Analysis of Hospital Deaths at Tertiary Care Teaching Hospital

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Abstract

Recording of Death and its causes constitute an important component of health information system. The study was conducted on 90 hospital deaths during the period of six months from July-December of 2017, at Great Eastern Medical School and Hospital. Males more than 60 years of age group were the major victims in our study. Improving primary health care facilities in rural areas may reduce the Mortality and Morbidity.

Key words:- *Sudden Death, Mortality, Morbidity.*

Introduction

Thanatology is a branch of science that deals with the study of death[1]. A good death is not a single event; it is a series of events. Death analysis gives the circumstances and cause of death of patient and steps to be taken for prevention of same [2].

India is undergoing rapid transition as a consequence of economical and social reforms[3]. Life expectancy at birth in India shows a continuous increasing trend from 23.63 years for male and 23.96 years for female in 1901 to 66.9 years for males and 70.0 years for females in 2011[4]. The pattern of diseases in developing countries is different than developed ones. In India about 40% of deaths are from infectious, parasitic and respiratory diseases as compared with 8% in developed countries[5.]

Death analysis determines the causes of major illness, quality of medical care provided to patients from analyzing the clinical records and hospital services[2]. The pattern of mortality is a key indicator of the consequent health scenario[3.]

Hospital based death records provide information regarding the causes of deaths, case fatality rates, age and sex distribution, which are of great importance in planning health care services[5] . Mortality pattern is poorly documented in rural areas lacking retention of up-to-date medical records[6]. In 19th and early 20th century communicable diseases dominated the health problems, in recent years non communicable diseases account for half of all deaths in developing countries. The main 4 killers of non communicable diseases are Cardio vascular diseases, Cancer, Diabetes and Chronic Lung Diseases [6.]

Material and Method

A retrospective study was conducted at Great Eastern Medical School and hospital Srikakulam, a referral, tertiary care teaching hospital. All deaths that occurred during 6 months period from July to December of the year 2017 were considered for this study. Total 9,436 cases were admitted and 90 deaths were recorded. Age, Gender, Place of residence, Date of admission, Date of death, Survival period, Socio economic status, Family history, Past history, Chronic diseases, Proper basic patient care like CPR,ECG, were done or not, Consent taken or not, MCCD form properly filled or not and cause of death were recorded in this study. Approval of institution ethics committee was obtained prior to the study.

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Table: 1 Social factors of hospital deaths

Age >60	37.77%

Male	61.11%
Hindu	94.44%
Rural	88.88%
Low socio economic	84.44%
Married	68.88%
Uneducated	72.22%

Table: 2 Age of patients in hospital deaths

S.No	Age	No of Deaths	%
1	0-10	12	13.33%
2	11-20	3	3.33%
3	21-30	7	7.77%
4	31-40	6	6.66%
5	41-50	13	14.44%
6	51-60	15	16.66%
7	>60	34	37.77%

Table: 3 Time of Deaths

S.No	Time	No of Deaths	%
1	8AM -12PM	26	28.88
2	1PM – 8PM	36	40.00
3	9PM - 12AM	9	10.00
4	1AM – 7AM	19	21.11

Table: 4 Period of survival of patients in hospital deaths

S.No	Time Period	No of Deaths	%
1	<24hrs	34	37.77
2	1-3 days	27	30.00
3	>3-<5 days	8	8.88
4	>5-<10 days	7	7.77
5	>10-<15 days	6	6.66
6	>15-<20 days	2	2.22
7	>20 days	6	6.66

Table 5: Type of system involved in Hospital deaths

S.No	System	No of Deaths
1	Respiratory	26
2	Cardiovascular	21
3	Central nervous	14
4	Gastro intestinal	8
5	Renal	7
6	Hematological	3
7	Endocrine	2
8	Multiple systems	9
9	Total	90

Table 6: List of major causes of death in hospital deaths

S. no	Cause of death	No of deaths
1	Myocardial Infarction	8
2	Acute Respiratory Distress Syndrome	8
3	Pneumonia	7
4	Sepsis	7
5	Encephalopathy	6
6	Renal Failure	6

Observations & Discussion

Deaths were more common in the age group > 60 years (37.77%) followed by 41-60 years (31.11%). This study correlates with M M kauser et al[5,] V M holamble[7.] Lowest percentage of hospital deaths were recorded in the age group 11-20 years (3.33%). More deaths after 60 yrs can be explained by the pathological basis of disease, and decreased immunity in old age to infections.

More number of male deaths were recorded (61.11%) than female deaths (38.88%). This study correlates with M M kauser et al[5.] This can be explained by more attention towards the health of male by family members. Deaths in Hindu religion (94.44%) can be explained by the more people belonging to Hindu religion in this area.

The highest numbers of Hospital deaths were in people belonging to rural area (88.88%) than urban area (11.11%). This may be because of location of the hospital is in rural area and serving more rural population. People from rural area are poor and referred from all types of medical centers like PHC, CHC, to medical college hospital in terminal stages of illness. People from urban area may have medical care from private sector. This study correlates with M M kauser et al[5] , V M holamble[7.]

More deaths were recorded in uneducated people (72.22%) than in educated people. This may be due to lack of knowledge on health in uneducated people in rural areas. In people with low socioeconomic status (84.44%) highest number of deaths was recorded followed by middle class people (11.11%). This may be due to poverty, poor people may be neglecting health and don't visit the hospital for screening and awareness programs. The highest number of deaths (n=62) were in married people than unmarried (n=28). More number of married people deaths can be explained by lower marriage age in rural areas.

People admitted with one of the chronic diseases (42.22%) were suffering from Hypertension, Diabetes, Thyroid, Carcinoma, which are prone to develop complications and early death. Past history of suffering from similar disease or other chronic disease was found in (27.77%) patients. In 5.55% of patients, family history of same disease was present. The patients who have not gone through any previous treatment or any screening procedures died more (62.22%), when compared with patients taking treatment (37.77%). The patients who are under treatment may take care of their health, there by prolonging the life. A positive history of alcohol and smoking was present in 22.22% of patients.

Highest numbers of deaths were recorded during day time (68.88%) than night time (31.11%). More number of deaths were recorded in people admitted in day time (72.21%) than night time (27.77%).

Deaths with in 24 hrs of hospital admission were more (n=34) in this study, implying the importance of screening procedures in rural villages of this district to prevent sudden deaths. Death is said to be sudden or unexpected when a person not known to have been suffering from any dangerous disease, injury or poisoning is found dead or dies within 24 hours after the onset of terminal illness[8] . The incidence is approximately 10 percent of all deaths[8] ,which contrasts with our study (37.77%).

Diseases of Respiratory System killed more number of patients (n=26) followed by Cardio Vascular System (n=21), Central Nervous System (n=14), Gastro Intestinal System (n=8), Renal System (n=7), Hematology (n=3), Endocrine (n=2), and Multiple Systems (n=9). This study correlates with c.palaivel et al [9]contrasts with yogeshwar V. kalkonde et.al [10] where stroke is the leading cause of death in rural people.

Myocardial Infarction and acute respiratory distress syndrome were the major immediate causes of death. This study correlates with c.palaivel et .al[9] contrasts with yogeshwar V. kalkonde et.al [10] where stroke is the leading cause of death in rural people.

In 75.55% of cases CPR was done and flat ECG was obtained in 81.11% cases and detailed consent was taken in 65.55% cases. MCCD forms were filled in 100% of cases.

Manner of death in 96.66 % of cases was natural and in 3.33% accidental.

Cadaveric organ donation was not done in this part of state even though 28 patients died below 40 yrs of age group in this study, due to lack of awareness.

In 18 cases, in MCCD forms immediate cause of death was written as cardio respiratory arrest. It shows the doctors are not well trained in MCCD form filling.

Conclusions

1.   Deaths were more common in males aged more than 60 years.

2. Most of deaths occurred in rural, uneducated, low socio economic group people.

3. Respiratory diseases followed by Cardio vascular diseases accounted for highest number of deaths.

4. Acute respiratory distress syndrome and Myocardial infarction are the major immediate cause of deaths in respiratory and cardio vascular diseases respectively.

5. Diabetes and Hypertension were the common co morbid conditions observed in this study.

6. Significant number of deaths in young (n=15) people indicates importance of preventive measures like vaccines, screening methods etc.

7. Medical services were not available /used by most of the people before reaching this hospital.

8. More than one third of deaths (n=34) were sudden deaths i.e. <24 hrs of survival period after starting of the symptoms.

9. Most of deaths were natural deaths.

Suggestions and Recommendations

1. Higher mortality among males in rural areas will retard economic growth rates. So there should be strong health policy for preventive as well as curative health services.

2. Government should initiate better health awareness campaigns for healthy life styles, environment modifications, and safety measures in rural people.

3. Airway management, fluid resuscitation along with screening procedures for respiratory and cardiovascular diseases are the early contributors to prevent sudden deaths in hospitals.

4. Continuous evaluation in hospital records provides stimulation for improvement of clinical services, professional education, hospital administration and better patient care.

5. First three days after admission is better period which needs proper medical attention to avoid preventable deaths.

6. As hypertension and diabetes are the risk factor for Myocardial Infarction, screening and treatment of patients with hypertension and diabetes in rural areas reduces Myocardial Infarction mortality.

7. Delay in diagnosis and immediate treatment, and decision to transfer to higher centre may be the factors for deaths in rural area. Government should provide proper transport and should improve health facilities in rural area.

8. Late admissions, poor maintenance of health due to poor socioeconomic status may come under contributory negligence. Government should provide health workers in rural area to screen the people and avoid the late admissions.

9. Organ donation awareness programs should be conducted to improve organ donations in rural areas.

Ethical Clearance: Taken from Ethical committee, Great Eastern Medical College.

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