
SHORT COMMUNICATION**Mortality Pattern in Hospitalized Patients in a Tertiary Care Centre of Latur***Holambe V. M.^{1*}, Thakur N. A.¹**¹Department of Preventive and Social Medicine, Government Medical College,
Latur - 413512 (Maharashtra) India.***Abstract:**

Background: Records of vital events like death constitute an important component of the Health Information System. Cause-specific data on mortality form the core of any health planning strategy. *Aims and Objectives:* The objective of the study was to study the cause specific mortality data of Government Medical College, Latur. *Methodology:* A retrospective study was done with medical records of patients who died in Government Medical College, Latur. All non medicolegal deaths that occurred during 2007-2011 were considered for analysis. The cause of death was recorded as written on death certificate by certifying doctor. Data was summarized with percentage. *Results:* In the 5 years study period total of 2,089 non medicolegal deaths were recorded. Mortality rate per 1000 admissions was 20.54, 24.77, 27.72, 29.23 and 18.65 in 2007 to 2011 yearly. Major proportion of hospital deaths were in patients > 60 years followed by 16-45 years. Male deaths were more than the female deaths. Mortality from people in rural area was >65% per year except for the year 2008. Although the major cause of death was Septicemia, the combined proportion of deaths due to non-communicable diseases was far greater than that. The next leading cause was neonatal deaths. Mean duration of hospital stay per year was 2.9, 3.45, 4.16, 3.12, 3.03 days for the years 2007-2011. *Conclusions:* Both communicable and non communicable diseases are equally contributing in mortality.

Keywords: Cause of death, Mortality, Myocardial infarction, Septicaemia.

Introduction:

Records of vital events like death constitute an important component of the Health Information System [1]. Mortality data from hospitalized patients reflect the causes of major illnesses and

standard of care being provided [2]. Many parts of India are undergoing rapid epidemiological transition as a consequence of economic and social changes [3-5]. As these changes occur ongoing modification of the health system is required to ensure that the services provided address the main diseases suffered by the population [6]. The age, sex and cause-specific mortality rates by residence are important indicators which help monitoring the health trends in the population. Cause-specific data on the mortality form the core of any health planning strategy [7]. Main aim of the study was focused to study the cause specific mortality data and sociodemographic characteristics of non medico legal deaths occurring in the Government Medical College, Latur.

Methodology:

A retrospective study was done with medical records of patients who died in Government Medical College, Latur, Maharashtra. All case records of indoor patients after discharge or death except medicolegal deaths are submitted to medical record section that works under Community Medicine department of Government Medical College, Latur. All deaths that occurred during the 5 years period; i.e. 2007-2011, except medico legal deaths, were considered for analysis. Resident doctors posted in medical record section were given training in ICD 10 classification which was supervised by the in charge of medical record section. The cause of death was recorded as per ICD 10 guidelines. Data was summarized with percentage. Approval from institutional ethical committee was obtained prior to the study.

Results:

In the 5 years from 2007-2011, a total of 3409 deaths were registered in medical record sections of Government Medical College, Latur out of which 1320 were medico legal cases hence not included in the analysis. Thus the analysis was restricted to 2089 non medico legal deaths. Mortality rate per 1000 admissions was calculated. It was 20.54, 24.77, 27.72, 29.23 and 18.65

per 1000 admissions in 2007 to 2011 yearly. Major proportion of hospital deaths were in patients > 60 years followed by 16-45 years. The neonatal, infant as well as under five deaths were less in 2007 and 2008 as compared to 2010 and 2011. Nearly one third of the deaths were in > 60 years. Male deaths were more than the female deaths. Mortality from people in rural area was >65% yearly except for the year 2008. (Table 1)

Table 1: Sociodemographic Distribution of Deceased Patients

Variable	Year					Total
	2007	2008	2009	2010	2011	
Mortality Rate Per 1000 Admissions						
IPD	26052	25071	31019	30310	27183	1396353
Number of deaths	535	621	860	886	507	3409
Mortality rate	20.54	24.77	27.72	29.23	18.65	24.41
Age of Deceased						
Early neonate	01 (00.36)	11 (02.84)	59 (11.80)	109 (20.45)	51 (12.95)	231(11.06)
Late neonate	00 (00.00)	02 (00.52)	01 (00.20)	06 (1.13)	01 (00.25)	10(00.48)
Post neonate	08 (02.91)	14 (03.62)	10 (02.00)	18 (3.38)	20 (05.08)	70(03.35)
1-5 years	14 (05.10)	10 (02.58)	12 (02.40)	18 (3.38)	25 (06.35)	79(03.78)
6-15 years	22 (08.00)	14 (03.62)	17 (03.40)	21 (3.94)	30 (07.61)	104(04.98)
16-45 years	77 (28.00)	129 (33.33)	168 (33.60)	122 (22.89)	92 (23.35)	588(28.15)
46-60 years	52 (18.91)	89 (23.00)	92 (18.40)	78 (14.63)	56 (14.21)	367(17.57)
> 60 years	101 (36.72)	118 (30.49)	141(28.20)	161 (30.20)	119 (30.20)	640(30.60)
Total	275 (100.00)	387 (100.00)	500 (100.00)	533 (100.00)	394 (100.00)	2089 (100.00)
Sex						
Male	155 (56.36)	231 (59.69)	284 (56.80)	297 (55.72)	215 (54.57)	1182 (56.58)
Female	120 (43.64)	156 (40.31)	216 (43.20)	236 (44.28)	179 (45.43)	907(43.42)
Total	275 (100.00)	387 (100.00)	500 (100.00)	533 (100.00)	394 (100.00)	2089 (100.00)
Residence						
Rural	187 (68.00)	227 (58.66)	335 (67.00)	350 (65.67)	261 (66.24)	1360(65.10)
Urban	88 (32.00)	160 (41.34)	165 (33.00)	183 (33.33)	133 (33.76)	729(34.90)
Total	275 (100.00)	387 (100.00)	500 (100.00)	533 (100.00)	394 (100.00)	2089 (100.00)

Table 2: Cause of Death of Patients Admitted in GMC, Latur

Cause of death	2007	2008	2009	2010	2011	Total	%
Septicemia	38	62	63	74	62	299	14.31
IHD	35	35	46	38	41	195	09.34
Stroke	32	41	40	30	33	176	08.43
COPD	22	26	27	37	18	130	06.22
Tuberculosis	21	21	30	27	20	119	05.70
ARDS	14	38	49	47	25	173	08.28
Liver and its disorders	16	23	33	30	26	128	06.13
Diabetes & its complications	08	08	08	03	04	031	01.48
Neonatal conditions	01	10	57	112	52	232	11.11
Maternal conditions	00	03	06	01	00	010	00.48
Pneumonia	09	24	16	29	27	105	05.03
CCF	08	24	21	25	12	090	04.31
Peritonitis	02	0	10	06	07	031	01.48
Asthma	04	03	04	02	03	016	00.76
Malignant hypertension	07	03	11	10	04	035	01.68
Convulsions	10	01	02	03	05	021	01.01
Renal failure	06	04	02	04	06	022	01.04
RHD	10	09	12	02	07	040	01.92
Meningitis	04	04	10	02	07	027	01.28
Cancer	06	08	03	07	05	029	01.39
Others*	22	34	50	44	30	180	08.62
Total	275	387	500	533	394	2089	100%

*Others included encephalitis, tetanus, hydrophobia, etc

Although the major cause of death was Septicemia, the combined proportion of deaths due to non-communicable disease (IHD, stroke, HTN, Cancer and CCF) was far greater than that. The next leading cause was neonatal deaths (Table 2).

Mean duration of hospital stay yearly was 2.9, 3.45, 4.16, 3.12, 3.03 days for the years 2007-2011. (Fig 1)

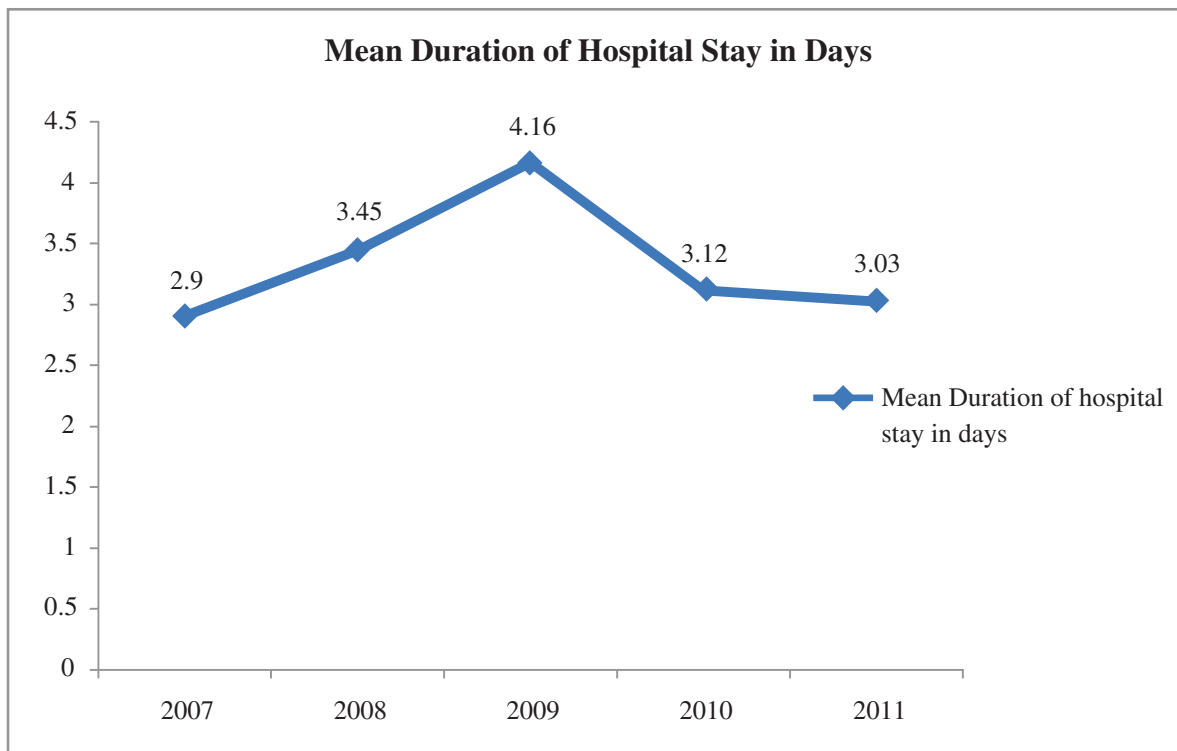


Fig. 1: Mean Duration of Hospital Stay of Patients Admitted in GMC, Latur Before Death

Discussion:

In the present study, mortality rate increased gradually from 20.54 to 29.23 per 1000 admissions except for the last year (18.65 per 1000 admissions). Godale *et al* [8] observed that mortality trend was linear for the five year study period. A similar finding was reported by Joshi *et al* [9]

Consistently the rural deaths were more than the urban deaths. This may be because people from rural area are usually poor and referred from PHC/RH to Medical College in terminal stage of illness; also people from urban area might be accessing medical care from private practitioners and might be late in referral. The male preponderance of deaths has been documented in various hospital-based studies as well [8-11].

In the present study, a major proportion of hospital deaths were in patients > 60 years followed by 16-45 years. Almost 30% of the deaths were recorded

in patients > 60 years unlike Godale *et al* [8] and Bhatia *et al* [10], who observed approximately 20% of the deaths in same age group. Proportion of pediatric deaths gradually increased from 2007 to 2011 (16.37% to 32.24%). Bhatia *et al* [10] reported 22.2% deaths in pediatric age group. More than half of the deaths were in 16-60 years age group. Similar findings were observed by Godale *et al* [8] and Bhatia *et al* [10]. Although the most leading cause of death was Septicemia, the combined proportion of deaths due to non-communicable disease (IHD, stroke, HTN, Cancer and CCF) was far greater than that. Communicable diseases are still a big burden in our part of the world because of the poor hygiene and sanitary conditions throughout the country and lack of awareness and infection control in lower middle and low socioeconomic classes.

The next leading cause of death in present study was neonatal deaths. Highest neonatal mortality was found by some authors [12, 13]. Proportion of deaths due to NCDs is gradually declining in present study. This may be because of increased awareness, early diagnosis and prompt treatment. Though, the proportion is higher than other diseases. Chronic non-communicable diseases are assuming increasing importance among the adult populations in both developed and developing countries. They are the leading causes of deaths and there is an upward trend of non-communicable diseases due to many reasons such as change in lifestyle and behaviour [14].

Limitations:

Being a hospital based study; deaths reported from the hospital were medically certified and hence included. Latur being a teaching hospital, it is very often resident doctors who assign the cause of death and these residents change every year. So interpersonal variations in perceived cause could be there which can produce bias.

Conclusions:

Both communicable and non communicable diseases are equally contributing in mortality in hospital deaths occurring in GMC, Latur during 2007-2011.

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