

Disease patterns among hospitalized elderly at TUTH

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Introduction: A descriptive study was carried out to assess the disease patterns among the elderly patients admitted at TUTH from 2061/4/1 to 2062/3/31. Secondary data were collected from the admission record; the total admissions were 16,947. Out of the total admission 19.2 % patients belonged to elderly from 60 years and above, and 59 % were male. Among them, majorities were young elderly (< 75 years) while rests of others were late elderly (> 85 years).

Results: The findings revealed that majority of them were suffering from diseases related to respiratory, cardiac and digestive system, followed by cerebro vascular accident and neoplastic diseases. Further analysis revealed that among the hospitalized elderly, 53 % were suffering from medical problems and 21 % had surgical problems; while 15 %, 5.8 %, and 5.6 % had problems related to ENT, gynecology, and ophthalmic respectively. Gender based analysis revealed that respiratory (chronic obstructive pulmonary disease, chest infections including pneumonia) and cardiac problems (ischemic heart diseases including hypertension) were the common diseases among both genders. While diseases related to digestive system among female (cholecystitis / cholelithiasis, diabetes mellitus) and malignant neoplasm among male were the third commonest diseases. As gender differences is obvious in the hospitalization rate as well as in the prevalence of some of the diseases, specific care need to be given to improve health and to prevent further complications from the existing diseases.

Conclusion: A prudent life style and exercise behaviors need to be enforced to promote healthy aging. It should be our shared responsibility to encourage the elderly to be healthy by adopting the principles of "Healthy Aging / Aging Well".

Introduction

Aging is a normal growth process, beginning from conception onwards. However, after childhood, the peak physiological functioning occurs in the twenties while peak psychological maturation takes place in the old age. During the life time, various changes related to aging occurs which alters the person's ability to function in his environment. A person simply does not wake up "old" on his 60th birth day, as this process depends on heredity, diet, mental attitude, environment and standard of living. For biomedical purpose aging is categorized based on physical and physiological capacity: young elderly (60-73), middle aged elderly (74 - 84 years) and late elderly (85 + years) living with three distinct generations⁴.

The demographic transition among elderly population

revealed that the world's population is growing at an annual rate of 1.7 %, while the population of elderly over 65 years is increasing by 2.5 %, reflecting the rapid demographic transformation, particularly in many developing countries. During 1993, in the developed countries 12.5 % of the populations were elderly compared to 4.63 % in the developing nations, and by the year 2000, the numbers of elderly reached to 14.3 % and 7.7 % respectively. It is further estimated that these numbers will be increased to 18.4 % and 9.9 % (2015); and 23.6 % and 12.4 % respectively by 2025; and furthermore the report also added that about 75 % of elderly will be living in developing world⁵. While in Nepal, the elderly population is growing very steadily; during early 1954s out of total population, 5 % belonged to elderly above 60 years which is increased to 6.4 % in 2001 (Table 1).

Table 1. Population of elderly in Nepal

Year	Total pop	Annual GR %	>60 yrs pop	%
1952-54	82,56,626	2.30	409761	5
1961	94,12,996	1.65	489346	5.2
1971	15022839	2.66	857061	5.7
1991	18491097	2.10	1072483	5.8
2001	23151423	2.24	1477379	6.4

There are many theories related to aging; but very little is known about the concepts how people age. Biological theorists have considered aging as a combination of heredity and environmental factors, and highlights more on the declining ability of cells/ organs/ systems to replicate deoxyribonucleic acid (DNA), leading to an autoimmune malfunction; psychological theorists have emphasized on interaction between self and others; while others combined these two theories, and focused on the complex combinations of various factors⁷. Moreover, the health status of the elderly is also determined by the patterns of living, experiences and opportunities for health protection over the period of time; which is further compounded by over crowding, poverty, pollution and high population morbidity as well as over all health status.

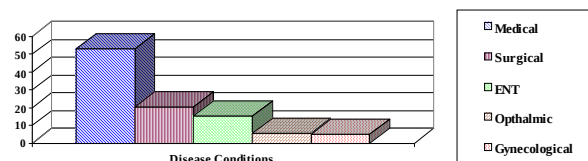
Adding life to years does not necessarily add to the quality of life, it is reported that the chronic illness are often related to unhealthy life style practices such as smoking, lack of exercise, poor diet and occupational hazards⁸. Although, majority of the elderly people can adopt their life style based on the environment with harboring one or two chronic diseases; while a few of them need critical care for prolong period of time. It is also reported that vast majorities (90 %) of young elderly are generally in good health and can manage for themselves; however, problems increases as they ages. The prevalence of disability is about 5 -10 % among middle aged and late elderly groups⁹. Hence, it is worth while to assess the current disease pattern of elderly population in Nepal, so that preventive approaches (healthy diet, regular exercises and regular medical checkups) can be initiated to promote healthy lifestyle and prevent chronic diseases.

Materials and Methods

A descriptive study was carried out to assess the types of diseases among the elderly admitted at TUTH from 2061/4/1 to 2062/3/31. Secondary data were collected from the admission record; the collected data were analyzed to identify the health problems among the hospitalized elderly. The total admission were 16,947, among them 3260 were elderly above 60 years.

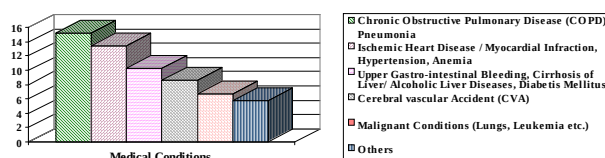
Findings and Discussion

Among all the admitted cases at TUTH, nearly one fifth (19.2 %) belonged to elderly patients. Among them, 76 % were residing in central developmental region; and just more than half (59 %) were males. Majority of the admitted elderly (83.4 %) were less than 75 years (young elderly), and rest of others belonged to middle to late elderly (16.6 %). Among them 53 % were admitted due to problems related to medical conditions and 20.6 % for surgical conditions; while rest of others had problems related to ENT, Ophthalmic and Gynecological problems (15.4 %, 5.6 % and 5.4 % respectively) (Fig.1).

**Fig. 1.** Disease conditions among hospitalized elderly

Medical problem among the hospitalized elderly

The disease patterns among the hospitalized elderly were categorized based on the associated systems. Irrespective to gender, the most common medical diseases were related to respiratory, cardiac and digestive system, followed by cerebro vascular accident and neoplastic growths.

**Fig. 2.** Medical condition among hospitalized elderly

When the data were analyzed to identify different types of diseases among hospitalized elderly, 53 % of them were suffering from medical problems (Figure 2). Among them, diseases related to respiratory (15.2 %), cardiac (13.4 %)

Disease patterns among hospitalized elderly

and digestive systems (10.3 %) were more common followed by malignant neoplasm (8.6 %) and cerebro vascular accidents (6.7 %). Among the respiratory diseases COPD (11.6 %), pneumonia and chest infections (3.6 %) were the most common, followed by diseases related to cardiac (Ischemic heart diseases /myocardial infraction - 8.6 %, hypertension, and anemia – 4.9 %) and digestive systems (upper gastro-intestinal bleeding, cirrhosis of liver / alcoholic liver diseases – 6.4 %, diabetes mellitus – 3.8 %).

These findings were supported by the report of WHO (2004), as the ischemic heart diseases / myocardial infraction, hypertension, and anemia are the most common diseases contributing to cardiovascular diseases; and above mentioned diseases are considered to be in the group of none communicable diseases (NCD), and believed to be leading causes of morbidity, mortality and disability in South East Asia. During 2001, these diseases accounted for 50 % of death and 42 % of disability measured through disability adjusted life years lost (DALY)". Existing reports also revealed that COPD, diabetes and cancers were considered as the risk factors of cardio vascular diseases (CVD), and 77 % deaths took place in developing countries among low to middle level wage earners⁷. The prevalence of these diseases also indicated for the probabilities of increasing the incidence of heart attack and stroke among the elderly population.

Surgical problem among the hospitalized elderly

Further analysis revealed that problems related to digestive, reproductive system and malignant neoplasm of different organs were the most common surgical problems. Due to high incidence of cholecystitis, hernia, peritonitis and hemorrhoids (29.2 %) among the hospitalized elderly, the problems related to digestive system ranked first in the list of surgical conditions (Fig. 3). Benign prostate hypertrophy and uterine prolapse (24.7 %) were also quite common so ranked second in the list of surgical problems; similarly, problems related to malignant neoplasm of different organs such as gall bladder, stomach, colon, and urinary bladder (24.4 %) ranked third. These findings were consistent with the reported cases (conducted at TUTH) that out of 238 patients who had undergone for cholecystectomy, 11.5 % were the patients above 61 years, among them the male to female ratio was 1.35.¹¹

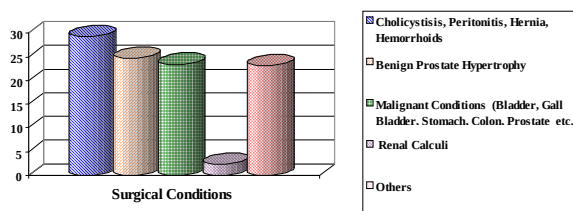


Fig. 3. Surgical problem among hospitalized elderly

Sensory problem among the hospitalized elderly

Among all the hospitalized elderly at ENT ward, 92 % had malignant neoplasm related to ear, nose, and throat. Presumably, these malignant conditions of ENT could be due to occupational hazards, environmental pollution and faulty food habits. Similarly, epistaxis (25 %) ranked second in the list of ENT diseases. Epistaxis is a common symptom of hypertension as well as associated diseases of nasal cavity, so further exploration is needed to rule out the exact cause. Among nearly one fifth (19.5 %) of the hospitalized elderly were admitted for various problems related to ENT conditions (Fig. 4).

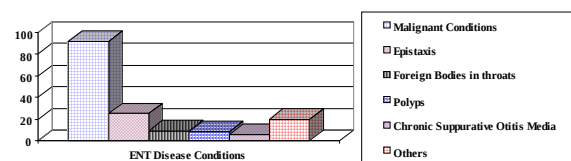


Fig. 4. ENT problems among hospitalized elderly patients

Ophthalmic problem among hospitalized elderly

In relation to ophthalmic diseases about 22.3 % of the hospitalized elderly had problems related to corneal ulcers, followed by glaucoma (21.0 %) and complications of cataract (13.4 %) (Fig. 5). These prevailing ophthalmic diseases indicated the need of early prevention and prompt management of ophthalmic diseases in order to prevent blindness. In the recent years, it was reported that diseases related to aging such as cataract, glaucoma, diabetic retinopathy and macular denegation are the common causes for blindness in SEAC¹². Although ophthalmic diseases are quite common among elderly (particularly cataract), in TUTH only complicated cases were admitted; hence, in this study the ophthalmic problems found to be less common among the hospitalized elderly.

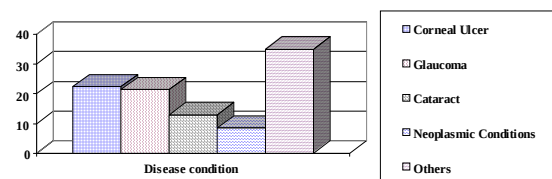


Fig. 5. Ophthalmic problem among hospitalized elderly

Gender dereferences in disease pattern among the hospitalized elderly

When the prevailing disease patters were further analyzed based on gender diseases related to respiratory system and cardiovascular systems were the most common in both genders; but the prevalence was higher among males (8.1 %, and 7.1 %) than in females (7.2 %, and 6.1 %) (Fig.6).

Similarly, malignant neoplastic diseases (5.6 % and 3 %) were the third most common diseases in both gender, which was also higher in males than in females. A report has revealed that ischemic heart diseases (IHD), and cerebral vascular accidents / diseases (CVA) were the main causes of death among the elderly, followed by malignant neoplasm and respiratory diseases particularly pneumonias¹³. The discrepancies in these findings could be due to differences in sampling technique and time variations.

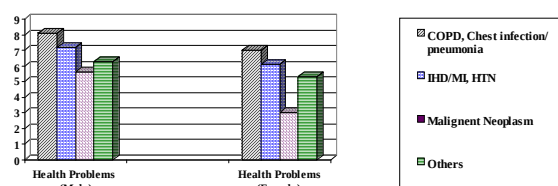


Fig. 6. Gender differences in hospitalized elderly

Gynecological problem among hospitalized elderly

Among the total hospitalized elderly female 38.7 % were suffering from uterine prolapse followed by malignant neoplasm (15.6 %) and fibroids (9.3%) (Fig. 7). The studies conducted in Nepal, related to genital prolapse have also revealed that uterine prolapse is one of the common problems among Nepalese women, which is associated to multiparity (more than four issues), geographical location (mountainous region) and occupation (farmers). It was also reported that there were quite a high incidence (35.3 %) of genital prolapse – (SCF/OS (1993) Nuwakot; 16.5 % Gynecological and STD Camps (1996) - Silraha district, 12.17 % - TUTH (1993) – Pelvic Connective Tissue and Nerve Damage Leading to subsequent genital prolapse (2000); and 5.3 % Maternity Hospital, Thapathali, (2001)¹⁴¹⁴ Vaidya , A. As cited in Genital Prolapse: Disability of Women Farmers in Bhaktapur. *JIOM*, 2004; Vol. 26 (3), p.15.

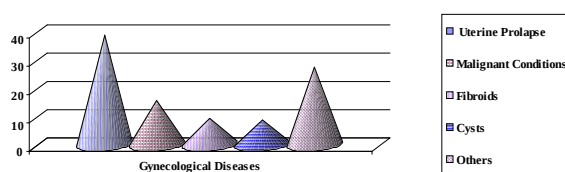


Fig. 7. Gynecological health problems among hospitalized elderly patients

Conclusion

Based on above findings it can be concluded that elderly people need a wide range of preventive, promotive, curative and rehabilitative services; as in general majority of them were suffering from diseases related to respiratory, cardiac and digestive system, along with. cerebrovascular accident and

neoplastic diseases. Among the respiratory diseases chronic obstructive pulmonary disease, chest infections including pneumonia; diseases related to cardiac system: ischemic heart diseases including hypertension were quite prevalent in both genders; where as diseases related to upper gastrointestinal bleeding, cirrhosis of liver, diabetic mellitus were common among male while various other diseases related to uterine prolapse and gastric diseases were quite common among female. Hence, activities need to be enforced to discourage cigarette smoking habits and to encourage for smokeless cooking behaviors in their daily lives. As there were gender differences in the prevalence rate of some of these diseases, specific attention need to be given to prevent cerebral vascular accident among males, and to increase awareness programs among the females to encourage institutional delivery (skill birth attendants) to minimize the incidence of uterine prolapse. In addition, a prudent life style and exercise behavior need to be enforced to promote healthy aging and prevent complications from existing diseases. It should be our shared responsibility to encourage the elderly to be healthy by adopting the principle of “Healthy Aging / Aging Well”¹.

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