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## RESEARCH ARTICLE

### DISEASES PATTERN OF ELDERLY PATIENTS ATTENDING IN RURAL TEACHING HOSPITAL IN NEPAL

<sup>1,\*</sup>Tarun Paudel and <sup>2</sup>Seshananda Sanjel

<sup>1</sup>MDGP, Professor in Emergency Medicine and General Practice, Karnali Academy of Health Sciences, Jumla  
<sup>2</sup>PhD, Associate professor in Community Medicine and Public Health, Karnali academy of health Sciences, Jumla

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#### ABSTRACT

**Introduction:** The elderly population of the world increasing gradually. The situation of elderly population of Nepal also is in increasing trend as in other countries. Our government is also started to give priorities for the elderly population at present. This paper attempts to assess the utilization of health care services among the elderly population who were attending in the Emergency department of Kamali Academy of Health sciences Jumla. **Methods:** This is study of elderly patients who were attending for the services in the Karnali Academy of Health Sciences, Teaching Hospital during a period of four months (Ashoj to Posh) in 2074 BS. We took >60 years patient's data from the emergency record books and analyzed by using SPSS-20 version. The descriptive and inferential statistical analyses were done. P value is set at <0.05 for the significance level. **Results:** All together 117 elderly patients' data were analyzed, among them 64.1% and 17.9% were Chhetri and lower caste respectively. Majority of the patients were 60-69 years of age group, 52.1% and 47.9% were male and female respectively. About 69% of the elderly patients managed in Emergency department. Only 30.8% patients admitted in respective wards for their special care. The commonest problems were COPD (44.4%) and APD (13.7%). Chi-square test was done and has no statistically significant association between outcome and sex as well as caste of the elderly patients. **Conclusions:** More than two-third of the elderly patients managed in emergency department, therefore make this department elder friendly, trained the working staffs in the hospital and conduct awareness program in the community for the elderly care, who can utilize the services provided by the hospital.

#### INTRODUCTION

The rapidly changing ageing population around the world presents both challenges and opportunities. It increases demands for primary health care and long-term care, require a larger and better trained workforce and intensify the need for environments to be made more ageing friendly (WHO). Three key demographic changes (declining fertility, reduction in mortality and increasing survival at older ages) contribute to population ageing which reflects in a shift in the age structure from young to old (Ahuja *et al.*, 2017). Some countries experiencing rapid population growth and others are now below replacement level. Nevertheless, ageing, the rate of growth of the population aged  $\geq 60$  years is growing very speedily. Eleven percent of the global population is aged  $\geq 60$  years however, this fraction is anticipated to nearly double, to 20% by 2050. (Guzman *et al.*, 2012). The elderly population proportion in the Asia as a whole is estimated to escalate from 10.5% to 22.4% during 2012–2050.

**\*Corresponding author: Tarun Paudel,**  
MDGP, Professor in Emergency Medicine and General Practice,  
Karnali Academy of Health Sciences, Jumla.

The East Asian scenario of the elderly is projected to be 34.5% by 2050 including Japan (41.5%), South Korea (38.9%) and China (34%) possibly will be expected to reach the utmost extents of the ageing populace in the region by 2050. The South Asian Association for Regional Cooperation (SAARC) countries, however, are likely to have only about 21% population >60 years by 2050 with Bangladesh (22.4%), Bhutan (24.1%), Maldives (31.2%) and Sri Lanka (27.4%) overshooting the SAARC average for the figure by 2050. As China is aging fast, the proportion of people aged  $\geq 60$  years reached to 17.3% of the total population (Editor Xiang Bo 2018). The elderly population in India projected to be from eight percent in 2015 to 19% in 2050 constituting nearly 34% of the total population in the country by the end of the century (Ahuja *et al.*, 2017). Although since 1980, Nepal has perceived substantial drops in total fertility rate, crude death rates and population growth as well as significant increase in life expectancy, Nepal has experienced very rapid demographic changes during the last three decades (National Planning Commission, 2017). According to the 2001 census of Nepal, there were six and a half percent of elderly population in the country which accounted 3.39% during 1991-2001 which was higher than the annual population growth rate of

2.3%. (Geriatric Center Nepal, 2010) Total population of Jumla is 108921 constituting male proportion of 50.4%. The elderly population in Karnali province is 5.6% (Chalise, 2020) (CBS, n.d.). Jumla is a rural district and life expectancy at birth is 36 years in contrast to average Nepalese nearly 70 years at birth according to Department of Health service Nepal (*The Rising*, Feb 27-2015). The sufferings elderly are mounting in different ways, but there are inadequate studies in relation to general morbidities as well as age specific morbidities. The National policy, act and regulations on ageing and the problems of elderly are being formulated by the Nepal government, but have not been operationalized due to inadequate management (Shrestha, 2013).

More than eight in ten of the elderly in Nepal are residing in rural area, are generally active and productive by involving in child care, cattle herding, handicrafts and others including 47.12% of >65 years are found economically active with which 59.7% for males and 34.3% for females. (Geriatric Center Nepal, 2010) The continuing demographic shift demands priority alterations also in national policies and programs. Ministry of Health and Population (MoHP) has been in the lead organization to take initiatives with this realization (Geriatric Center Nepal, 2010). This study is done to assess the utilization of health care services among the elderly people attending in Karnali Academy of Health Sciences Teaching Hospital (KAHS-TH), Jumla district Nepal.

**METHODOLOGY**

**Study Site:** Revision of the registry of the elderly those attended in the Emergency Department of KAHS-TH, Jumla was done from Ashoj 1 to Posh 29 2074 BS.

**Patients:** We reviewed the entire 17 elderly patient's data from the record registered book. All the eligible elderly patients during this period were taken for the study. More than 60 years of age patients attending in emergency department were included in the study.

**Data management:** The study per forma included demographic variable such as name, age, sex, health status. The data were first filled into the Performa. Then, the data filled in the performed were entered into the MS excel and transferred the data into the Statistical Package for Social Sciences (SPSS) 20 version for the purpose of data analysis.

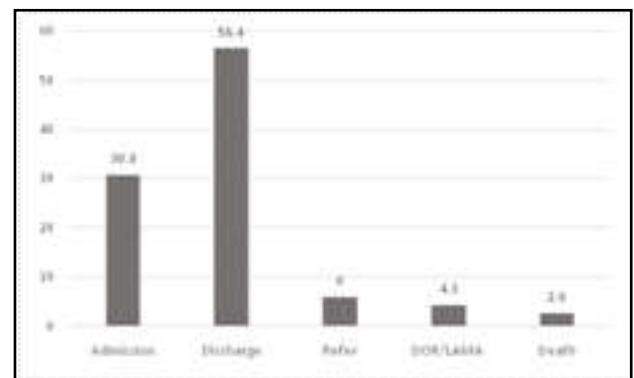
**Data analysis:** Both descriptive and inferential statistics were used to evaluate the age, sex caste and health outcome of elderly and diagnosis. Percentage means and standard divisions were compute as the descriptive statistics and chi square test was carried out to assess the association of health outcome and age sex caste of the patient. P value was set as <0.05 level.

**RESULTS**

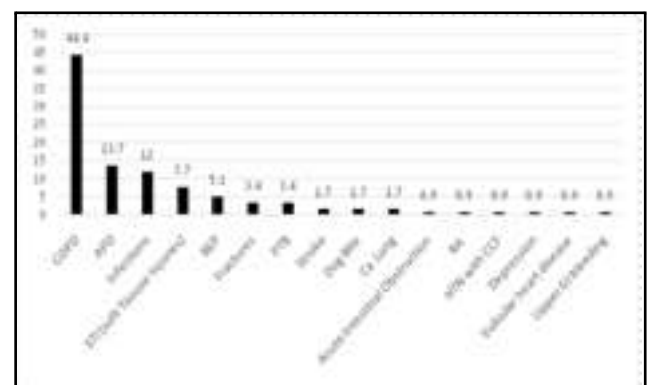
Ethical approval of the study was taken from the Institutional review committee of Karnali Academy of Health sciences. Sixty-four percent of the ER attendance patients were Chhetri (64.1%), second highest percentage were Lower Caste (17.9%), third percentage were Brahman (12.8%) remaining percentage were Janajatis (5.1%). It seems that Chhetri and Brahmin elderly people's health seeking behavior is higher than other casts.

**Table 1. Caste of the elderly patients**

Caste	Frequency	Percent
Brahman	15	12.8
Chhetri	75	64.1
Janajati	6	5.1
Lower caste	21	17.9
Total	117	100.0
Age group		
60-69 years	79	67.5
70-79 years	29	24.8
>80 years	9	7.7
Total	117	100.0
Sex		
Male	61	52.1
Female	56	47.9
Total	117	100.0



**Figure 1. Outcome of the elderly patients in percentage**



**Figure 2. Diagnosis of the elderly patients**

More than two third of the elderly people attending in Emergency Department were 60-69 years of age. Seventy to seventy-nine age group people were 24.8% and >80 years age group were 7.7%. It seems that more than eighty years of age group people were less in the community of Kamali. Sex wise analysis of the elderly patients found that the male (52.1%) proportion was slightly higher (Table 1). About sixty-nine percent of the elderly patient managed in Emergency department only 30.8% of the elderly patients were admitted in respective department for special care. It seems that there were maximum numbers of care provided by emergency department for the elderly patients who are attending in KAHS-TH (Figure 1). Among the emergency department (ERD) attended elderly patients 44.4% diagnosed as a case of chronic obstructive pulmonary disease (COPD), second highest were Acid peptic disease (APD) 13.7% and third highest were infectious diseases 12%. The soft tissue injuries, benign enlargement of Prostate (BEP), fractures and pulmonary tuberculosis were

Table 2. Assessment of association using chi square test

Outcome of the respondents and	age group				Total	P value
age group	60-69 years	70-79 years	> 80 years			
Admission	23 (63.9%)	9 (25.0%)	4 (11.1%)		36 (100.0%)	0.727
Discharge	43 (65.2%)	18 (27.3%)	5 (7.6%)		66 (100.0%)	
Refer	5 (71.4%)	2 (28.6%)	0 (0.0%)		7 (100.0%)	
DOR/LAMA	5 (100.0%)	0 (0.0%)	0(0.0%)		5 (100.0%)	
Death	3 (100.0%)	0(0.0%)	0(0.0%)		3(100.0%)	
Total	79 (67.5%)	29 (24.8%)	9 (7.7%)		117 (100.0%)	
outcome of the respondents and sex of the respondents	sex of the respondents				Total	
	Male		Female			
Admission	15 (41.7%)		21 (58.3%)		36 (100.0%)	0.466
Discharge	37 (56.1%)		29 (43.9%)		66 (100.0%)	
Refer	5 (71.4%)		2 (28.6%)		7 (100.0%)	
DOR/LAMA	2 (40.0%)		3 (60.0%)		5 (100.0%)	
Death	2 (66.7%)		1 (33.3%)		3 (100.0%)	
Total	61 (52.1%)		56 (47.9%)		117 (100.0%)	
Outcome of the respondents and caste of the patients	caste of the patients				Total	
	Brahman	Chhetri	Janajati	Lower caste		
Admission	4 (11.1%)	23 (63.9%)	1 (2.8%)	8 (22.2%)	36 (100.0%)	0.505
Discharge	11 (16.7%)	42 (63.6%)	3 (4.5%)	10 (15.2%)	66 (100.0%)	
Refer	0 (0.0%)	6 (85.7%)	1 (14.3%)	0 (0.0%)	7 (100.0%)	
DOR/LAMA	0 (0.0%)	2 (40.0%)	1 (20.0%)	2 (40.0%)	5 (100.0%)	
Death	0 (0.0%)	2 (66.7%)	0 (0.0%)	1 (33.3%)	3 (100.0%)	
Total	15 (12.8%)	75 (64.1%)	6 (5.1%)	21 (17.9%)	117 (100.0%)	

7.7%,5.1%,3.4%,3.4% respectively. It seems that COPD and APD are the most common problems among the elderly patients in this study (Figure 2). Chi square test with Y et’s correction was carried out to assess the association of dependent and independent variables. Although higher proportion was observed in 60-69 years of age group with comparison to 70-79 years and > 80 years age group, there was no significant statistical associations between outcomes and age the groups. There was no statistically significant association between outcome and sex as well as the cast of the elderly patients (Table 2).

**DISCUSSION**

The elderly citizen’s health seeking behavior is increasing even in rural hospital of Nepal. In this study,Chhetri (64.1%) and Lower caste (17.9%) group of people have highest health seeking behavior than Brahmin (12.8%) and Janajati(5.1%). Similar study conducted in TUTH showed more or less the similar results i.e. male(53%).(Y. L. *et al.*, 2017)In contrast to this study, the another study revealed that females were occupying a large majority compared to males (64%)(Shova Khanal Krishna M. Gautampal, 2011). In our study 70-79 years age group people were 24.8% and >80 years age group were 7.7%. In the previous study, more than two third of the elderly people attending in KAHS-THwere 60-69 years of age, likewise a majority of (54 %) belong to age group 70-79 and aged 80-89 were in second majority (26%)(Shova Khanal,Krishna M. Gautampal, 2011).

It seems that more than eighty years of age group people are less in the community of Karnali Province. About 69 % of the elderly patient managed in Emergency department only 30.8% of the elderly patients were admitted in respective department for special care in this study,in contrast previous study had 30.8% COPD cases admitted in medical ward (Pal A, P S.).Similarly to this study done in Dhulikhel among 200 elderly patients ,only 12.5% of them were admitted to the hospital(Sanjel *et al.*, 2012). It seems that maximum number of care provided by emergency department for the elderly patients who are attending in KAHS-TH, Jumla.

Among the Emergency Department attended elderly patients, 44.4% diagnosed as a case of COPD.Another study revealed that among males (42%) and females (45%) were suffering from COPD.(Bhandari *et al.*, 2014)Second highest was APD (13.7%) similar study done in Karnali province had 10.4%APDCases(Paudel *et al.*, 2018),and third highest was infectious diseases (12%).The soft tissue injuries, benign enlargement of prostate (BEP),fractures and pulmonary tuberculosis were 7.7%,5.1%,3.4%,3.4% respectively in the current study,similarly,the Karnali province scenario showed 5.9% fall/fracture cases (Paudel *et al.*, 2018).

It seems that COPD and APD are the most common problems among the elderly patients in this study. Chi square test with yet’s correction was carried out to assess the association of dependent and independent variables. Although higher proportion was observed in 60-69 years of age group with comparison to 70-79 years and > 80 years age group, there was no significant statistical association between outcomes and age of the groups. There was no statistically significant association between outcome and sex as well as the cast of the elderly patients.

**Limitations:** In this study, only registry of the elderly people attended in emergency department in KAHS-TH during the said period was reviewed not the data collection was done during visits of the elderly to the hospitalwith the limited variables.

**Conclusion**

The health seeking behaviors of Chhetri caste is higher. Very few patients admitted for special care in respective ward. Major health problems of elderly population attended in emergency were COPD and APD. Majority of them treated in Emergency department and discharged, so need to develop the capacity of emergency staffs in geriatric medicines and strengthen the emergency department as elder friendly in time. It is recommended that a cross-sectional study has to be conducted including more parameters.

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