



## To Study Socio Demographic Profile Among Geriatric Patients Attending Inpatient Department of A Tertiary Care Hospital of North India.

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| <b>Dr. Shahnawaz Hamid</b> | Senior Resident Hospital Administration SKIMS Soura            |
| <b>Dr. Farooq Jan</b>      | Additional Professor & HOD Hospital Administration SKIMS Soura |
| <b>Dr. Haroon Rashid</b>   | Assistant Professor Hospital Administration SKIMS Soura        |
| <b>Dr. G.H. Yatoo</b>      | Associate Professor Hospital Administration, SKIMS Soura       |

### ABSTRACT

**Background:** Geriatric medicine is the branch of medicine concerned with the diagnosis, treatment and prevention of disease in older people and the problems specific to aging. After reaching the age of 65, people now live on average for another 12-22 years, thus the health of elderly have become the focus of attention. **Aim:** keeping in view the socio demographic profile among the inpatients, the present study was conducted in a tertiary care teaching hospital in order to see the demographic profile so that better facilities can be planned for elderly people. **Methodology:** The study was carried out in Inpatient departments of SKIMS. It was a prospective type of study & was done from 1st January 2013 to 31st December 2013 (i.e. for a period of one year). The study population in the study were elderly (Geriatric) group of people with age greater than or equal to 60 years (> 60 years) as per their medical record. It was a Questionnaire based study. Questions were asked as per Annexures by an investigator to each selected case and answers were filled by investigator at the same time. Cases were selected by Systematic Random sampling method by picking every 5th patient of the target population (> 60 years of age as defined in subsequent paragraph) after checking the admission files in the respective wards. The study was carried out every day and as per turn every ward was used for study (excluding those patients who were admitted and discharged in the Emergency Medicine itself). The questionnaire was developed and validated by a pilot study. The questionnaire had questions pertaining to main objective of the study i.e. (socio demographic profile). There were 6 questions pertaining to Demography included ascertaining group of age, sex, Geographical distribution, referral pattern, income and educational qualification. **Inclusion Criteria:** All those selected elderly people who agree to participate in the study. **Exclusion Criteria:** a) All those patients who does not agree to participate in the study. b) Those patients who were comatose or on ventilator c) Those who were admitted and discharged in emergency medicine itself. The responses obtained on the questionnaires were converted into data over a Microsoft Excel sheet. Data was analyzed using SPSS software version 20. **Results:** Out of total 421 cases 268 (64%) were admitted to medical specialties while 153 (36%) cases were related to surgical specialties. Cases were further categorized on the basis of emergency and routine admissions. Among medical specialties 126 were emergency admissions and 142 Routine while among surgical specialties 82 were Emergency and 71 routine admissions. The target population (Geriatric age group) was Stratified into three age groups 60-70 yrs, 70-80 yrs and > 80 yrs. Out of total cases studied 44% were in the age group of 60-70 yrs, 40% were in the age group of 70-80 yrs and 16% were > 80 yrs of age. Among patients admitted through Emergency, maximum 49% were in the age group 60-70 years. Geriatric patients admitted through routine 47% were in the age group 70-80 years. 65% of the Geriatric patients were males while only 35% were females. Among the study population admitted via emergency 70% were males and 30% were females while those admitted via routine only 61% were males and 39% were females. Geographical distribution revealed that 66% from rural location while 34% from urban areas. Among Emergency admissions 75% of came from Rural areas. Among Routine admissions it was found that 56% were from Rural areas. Majority 53% were not having any referral. Among urban population majority 81% of patients were having no proper referral in comparison to rural population where 60% of cases had proper referral. Studying the income level, majority 49% (n= 206) of the study subjects had monthly income more than 20,000 Rupees. Educational Qualification of the study population revealed that majority 42.04% (n= 177) were Illiterates. **CONCLUSION:** Ageing is a natural process. It is a vulnerable phase of life where physical, mental and social disruption is more pronounced. Out of total cases studied 44% were in the age group of 60-70 yrs, 40% were in the age group of 70-80 yrs and 16% were greater than 80 yrs of age. 65% of the Geriatric patients were males while only 35% were females. Geographical distribution of the studied population revealed that 66% of study subjects were from rural background while 34% cases were from urban areas. Referral pattern showed that 53% of Geriatric people who attended inpatient department of SKIMS were not having any referral. Studying the income level of the target population it was observed that majority 49% of the study subjects had monthly income more than 20,000 Rupees while only 13.5% had earning less than 10,000 Rupees. Educational Qualification of the study population revealed that majority 42.04% were Illiterates, 37.05% were undergraduates, 20.2% were Graduates and only 0.71% were Post graduates.

### KEYWORDS

#### INTRODUCTION

Geriatrics or geriatric medicine is a specialty that focuses on health care of elderly people<sup>(1,2)</sup>. It aims to promote health by preventing and treating diseases and disabilities in older adults. There is no set age at which patients may be under the care of a geriatrician or geriatric physician, a physician

who specializes in the care of elderly people. Rather, this decision is determined by the individual patient's needs and the availability of a specialist.

The twentieth century reaped an unprecedented gain in life expectancy at birth; some 25 years throughout the industri-

alized world and more modest though significant increase in the developing world.<sup>(3)</sup> Among the less developed regions, it is Asia which has been most successful in reducing the growth rate of population. Population in Europe & other developed countries are aging. Improvements in public health including the prevention and treatment of infectious diseases & other innovations have greatly reduced the proportion of deaths occurring in childhood & early adulthood. More people are now living longer and the proportion of those living beyond 60 years has increased and will increase further over next 20 years. The proportion of older people will vary in different countries. In Japan e.g more than 1 in 4 will be over 65 years of age compared to 1 in 6 in USA.

After reaching the age of 65, people now live on average for another 12-22 years, with France & Japan having highest life expectancies. The proportion of people living over the age of 80 is also increasing. In France, Germany, Italy, Japan & United Kingdom 4% of population is now this old. It is predicted that other countries will follow a similar though less rapid trend. Women consistently live longer than men with some figures suggesting that on average they live as much as six years longer, so that nearly twice as many woman as men live to 80 years of age.<sup>(4)</sup>

The geriatric age group is taken as 60 years and above in India. It is also the recommendation of the W.H.O. (World Health Organization). In developed countries, the cut-off age is 65 years and above. Recently, the elderly have become the focus of attention in developing countries, particularly China and India, because of their increasing number and deteriorating condition.

The unprecedented increase in human longevity in 20th century has resulted in the phenomenon of population ageing all over the world. Countries with large population such as India have large number of people now aged 60 years or more.<sup>(5)</sup> The population over the age of 60 years has tripled in last 50 years in India and will relentlessly increase in near future ( In 2001, the proportion of older people was 7.7% which was 8.14% in 2011 and will increase to 8.94% in 2016) According to 2001 census, there were 75.93 million Indians above the age of sixty years; of them 38.22 million were males and 37.71 million were females. The projections for next five censuses till the year 2051 are: 96.30 million (2011), 133.32 million (2021), 178.59 (2031), 236.01 million (2041) and 300.96 million (2051).

The National Sample Surveys of 1986-87, 1995-1996, and 2004 have shown that: The burden of morbidity in old age is enormous. Non-communicable diseases (life style related and degenerative) are extremely common in older people irrespective of socioeconomic status. Disabilities are very frequent which affect the functionality in old age compromising the ability to pursue the ability of daily living.<sup>(6)</sup>

Comprehensive geriatric health care comprises of physical, psychiatric, social, family, economic, nutritional and rehabilitation aspects. In India there are approx. 12000 hospitals comprising of about 7 lakh hospital beds. The elderly population approaches hospitals mostly during acute illness depending upon physical and financial accessibility. A fractured hip, pneumonia, stroke or heart attack may necessitate immediate professional attention.

The percentage of elderly population is continuously increasing in India due to decline in overall death rate, decline in fertility and sustained improvement in survival. There is also revolutionary change in health care delivery system in the country as a result of privatization and globalization.

There is a need to highlight the medical and socio-economic problems that are being faced by the elderly people in India and strategies for bringing about an improvement in their quality of life also need to be explored.

From the morbidity point of view, at least 50% of the elderly in India have chronic diseases. A thorough examination of geriatric morbidity and related risk factors are required to improve the delivery of health care to the elderly. It is also essential that hospitals begin to create policies and procedures that will address the unique needs of their elderly patients so that they receive care throughout the entire hospital and not only in sole location of geriatric unit. Elderly friendly hospital services can facilitate timely recovery and discharge to the elderly's pre-admission living environment, thus reducing care costs.

Therefore keeping in view the socio demographic profile among the inpatients, the present study was conducted in a tertiary care teaching hospital in order to see the demographic profile so that better facilities can be planned for elderly people.

## MATERIAL AND METHODOLOGY

The Study was a part of larger study aimed to assess the morbidity pattern and problems faced by Geriatric patients in tertiary care hospital. The study was carried out in Inpatient departments of Sheri-kashmir Institute of medical Sciences (SKIMS) Srinagar, a 673 bedded tertiary care facility. It was a prospective type of study undertaken on elderly people. It was a Questionnaire based study. Questions were asked as per Annexures by an investigator to each selected case and answers were filled by investigator at the same time. Cases were selected by Systematic Random sampling method by picking every 5<sup>th</sup> patient of the target population (> 60 years of age as defined in subsequent paragraph) after checking the admission files in the respective wards. The study was carried out every day and as per turn every ward was used for study (excluding those patients who were admitted and discharged in the Emergency Medicine itself).

A total of 421 cases selected through systematic random sampling were studied. These include 38 cases of Cardiology, 30 cases of cardiovascular thoracic surgery (CVTS), 27 cases of Neurosurgery, 34 cases of General Surgery, 36 cases of Gastroenterology, 28 cases of Urology, 12 cases of Surgical gastroenterology, 37 cases of Nephrology, 10 cases of clinical Hematology, 20 cases of Medical Oncology, 40 cases of General Medicine, 25 cases of Geriatrics, 16 cases of Endocrinology, 12 cases of radiotherapy, 21 cases of plastic surgery and 35 cases of neurology.

The questionnaire was developed and validated by a pilot study. The questionnaire had questions pertaining to main objective of the study i.e (socio demographic profile )

There were 6 questions pertaining to Demography included ascertaining group of age, sex, Geographical distribution, referral pattern, income and educational qualification. The study was done from 1st January 2013 to 31<sup>st</sup> December 2013 ( i.e for a period of one year) for Data collection and observations. The study population in the study were elderly ( Geriatric) group of people with age greater than or equal to 60 years (> 60years) as per their medical record.

**Inclusion Criteria:** All those selected elderly people who agree to participate in the study.

**Exclusion Criteria:** a) All those patients who does not agree to participate in the study. b) Those patients who were comatose or on ventilator c) Those who were admitted and discharged in emergency medicine itself.

Data was personally collected by an investigator by choosing one specialty per day and upon entering the ward admission file was checked thereby coming to know about the target population by knowing the age. After counting the total number of elderly patients admitted, systematic random sampling was done and every 5<sup>th</sup> patient was selected among the target group for study. The selected patients were then followed till the time of discharge when questions were asked as per Annexure and answers were recorded by an investigator at the

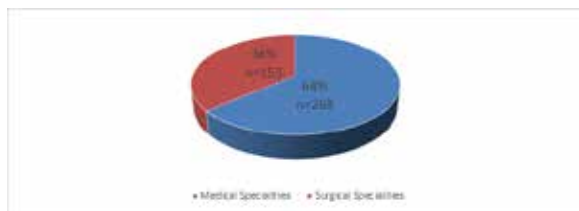
same time. The collected Data was handled fairly and accurately to avoid misinterpretation. The participation in this research was voluntary and participants were made fully aware about the study before introducing the questionnaire.

The responses obtained on the questionnaires were converted into data over a Microsoft Excel sheet. Each response was given a numerical code. The demographic profiles were marked as 1-male, 2- female. The specialties were categorized into medical and surgical. Medical and allied specialties were given numerical code 1 while surgical and allied were given numerical code of 2. The responses of questions having Yes or No as two possible answers were given 1 & 2 as numerical codes with 1 for yes and 2 for No. Unmarked responses were also treated as No and were given similar numerical code of 2. The Questions having graded responses were marked on likert scale and were given numerical codes from 1-3, 1-4 or 1-5. All categorical variables were compared using Pearson's Chi Square test and P value < 0.05 were considered to be statistically significant. Data was analyzed using SPSS software version 20.

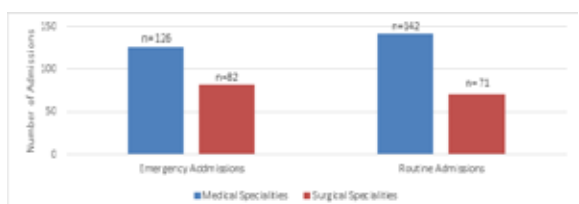
**RESULTS**

Ageing is a natural process. It is a vulnerable phase of life where physical, mental and social disruption is more pronounced. There are more than 76 million elderly people in the country who constitute 77% of India's population. By the year 2020, the estimated population of the elderly will be 142 million or about 11% of the country's population. This requires in depth studies of the epidemiological profile, and type of problems geriatric face in a teaching hospital in order to be equipped with the expertise and technical know-how in gerontology.

Taking this into consideration a prospective study was carried out to see socio-demographic profile among elderly patients getting admitted into this teaching hospital. This research work was carried out in inpatient departments of Sheri-Kashmir Institute of medical sciences (SKIMS), a tertiary care facility with the aim to study Demographic variables in Geriatric age group (> 60yrs) who attended various inpatient departments of SKIMS. The study was conducted for a period of 1 year. A total of 421 cases of Geriatric age group were studied after selecting them through systematic Random sampling. All Geriatric patients attending medical and surgical specialties were included in the study except those discharged in Emergency Medicine. Out of total 421 cases 268 (64%) were admitted to medical specialties while 153 (36%) cases were related to surgical specialties. (Fig 1) Cases were further categorized on the basis of emergency and routine admissions (Fig. 2). Among Geriatric patients attended in medical specialties 126 were emergency admissions and 142 Routine while among surgical specialties 82 were Emergency and 71 routine admissions.

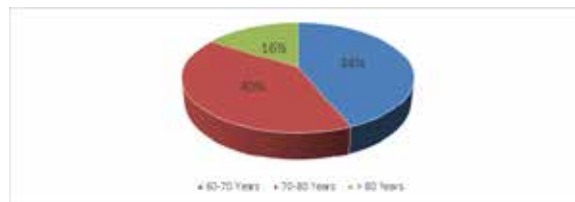


**Fig 1. Specialty- wise distribution of geriatric patients.**



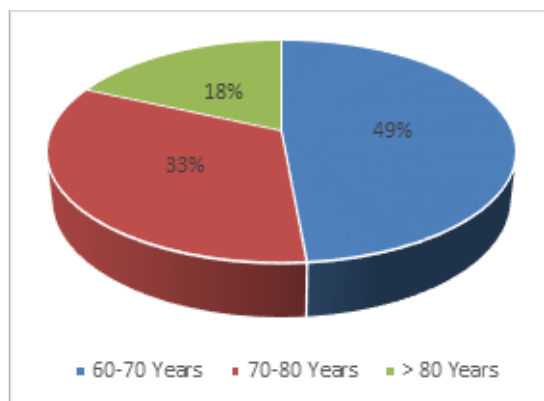
**Fig 2. Distribution of geriatric patients viz- a-viz route of admission.**

The target population (Geriatric age group ) was Stratified into three age groups 60-70 yrs, 70-80 yrs and > 80yrs ( Fig.3 ). Out of total cases studied 44% were in the age group of 60 -70yrs, 40% were in the age group of 70-80 yrs and 16% were > 80 yrs of age. It was seen that among the selected cases 60-70 yrs age group was the largest one and > 80yrs of age was the least one.

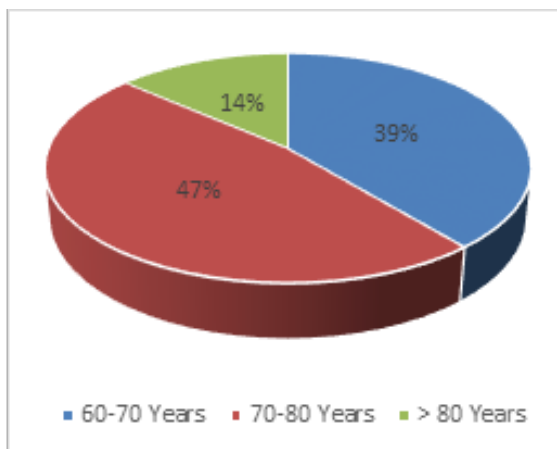


**Fig 3. Distribution of geriatric patients viz- a-viz age.**

Studying the stratified age group viz a viz admissions ( Fig. 4a & 4b ) it was found that among the Geriatric patients admitted through Emergency, maximum 49% were in the age group 60-70 years while only 18% were in the age group > 80 years. Geriatric patients admitted through routine 47% were in the age group 70-80 years while 39% were in the age group 60-70 years.

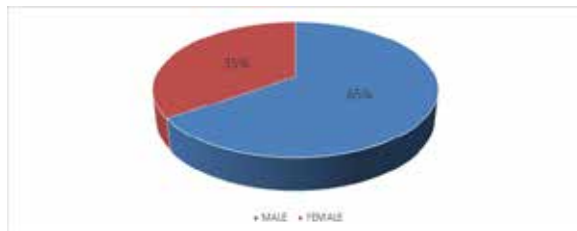


**Fig 4a. Distribution of stratified geriatric age**



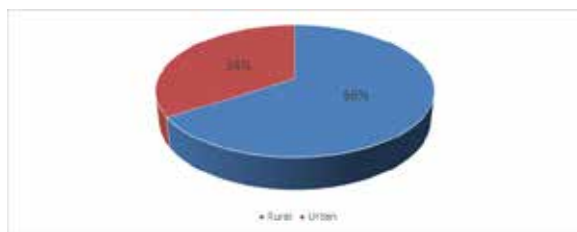
**Fig 4b. Distribution of stratified geriatric age Group viz a viz Emergency Admissions group viz a viz Routine Admissions**

65% of the Geriatric patients were males while only 35% were females ( Fig 5). Among the study population admitted via emergency 70% were males and 30% were females while those admitted via routine only 61% were males and 39% were females.



**Fig 5. Gender wise distribution of geriatric patients.**

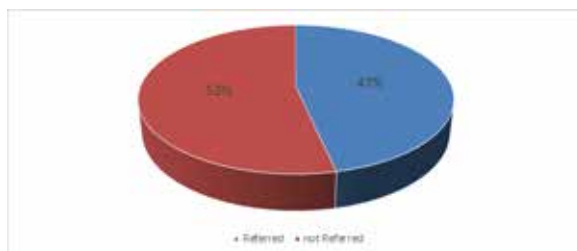
Geographical distribution of the studied population ( Fig 6 ) revealed that 66% of study subjects were from rural location while 34% cases were from urban areas. Among Emergency admissions 75% of Geriatric patients were those who came from Rural areas. Among Routine admissions it was found that 56% were from Rural and 44% were from urban localities.



**Fig 6. Distribution of geriatric patients viz-a-viz Geographical location.**

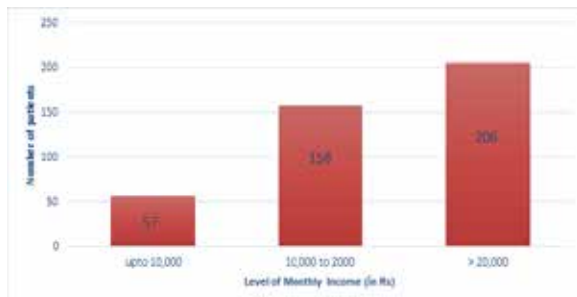
The target population was categorized on the basis of referral pattern.( Fig 7 ) Among the selected cases it was seen that majority 53% of Geriatric people who attended inpatient departments of SKIMS were not having any referral.

Among urban population majority 81% of patients were having no proper referral in comparison to rural population where 60% of cases had proper referral.



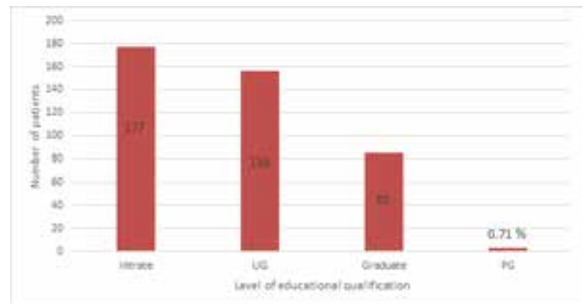
**Fig 7. Distribution of geriatric patients viz-a-viz Referral pattern.**

Studying the income level of the target population it was observed that majority 49% ( n= 206) of the study subjects had monthly income more than 20,000 Rupees while only 13.5% ( n=57) had earning less than 10,000 Rupees.( Fig 8)



**Fig 8. Distribution of geriatric patients viz-a-viz monthly income.**

Educational Qualification of the study population ( Fig 9) revealed that majority 42.04% ( n= 177) were Illiterates, 37.05% were undergraduates, 20.2% were Graduates and only 0.71% were Post graduates.



**Fig 9. Distribution of geriatric patients viz-a-viz educational qualification.**

**DISCUSSION**

All over the world, the Geriatric population is growing continuously and it is projected that by the year 2025, majority of the Geriatric people worldwide will be residing in developing countries. India is amidst a demographic transition with a trend towards an ageing population. In India, the ageing population above 60 years has been estimated to almost double-up from 7.7% in 2001 to 12.30% in 2025 and the number of elderly people will be nearly 150 million. With improving living standards come better health and easy access to medical services, leading to a decline in mortality rates and higher life expectancy.

The study was conducted for a period of 1 year at Sheri-Kashmir institute of medical sciences, a 673 bedded tertiary care hospital. A total of 421 cases of Geriatric age group were studied after selecting them through systematic Random sampling. The selected cases belonging to both medical and surgical specialties were included in the study except those discharged in Emergency Medicine. Out of total 421 cases 268 (64%) were admitted to medical specialties while 153 (36%) cases were related to surgical specialties. Cases were further categorized on the basis of emergency and routine admissions. Among Geriatric patients attended in medical specialties 126 were emergency admissions and 142 were routine admissions while among surgical specialties 82 were Emergency and 71 routine admissions. Out of total cases studied 44% were in the age group of 60 -70yrs, 40% were in the age group of 70-80 yrs and 16% were greater than 80 yrs of age. 65% of the Geriatric patients were males while only 35% were females. Geographical distribution of the studied population revealed that 66% of study subjects were from rural location while 34% cases were from urban areas. Complementing the findings of present study Survey of Medical Disorders in the Elderly Persons of Rural and Urban Area of North India (in the Teerthanker Mahaveer Medical College Hospital and Research Centre) by *Vinod Kumar Singh & Farhan Ahmad Khan* (7) revealed that among the 380 patients, male patients (52.63%) predominated the female patients (47.37%). A majority of patients were from the 60-70 years age group [82.00% (n=200) among the males and 82.22% among the females]. Another Retrospective analysis in a south Indian tertiary care institution conducted by *Narayan V & Chandrashekar R* (8) showed that Mean age of geriatric patients during study period was 67 years and maximum age of patient admitted was 90 years. Out of them 332 were 60 years of age and above. More number of males (65.9%) were admitted when compared to the females (34.1%).

The target population was categorized on the basis of referral pattern. Among the selected cases it was seen that majority 53% of Geriatric people who attended inpatient departments of SKIMS were not having any referral. Comparing this with study conducted by *Muneer et al* (9) revealed that 29% of patients who reported to OPD of a tertiary care teaching hospital

were having no referrals.

Studying the income level of the target population it was observed that majority 49% (n= 206) of the study subjects had monthly income more than 20,000 Rupees while only 13.5% (n=57) had earning less than 10,000 Rupees. Comparing it with study among the elderly population in Ahmadabad, by *Rajshree Bhatt et al*<sup>(10)</sup> which revealed that out of total 218 elderly 47.7% of elderly were earning with maximum wages between 1000- 2000 Rs /month.

Educational Qualification of the studied population revealed that majority 42.04% (n= 177) were illiterate, 37.05% were undergraduates, 20.2% were Graduates and only 0.71% were Post graduates. In line with the findings of present study conducted by *shashi kant et al*<sup>(11)</sup> among elderly persons residing in a Resettlement colony of Delhi revealed that out of the 233 study subjects, majority were illiterate and unemployed/ housewives. Only 21% were economically independent. Study by *Lena A et al*<sup>(12)</sup> regarding social problems of the elderly in udupi taluk, Karnataka revealed that nearly half of the respondents were illiterates. *Padda As et al*<sup>(13)</sup> studying the Health profile of aged persons in urban & rural field practice areas of Medical College, Amritsar revealed that 61.37 percent aged persons were literate and 38.63 percent were illiterate.

### SUMMARY AND CONCLUSION

Ageing is a natural process. It is a vulnerable phase of life where physical, mental and social disruption is more pronounced.

The study was conducted for a period of 1 year. A total of 421 cases of Geriatric age group were studied after selecting them through systematic Random sampling. All Geriatric patients attending medical and surgical specialties were included in the study except those discharged in Emergency Medicine itself.

Out of total 421 cases, 268 (64%) were admitted to medical specialties while 153 (36%) cases were related to surgical specialties. Among Geriatric patients who attended medical specialties 126 were emergency admissions and 142 Routine while among surgical specialties 82 were Emergency and 71 routine admissions.

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