1)	178 (95.2)	389 (96.8)
No	4 (1.9)	9 (4.8)	13 (3.2)

*Denotes number in percentage.

Table 5: The association between the Katz disability assessment and the distance travelled amongst the study population in both the urban and rural field practice area covering a medical college in Tamil Nadu (n=49).

Distance to health centres from home	Urban, N (%)	Rural, N (%)	Total, N (%)	Chi-square test	P value
Less than 1 kilometre	6 (28.6)*	7 (25)	13 (26.3)		
Between 1 to 5 kilometres	12 (57.1)	16 (57.1)	28 (57.1)	19.94, @8df	0.011#
More than 5 kilometres	3 (14.3)	5 (17.8)	8 (16.3)		

#denotes p<0.05 and is significant.

Table 6: The association between the Katz disability assessment and the type of health centres, frequency of visits amongst the study population in both the urban and rural field practice area covering a medical college in Tamil Nadu, (n=49; refer Figure 1).

Variables	Katz disability assessment, N (%)		Grand total, n (%)	Chi-square test	P value
	Urban	**Rural**	**Total**		
Type of health centres					
Primary health centres	2 (9.5)	2 (7.1)	4 (8.2)		
Community health centres	3 (14.3)	2 (7.1)	5 (10.2)		
RHTCs	0 (0)	12 (42.8)	12 (24.5)		
UHTCs	13 (61.9)	0 (0)	13 (26.5)	37.492, @24df	0.039 #
Private centres family practice	0 (0)	6 (21.4)	6 (12.2)		
General hospital	3 (14.3)	4 (14.3)	7 (14.3)		
Others-AYUSH	0 (0)	2 (7.1)	2 (4)		
Frequency of visits					
Weekly	0 (0)*	0 (0)	0 (0)		
Fortnightly	1 (4.8)	0 (0)	1 (2)		
Monthly	19 (90.5)	25 (89.3)	44 (89.8)	25.168, @12df	0.014#
As required	1 (4.8)	3 (10.7)	4 (8.2)		

# denotes p<0.05 and is significant.

Our study showed that 13 (26.5%) elderly who had disability through Katz assessment attended the urban health centre followed by 12 (24.5%) who attended the RHTCs. The above tables showed that nearly 44 (89.8%) elderly who were the majority that had disability through Katz assessment had to attend health centres on a monthly basis (Table 6).

DISCUSSION

According to one elderly-based study from the Kerala institute of environment and development, the report was submitted in Kerala by Rani et al the literacy rates were 68%; around 64% of them constituted both primary and secondary education; 4% of them were graduates. In the

present study, similar findings were seen with 131 (32.6%) illiterates, 260 (64.6%) primary and secondary education with 11 (2.7%) graduates. This explains that the overall literacy rates were reasonable in comparison with the Kerala reports in 2004, but still lags behind.[11] In the present study, there were 249 (62%) currently married of which 82 (82.8%) were males and 56 (48.3%) females. The widowed elderly nearly constituted 132 (32.8%) amongst the total study population. According to the report submitted by Rani et al there, 43% are currently married and 75% of the elderly women were Widowed/separated.[11] The present study had better current marital status amongst men especially in the urban area supported by better health care facilities.

In the present study the predominant family arrangement was extended type in about 195 (48.5%) families the rest were nuclear 168 (41.8%) and living alone 28 (7%) amongst the elderly population. The family arrangement in one study by Panicker et al in rural Kanyakumari revealed that there were 110 (44%) extended, 103 (41.2%) nuclear, 6 (2.4%) joint families and 31 (12.4%) were living alone amongst the elderly study population. The family type distribution in the present study is similar to the study conducted by Panicker et al in Tamil Nadu, India.[12]

In a study conducted by Jain et al in urban and field practice areas of Rajasthan it was found that 19.6% were smokers among the elderly in the rural area and 12.8% in the urban area. Smokeless tobacco was used by 20.4% of the rural and 14% of urban communities. The alcohol consumption amongst the elderly population was 9.6% in rural areas and 6.8% in urban areas. In the present study among the elderly, 5.9 % were smokers in rural areas and 1.4% in urban areas. The smokeless tobacco was used by 4.2% in the rural area and 5.1% in urban area. The alcohol consumption in the elderly population was 2.1 % in the rural area and 0.9% in urban areas.[13] The usage of tobacco products and alcohol consumption were comparatively less in the present study compared to the study done in Rajasthan.

In the present study, the prevalence of functional disability was around 49 (12.2%). In a multilevel study using cross-sectional data from 23,694 adults aged more than 6o years of age in the SABE, Columbia nationwide survey conducted by Ballesteros et al the overall prevalence of functional impairment for the basic ADL was 22%, in this study due to the massive sample size showed nearly double the prevalence when compared to the present study.[14]

In the present study amongst the 49 (12.2%) elderly with disability, the principal caregivers were 40 (81.6%) through spouse, 5 (10.2%) by in-laws and 4 (8.2%) in self care group amongst the study population. However; in a study to identify the need for care for chronic illness amongst the elderly residing at the urban field practice area of M. S. Ramaiah medical college, Karnataka in the year 2006 by Raghuram found that the majority of the principal caregivers were daughter-in-law in about 131 (31.4%) individuals followed by the spouse care in 57 (13.7%) of elderly.[15]

In the present study in the urban area, nearly 130 (60.5%) elderly patients attended the UHTC. In the rural area around 112 (60%) attended the RHTC. The usual place of visit overall was primary health centre in around 43 (10.7%) elderly followed by government hospitals in 36 (8.9%), private hospitals in 32 (8%) and community health centres in around 24 (6%) of the elderly population. The majority of the study population had monthly health visits in around 382 (95%), fortnightly visits in 9 (2.2%) and then followed by three monthly visits in at least 8 (2%) of the study population. Nearly 396 (98.5%) of the study population had treatment satisfaction beliefs in these healthcare centres.

In a community based cross-sectional survey conducted by Acharya et al amongst 401 elderly in the urban area of Nepal by adapting the SAGE questionnaire. The study found that nearly 250 (80.3%) had satisfaction with the health care services. There were 100 (35.7%) elderly individuals that attended government hospitals, private in 158 (56.4%), community health centres in 7 (2.5%) and AYUSH in 5 (1.8%). There were nearly 58 (20.7%) elderly individuals attended healthcare centres at two monthly intervals. This study in comparison is different from the present study due to the arrangement of the urban and the RHTCs giving coverage to the elderly population of tertiary hospital.[16]

In the present study, most of the elderly population around 215 (53.5%) had to travel between 1-5 kilometres, 65 (16.1%) had to travel more than 5 kilometres and nearly 122 (30.3%) of them were within 1 kilometre of distance from home to the healthcare facility. The use of Bus as a major vehicle was observed in 231 (57.5%) elderly followed by the use of two-wheelers in around 79 (19.6%) patients. The use of a car was seen in 37 (9.2%) of the elderly population and 21 (5.2%) had to go by walk.

As per the community-based cross-sectional survey done by Acharya et al amongst 401 elderly individuals in the urban area of Nepal. There were 265 (96.3%) elderly individuals who had to travel within 5 kilometres distance to reach their healthcare centre and only 15 (3.7%) of the elderly had to travel more than 5 kilometres to reach their healthcare facility. Around 131 (46.8%) used the bus as the major transport arrangement to reach their healthcare facility, 78 (27.9%) used their own vehicles, 53 (18.9%) used a taxi, and 18 (6.4%) of the elderly population; came by walking to the healthcare facility.[16]

Limitations

As the present study was a cross-sectional study done using quantitative methods, the causal relationship could

not be established more accurately, as the outcome and exposure factors prevailed simultaneously during the study. There could have been some form of reporting bias, as we used the interview method alone; though it was done exclusively at the field level.

CONCLUSION

The present study conducted amongst the elderly population revealed that the overall prevalence of disability using the Katz assessment scale in both the urban and rural areas was found to be 49 (12.2%) among elderly individuals. Amongst the elderly with a disability, the majority of them had only a mild form of disability with a Katz score of 5 in nearly 36 (73.3%) elderly individuals. Factors like the follow-up care at health centres, frequency of visits at the health care centres and the distance from home to health centres were strongly associated with the Katz disability assessment (ADL) with a p value less than 0.05 (C.I-95%). The health centres in the urban and rural areas were well organized and used by the elderly individuals correspondingly in the most appropriate way.

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