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Study on Socio Demographic Profile of Natural Death in a Tertiary Care Teaching Hospital Hyderabad, Telangana

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Abstract

A cross sectional study was conducted on socio demographic profile on natural death in a tertiary care teaching Hospital Suraram, Hyderabad Telangana, it was a retrospective and record based study. 100 death case sheets were collected from Medical record department {MRD} of the hospital for a period of 1 year from 1st July 2020 to 30th June 2021. Socio demographic and clinical details were collected in the pre structured data sheet and statistically evaluated by MS Excel software.

Non communicable diseases are predominant in our study. We observed five leading causes of deaths among the most common cause of death was due to diseases of the respiratory system (36%) Pneumonia being the leading cause, Cardio vascular diseases (18%), septicemia (15%), GIT and liver diseases caused mortality (14%) and Central nervous system diseases are (7%). Highest number of deaths was observed in urban, married and above 50 years age group individuals. Diabetes and COPD was the highest co morbidity found in our study group. Heavy traffic congestion and many industries in the hospital catchment area are the probable reasons for highest respiratory diseases. Better ergonomics and industrial health management can prevent these diseases.

Keywords: Socio demographic profile, Natural death**.**

Introduction

Natural death defines as deaths that occur from natural causes, as disease or old age, rather than from violence or an accident. Natural deaths are communicable and non communicable. At a global level, 7 of the 10 leading causes of deaths in 2019 were non-communicable diseases, accounted for 74% of deaths globally in 2019. The world's biggest killer is ischemic heart disease, responsible for 16% of the world's total deaths. Since 2000, the largest increase in deaths has been for this disease rising by more than 2 million to 8.9 million deaths in 2019. Stroke and chronic obstructive pulmonary disease are the 2nd and 3rd leading causes of death responsible for approximately 11% and 6% of total deaths respectively. Lower respiratory infections remained the world's most deadly communicable disease

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ranked as the 4th leading cause of death. Neonatal conditions are ranked 5th. Cancer of lung, trachea and bronchus are in 6th level. Alzheimer's in 7th followed by diarrheal diseases, diabetes and kidney diseases.[1]

In last 50 years the death rate in India was declining at a moderating rate to shrink from 16.7 per 1,000 people in 1971 to 7.2 per 1,000 people in 2020, as death rate is declining the population is increasing enormously. India is the second most populated country in the world according to the 2019 revision of the World Population Prospects. According to the survey India is being projected to surpass China to become the world›s most populous country by 2024.[2,3]

In 1990, the top five individual causes of diseases in the country were all communicable such as Diarrheal diseases, lower respiratory infections, neonatal preterm birth, tuberculosis, and measles. In 2016, three of the top five causes were Non communicable diseases ischemic heart disease, chronic obstructive pulmonary diseases and cerebrovascular disease, while communicable diseases are diarrhea and lower respiratory infections were responsible for the remaining two.[4]

Non-communicable diseases are increasing at an alarming rate in rural India, with long-term consequences on people health and finances. The pattern of Non-communicable diseases in rural India looks largely similar to that in urban India. High blood pressure is the biggest risk factor for deaths worldwide, which now affects one in five adults in rural India, while diabetes affects about one in 20 adults.[4,5]

The aim and objective of the study is to evaluate the most common causes of natural death occurring in MRIMS Hospital Hyderabad Telangana, with following objectives.

- To know the most common causes of natural deaths occurring in this demographic area.
- To identify any co-morbid conditions associated with the disease.
- To explain socio-demographic relation with the disease.

This study will help to create awareness among the doctors in regard to natural deaths occurring in the hospital, this will helps to prepare a better treatment protocol and useful to reduce the morbidity and mortality.

Materials and Methods

A cross sectional, retrospective study on socio demographic profile of natural deaths was conducted in a tertiary care teaching hospital at Suraram, Hyderabad Telangana. Death case sheets from 1stJuly 2020 to 30thJune 2021, duration of one year were collected from the MRD department of the hospital after obtaining permission from the Institutional ethics committee and the hospital authority. The names of the patients were kept anonymous and absolute professional secrecy was maintained. All inpatient case sheets of death due to Natural causes are considered. Brought dead, death on arrival and unnatural deaths were not included in this study.

The following socio demographic and clinical data was collected from the case sheets.

- IP Number
- Age, Sex, Marital status, Locality, Personnel habits.
- Built, Type of diet, any associated co-morbid conditions present.
- Any specific treatment protocol followed.
- Duration of stay in hospital.
- Time of death(24 hrs)
- Cause of death

All the above data was collected from the hospital records and documented in the pre-structured pro-forma taken in to MS Excel spread sheet and statistically analyzed with MS excel software.

Results

The study was a cross sectional, retrospective and record based study conducted in a tertiary care teaching hospital Hyderabad, 100 case sheets of death due to natural causes were collected from MRD of hospital and the following information was observed.

Tabl 1: Socio demographic results of study population.

Socio - demographic details	Findings
Total study population	Males-61, Females-39.
Age wise distribution	<1yrs-13, 1 to 10 – 2, 11 to 20 yrs – 5. 21 to 30 yrs – 10, 31 to 50 yrs – 21. 50 to 70 yrs -35, More than 70 yrs – 14.
Locality of study group	Urban - 86, Rural – 14.
In relation to marriage	Married - 71, Un married - 29
Dietary habits	Vegetarian- 19, Mixed diet- 81
Built of study group	Thin – 25, Moderate – 65 Obese - 10
Personnel habits	No habits – 60 Smoking & Alcohol - 40 Drugs - Nil
Time of death	12am to 6am – 17, 6am to 12 noon – 23 12noon to 6pm – 22, 6pm to 12 am – 38.

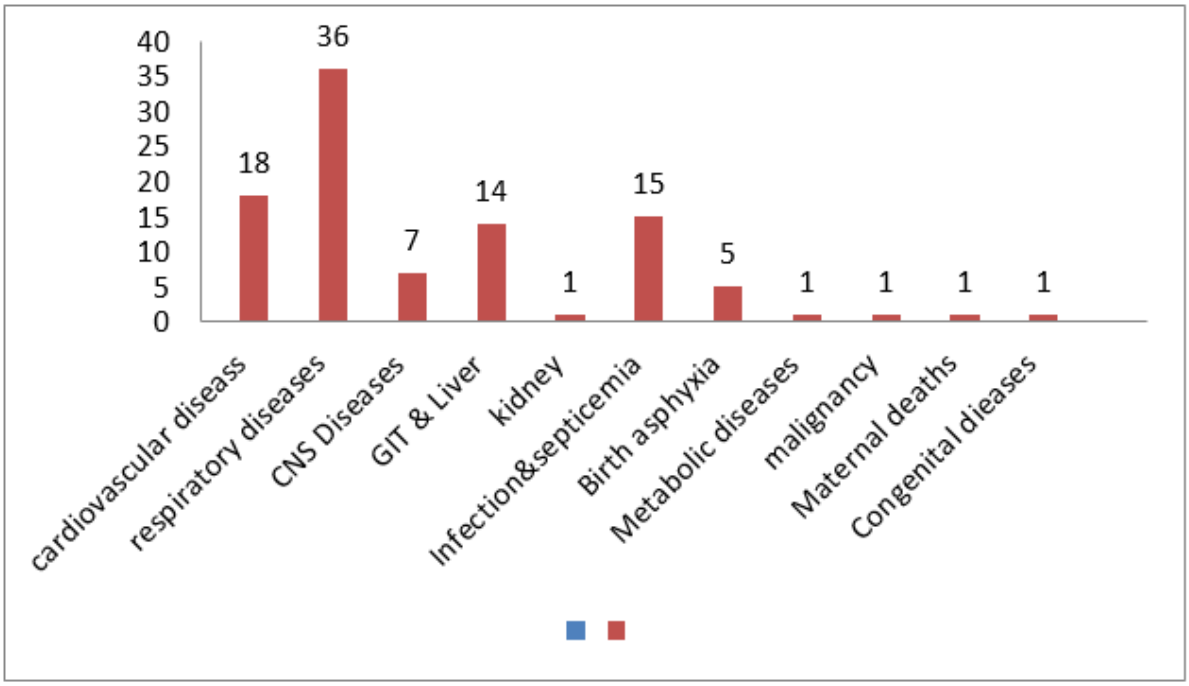

Figure 3: Causes of death in the study group.

Discussion

A retrospective record based study on socio demographic profile of natural deaths was conducted in a tertiary care teaching hospital in Hyderabad Telangana. We found the following results. Large percentage of deaths was observed in males than in females. Study revealed that 61% of males and 39% of females died due to natural causes of death in this demographic area.

The highest deaths were occurred in the urban area than in rural. 86% of deaths reported from urban locality and 14% from rural area, this is due to location of the hospital in the urban area; most of the patients were from the surrounding areas.

Age is the most common factor associated with death, as age increases the chances of survival decreases, our study results revealed that almost 50% of deaths reported in the age group of above 50 years. Highest number of deaths, 71% was observed in married group, whereas 29% observed in unmarried group. Based on the study majority are above 21 years and it is the age for marriage hence the number of deaths are more in married individuals.

Personal habits like smoking, alcohol and drug addiction contributes to the pathology to some extent, in our study 40% of death case sheets shows history of either smoking or alcohol. Smoking and alcohol are risk factors for cardiovascular and respiratory diseases.

Majority of deaths are reported in mixed dietary habit individuals, which is about 81% of the total deaths. Non vegetarian diet with sedentary life style may result to hypercholesterolemia and lead to cardio vascular diseases. We observed 65% of our study population have moderate built and 10% are obese. In relation to death rate and time of the death, we found highest number of deaths was reported in between 6pm to 12am midnight. A study conducted by Mitler et al, in 1987[6] revealed that majority of deaths occurred between 6am to 8 am; in our study second highest number of deaths was reported in the morning time.

Our study shows that most of the patients [49%] are died in first 24 to 48 hours of stay in the hospital. The highest number of deaths in the first 1 to 2 days was because of emergency admissions with critical illness. In our study 51% of study population was associated with co morbid conditions, out of which 32% of patients were suffered from diabetes and hypertension and 16% of patients with (COPD) chronic obstructive pulmonary disease. The most common causes of death reported in our study population was due to Respiratory diseases which was 36% of the total deaths, next common cause was due to cardio vascular diseases 18%. Infectious diseases and GIT Gastro intestinal including liver diseases contributes 3rd and 4th position, Infections and septicemia 15%, GIT and liver diseases are contributes to 14% whereas Central nervous system diseases are in 5th position, which contributes only 7%.

Respiratory diseases are predominant cause of death, 36% of deaths were reported in this hospital area because geographically the hospital is located in the industrial zone; among respiratory diseases Pneumonia contribute highest mortality due to predominant co morbidity of diabetes and COPD. Cardio vascular diseases are 2nd most common causes of death was reported in our study. In GIT and liver diseases, alcohol cirrhosis was the most common cause, 40% of patients in our study group are smokers and alcoholics, as alcohol consumption is usually very high in urban and industrial zone.13% of deaths were reported among the Infants less than 1year of age, the major cause of death in our study group was birth asphyxia. Congenital, metabolic and malignancy diseases contribute very less in this hospital area.

A prospective study of causes of death in rural Gadchiroli[7], conducted by Yogeshwar Kalkonde et, al and study reports of Institute for Health Metrics and Evaluation[8] done in 2019 shows that cardiovascular diseases are leading cause of death and respiratory diseases contribute 2nd most common causes of death both urban and in rural population of India, whereas in our study area respiratory diseases are leading cause of death.

Conclusion

Non communicable diseases are leading cause of death in our study. Top being Respiratory diseases, cardio vascular diseases are 2nd most common. Septicemia and Gastrointestinal diseases including liver diseases are3rd and 4th common causes of death are noticed. Central nervous system diseases are in the 5th position. Majority of the deaths are preventable, a better industrial hygienic environment and health care facilities in the hospital can reduce the mortality.

Conflict of interest: Nil

Ethical clearance: Institutional ethics committee permission was taken.

Source of funds: Self

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