Original Research Article

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20193440

Mortality pattern in a tertiary care teaching hospital in North Karnataka, India

Gowri Shankar¹*, Eshwar B. Kalburgi²

¹Department of Community Medicine, S.N. Medical College, ²Department of Surgery, Hangal Sri Kumareshwar Hospital and Research Centre, Navanagar, Bagalkot, Karnataka, India

Received: 16 May 2019 Revised: 07 July 2019 Accepted: 08 July 2019

*Correspondence: Dr. Gowri Shankar,

E-mail: drgowrijnmc@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: India is undergoing rapid epidemiological transition due to economic and social change. The pattern of mortality is a key indicator of the long term health effects. Mortality data indicates the health of the population under study. Hence this study was done to know the socio demographic profile and mortality pattern of all deaths in a tertiary care teaching hospital in North Karnataka, India.

Methods: A one year retrospective study of all deaths in Hangal Sri Kumareshwar Hospital and Research Center, Navanagar, Bagalkot, Karnataka State, India was done of the year 2017, after ethical clearance and Institutional Review Board. The case records of all deaths from Medical Record Department were analyzed for socio demographic profile and mortality pattern. The deaths had been classified according to International Classification of Diseases-10th revision. Data was analyzed using percentages and chi-square test.

Results: Out of 357 deaths in the year 2017, 214 (59.94%) were males and 143 (40.06%) were females. Maximum deaths were between 15 to 60 years of age contributing to 43.14% of the total followed by deaths in more than 60 years of age (35.29%). Non-communicable diseases contributed to 70.03% of the total deaths.

Conclusions: Non communicable diseases are on the rise in the urban and rural communities of the study area. Preventive care is the need of the hour and it can be achieved through health education and screening of the high risk population.

Keywords: Mortality pattern, Tertiary care hospital, Non-communicable diseases

INTRODUCTION

Mortality data can be used to explain trends and differentiate in overall mortality, indicating priorities for health action and to allocate resources to design intervention programs and to access and monitor National Health problems and programs.

1

India is undergoing rapid epidemiological transition due to economic and social change. The pattern of mortality is a key indicator of the long term health effects. Mortality data indicates the health of the population under study.²

Mortality data from hospitalized patients gives the causes of major illness and care seeking behavior of the community. It is an important component of the Health Information System.³

The Medical Records Department in a teaching hospital has a system of compilation and retention of records. The

procurement of meaningful statistics from these records for health care planning and review is lacking. Hospital based death records gives information about age and sex distribution of mortality and the causes of deaths which is important to plan emergency health care services in a tertiary care teaching hospital.⁴

Hence this study was done to know the socio demographic profile and mortality pattern of all deaths in a tertiary care teaching hospital in North Karnataka, India.

METHODS

A one year retrospective study of all deaths in Hangal Sri Kumareshwar Hospital and Research Center, Navanagar, Bagalkot, Karnataka State, India was done of the year 2017, after ethical clearance and Institutional Review Board. The case records of all deaths from Medical Record Department were analyzed for socio demographic

profile and mortality pattern. The deaths had been classified according to International Classification of Diseases-10th revision. Data was analyzed using percentages and chi-square test.

RESULTS

Out of 357 deaths in the year 2017 in Hangal Sri Kumareshwar Hospital and Research Center, Navanagar, Bagalkot, 214 (59.94%) were males and 143 (40.06%) were females.

Majority of the deaths (76.19%) were of residents from Bagalkot district and the remaining was from neighboring districts of Bagalkot. It was observed that 243 (68.07%) were from rural areas and 114 (31.93%) were from urban areas of the districts (p=0.378) (Table1).

Table 1: Distribution according to area of residence.

Area	Male	%	Female	%	Total	%
Rural	147	68.69	96	67.13	243	68.07
Urban	67	31.31	47	32.87	114	31.93
Total	214	100	143	100	357	100

DF=1; χ^2 =0.095; p=0.378.

Table 2: Distribution according to age of death.

Age	Male	%	Female	%	Total	%
Early neonate <7 days	35	16.36	7	4.9	42	11.76
Late neonate 8-28 days	2	0.93	5	3.5	7	1.96
Post neonate 29 days to 1 year	3	1.4	3	2.1	6	1.68
1-5 years	5	2.34	7	4.9	12	3.36
6-15 years	5	2.34	5	3.5	10	2.8
16-60 years	92	42.99	62	43.36	54	43.14
>61 years	72	33.64	54	37.76	126	35.29
Total	214	100	143	100	357	100

DF=6; χ^2 =15.18; p=0.018.

Table 3: Distribution of deaths according to the department.

Department	Male	%	Female	%	Total	0/0
Medicine	105	49.1	67	46.85	172	48.18
Neurology	21	9.81	18	12.59	39	10.92
Surgery	17	7.94	17	11.89	34	9.52
Neurosurgery	12	5.61	3	2.11	15	4.2
Orthopedics	2	0.93	2	1.41	4	1.12
NICU	38	17.76	14	9.79	52	14.56
OBG	0	0	9	6.29	9	2.52
Gastroenterology	5	2.34	2	1.41	7	1.96.
PICU	12	5.61	11	7.69	23	6.44
Respiratory Medicine	1	0.47	0	0	1	0.28
Urology	1	0.47	0	0	1	0.28
Total	214	100	143	100	357	100

DF=10; χ^2 =24.27; p=0.0069.

Table 4: Distribution of deaths according to communicable disease.

Communicable disease	Male	%	Female	%	Total	%
Infectious and parasitic disease	20	9.35	18	12.59	38	10.64
Inflammatory disorders of CNS	7	3.27	7	4.9	14	3.92
Respiratory tract infections	17	7.94	15	10.49	32	8.96
Infections of skin and subcutaneous tissue	9	4.21	6	4.19	15	4.2
Infections specific to perinatal period	5	2.34	3	2.1	8	2.24
Total	58	27.1	49	34.27	107	29.97
Non communicable disease						
Neoplasm's	8	3.74	9	6.29	17	4.76
Cardio vascular disease	29	13.55	19	13.29	48	13.44
Conditions in perinatal period	30	14.02	6	4.19	36	10.08
Digestive system	18	8.41	3	2.1	21	5.88
Congenital malformation	4	1.87	2	1.4	6	1.68
Respiratory system	17	7.94	0	0	17	4.76
Genitourinary system	7	3.27	7	4.89	14	3.92
Pregnancy, childbirth and puerperium	0	0	11	7.69	11	3.08
Diabetes	21	9.81	13	9.09	34	9.52
Others	15	7.01	8	5.59	23	6.44
Burns	1	0.47	12	8.39	13	3.64
OP poisoning	6	2.8	4	2.8	10	2.8
Total	156	72.9	94	65.73	250	70.03

CD: DF=4; χ^2 =0.5773; p=0.965; NCD: DF=11; χ^2 =59.53; p≤0.0000001.

Maximum deaths were between 15 to 60 years of age contributing to 43.14% of the total followed by deaths in more than 60 years of age (35.29%) (p=0.018) (Table 2).

Majority of deaths (48.18%) were in Medicine ward followed by 14.56% deaths in NICU ward (p=0.0069) (Table 3). Non-communicable diseases contributed to 70.03% of the total deaths (Table 4). Cardio vascular disease contributed to 13.44% of the total deaths. (p \leq 0.0000001) Burn injuries were responsible for 8.39% of female deaths. Communicable diseases were the cause for 29.97% of total deaths (p=0.965).

DISCUSSION

In the present one year study, male deaths were more than female deaths and this finding was similar to other studies. ^{2,4-6}

Majority of the deaths (68.07%) were of residents from rural areas and this finding is in contrast to another study where mortality was more in residents from urban areas. This finding could be attributed to non- availability of appropriate health care services in the rural areas of the study. Upgrading of health care facilities is the need of the hour along with adequate and skilled human resources to manage the emergency condition for quality care and increased survival rate.

Majority of deaths (43.14%) were between 15 to 60 years of age and was found to be significant. Infant deaths contributed to 15.40% of the total. These findings are similar to a study done in North east Ethiopia where two

thirds of mortalities were among patients aged 15 years or older. The proportional mortality rate between 15 to 60 years is higher in our study compared to a study done in Maharashtra where it was in the range of 29.94 to 34%. Early screening for Non Communicable diseases in the rural areas needs to be done regularly according to the National Program, for effective health promotion and reduction of untimely deaths due to complication before 60 years of age.

Maximum number of deaths (48.18%) was noted in Medicine ward and is significant. This finding was similar to the study done in North East Ethiopia. 6

Non communicable diseases contributed to 70.03% of the total deaths. This finding is similar to another study. ⁴ In a study done in Nigeria, most deaths were attributable to Communicable diseases. ⁷ Cardiovascular diseases were responsible for 13.44% of the total which is significant. This finding indicates the epidemiological transition in this study area and suggests comprehensive community based action and to set priorities in the rural areas of the districts for public health interventions.

Maternal deaths contributed to 3.08% of the total deaths. Atonic post-partum hemorrhage was the leading cause and responsible for 36.37% of maternal deaths. Septic abortion and severe pregnancy induced hypertension caused 18.18% of maternal deaths each. Ante partum hemorrhage, cerebral vein thrombosis and puerperal sepsis contributed to 9.09% each. This finding is similar to a study done in Odisha. The community has to be made aware of the availability of health institutions to

prevent maternal deaths in future and they should take timely decisions to reach tertiary care hospitals where blood bank is available to save each precious life of a family.

CONCLUSION

Non communicable diseases are on the rise in the urban and rural communities of the study area and responsible for majority of the deaths. Preventive care is the need of the hour and it can be achieved through health education and screening of the high risk population.

ACKNOWLEDGEMENTS

The author acknowledges the Dean of S.N. Medical College, Navanagar, Bagalkot and the Medical Record Department Staff for their co-operation in providing the data for the study.

Funding: No funding sources Conflict of interest: None declared

Ethical approval: The study was approved by the

Institutional Ethics Committee

REFERENCES

- 1. Celine TM. A study on childhood deaths at a tertiary care level in Ernakulam district. Ann Med Health Sci Res. 2013;3:407-11.
- 2. Khare N, Gupta G, Gupta SK, Khare S. Mortality trend in a tertiary care hospital of Bhopal, Madhya Pradesh. Ntl J Community Med. 2015;7(1): 64-7.

- Kauser MM, Kinnera S, Korapolu J, Kalyanan SN, Parameshwarappa KG, Afreen A. Study of mortality pattern in adults at a tertiary care teaching hospital in South India. Research & Reviews: J Med Health Sci. 2014;3(4):145-9.
- 4. Godale L, Mulaye S. Mortality trend and pattern in tertiary care hospital of Solapur in Maharashtra. Indian J Community Med. 2013;38(1):49-52.
- Shankar G, Sidenur B. A retrospective study of mortality in a tertiary care teaching hospital in Bagalkot, Karnataka, India. Indian J Forensic Community Med. 2017;4(2):101-5.
- 6. Abejew AA, Tamir SA, Kerie MW. Retrospective analysis of mortalities in a tertiary care hospital in North East Ethiopia. BMC Research Notes. 2014;7:46.
- 7. Preacely N, Biya O, Gidado S, Ayanleko H, Kedo M, Akhimien, et al. Hospital based mortality in Federal capital territory hospital- Nigeria 2005-2008. Pan African Med J. 2012;11:66.
- 8. Paul B, Mohapatra B, Kar K. Maternal deaths in a tertiary health care centre of Odisha: An in depth study supplemented by verbal autopsy. Indian J Community Med. 2011;3(3):213-6.

Cite this article as: Shankar G, Kalburgi EB. Mortality pattern in a tertiary care teaching hospital in North Karnataka, India. Int J Community Med Public Health 2019;6:3280-3.