STUDY OF MORBIDITY PATTERN AND UTILISATION OF HEALTH SERVICES IN A SUB-CENTRE AREA IN UDUPI TALUK

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Abstract

Background: India is undergoing a rapid health transition with the rising burden of both communicable and non-communicable diseases. Although disease patterns change constantly, infectious diseases remain the leading cause of morbidity and mortality in rural India, through non-communicable conditions are on the rise. This study discusses the morbidity pattern and utilisation of health services in a Sub-Centre area in Udupi Taluk. **Materials and Methods:** A community-based cross-sectional study was conducted in the Alevoor Sub-Centre of Manipura Primary Health Centre of Udupi taluk from September 2012 to October 2014. Institutional Ethics Committee, Kasturba Hospital approved all family members residing in the Sub-Centre area and the proposal. A list of Sub-Centres within the field practice area was made. Alevoor Sub-centre was chosen by random pick method. **Result:** Among the morbidities reported, 20.4% of the population had eye and adnexa diseases, while 16.1% had musculoskeletal and connective tissue problems. 15.7% of the population had diseases of the respiratory system. 99.7% of the reported hypertensives had availed of treatment for hypertension. 47.4% of patients with Disease of the Bones and joints. Among the patients with Diabetes Mellitus, 44.3% were satisfied with treatment services. Most (38.4%) of women sought ANC care from Government hospitals, followed by private hospitals (23.6%). Most major acute illnesses sought treatment from private secondary/tertiary hospitals. **Conclusion:** This study concludes that insights into the need to galvanise the public health sector by making it more comprehensive, appropriate, adequate, accessible, affordable and available for better utilisation.

INTRODUCTION

World Health Organization defines health as "a state of complete physical, mental and social well-being and not merely an absence of disease or infirmity". Mortality and morbidity are two primary aspects generally used to measure the health status of a population. Indicators like infant mortality, life expectancy etc., more comprehensively correlated to the definition of health, are used to measure health status. Unlike mortality, morbidity is a subjective phenomenon expected to describe the suffering of various disabilities and illnesses in a population. Yet mortality is mainly used to evaluate the population's health status since it is comparatively simple to analyse and readily available data. Still, morbidity, a state of ill health, has been increasingly considered measurable, potentially replacing mortality rates as indices of social and personal well-being. The advantage of morbidity is that it can be measured cost-effectively since it is a relatively frequent phenomenon than death or infant mortality.[1,2]

India is undergoing a rapid health transition with the rising burden of both communicable and non-communicable diseases. Although disease patterns change constantly, infectious diseases remain the leading cause of morbidity and mortality in rural India, and non-communicable diseases are rising.[3]

The study of health transition in India has occupied centre stage in the ongoing debate on the relationship between mortality and morbidity. Life expectancy has increased considerably in the past few decades, but part of the expected life is also hindered due to morbidity. There is concern among researchers and health policy planners in India

673

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whether the disease burden due to morbidity follows the secular trend of mortality.[4]

The majority of rural diseases and deaths, which are preventable, are due to infectious, parasitic and respiratory diseases. Three groups of infections are widespread in rural areas, as follows: Diseases that are carried in the gastrointestinal tract, such as diarrhoea, amoebiasis, typhoid fever, infectious hepatitis and worm infestations. Diseases had in the air through coughing, sneezing or even breathing, such as measles, tuberculosis (TB), whooping cough and pneumonia. Infections, which are more challenging to deal with, include malaria, filariasis and kala-azar.[5]

Recent data regarding morbidity patterns from rural India are sparse. Those that exist are limited to selected locations or risk factors and do not allow systematic examination of nationally representative socio-demographic patterns. Knowing the socio-demographic ways of various diseases across rural India is essential for predicting the future course of the epidemic and planning relevant policies for prevention and disease control. It may also provide new etiological insights through their juxtaposition to known variations in disease patterns. An important step in understanding the health status of a given population, and the factors that improve or harm health, is to document morbidity and mortality patterns. These trends, after all, reflect important elements that affect health and can lead to specific interventions which may modify this pattern.[6]

The international Classification of Diseases (ICD) coding is one of the reliable methods for analysing and comparing epidemiological data between countries, parts of a country, levels of health care systems and different periods.[7]

Aim

To study the morbidity pattern and health services utilisation in a Sub-Centre area in Udupi Taluk.

MATERIALS AND METHODS

A community-based cross-sectional study was conducted in the Alevoor Sub-Centre of Manipura Primary Health Centre of Udupi taluk from September 2012 to October 2014.

Institutional Ethics Committee, Kasturba Hospital approved all family members residing in the Sub-Centre area and the proposal.

Inclusion Criteria

All households coming under the sub-Centre area and Families who are permanent residents of the study area or have resided at least for the past year.

Exclusion Criteria

Family or households who are not willing to participate in the study and Houses which are locked/ subjects not present at home even after 3rd visit.

A list of Sub-Centres within the field practice area was made. Alevoor Sub-centre was chosen by random pick method.

A house-to-house visit was made by the investigator along with the ANM in the entire Sub-Centre area. During the home visit, the purpose of the visit was explained to the family members, and informed consent was taken from the head of the household/responsible person at home. Whenever possible, the history was elicited personally from the adults. Otherwise, a responsible household member was asked for the details of those individuals whose history could not be elicited personally. In the case of children, efforts were made to get the record from the mother. The father or other caregivers were contacted for the history if the mother was unavailable. Details/information regarding socio-demographic variables, major illness suffered during the last 1-year, minor illness over the previous three months and any chronic illness sustained. Duration of the disease and its treatment advised, and its adherence was collected in detail along with the utilisation pattern of health care services during the illness. In addition, details regarding ante-natal and postpartum services availed were taken. In case of a locked house or no adult person present at home during the visit, 2nd and 3rd visit was made before declaring them as non-respondents. Any illness identified during the home visit, if not availed, treatment was referred to the RMCW and managed appropriately.

The collected data were tabulated and analysed using the SPSS (Statistical Package for Social Sciences) version 15 for windows. Findings were described in proportions, and Pearson's chi-square test was used to test associations.

RESULTS

Among the morbidities reported, 20.4% of the population had eye and adnexa diseases, while 16.1% had musculoskeletal and connective tissue problems. In addition, 15.7% of the population had infections in the respiratory system.

Table 1: Distribution of Morbidities based on ICD-10 classification

Diseases	Male (%) N=2569	Female (%) N=2462	Total (%) N=5031
Certain infectious and Parasitic Diseases	104 (4.0)	95 (3.9)	199 (4.0)
Neoplasms	2 (0.1)	12 (0.5)	14 (0.3)
Diseases of blood and blood-forming organs and certain disorders involving the immune	8 (0.3)	12 (0.5)	20 (0.4)

mechanics			
Endocrine, nutritional and metabolic diseases	129 (5.0)	75 (3.0)	204 (4.0)
Mental and behavioural disorders	26 (1.0)	30 (1.2)	56 (1.1)
Diseases of the nervous system	31 (1.2)	58 (2.4)	89 (1.8)
Diseases of the eye and adnexa	487 (19.0)	538 (21.9)	1025 (20.4)
Diseases of the ear and mastoid process	23 (0.9)	25 (1.0)	48 (1.0)
Diseases of the circulatory system	209 (8.1)	254 (10.3)	463 (9.2)
Diseases of the respiratory system	378 (14.7)	411 (16.7)	789 (15.7)
Diseases of the digestive system	223 (8.7)	255 (10.4)	478 (9.5)
Diseases of the Musculo skeletal system and connective tissue	287 (11.2)	524 (21.3)	811 (16.1)
Diseases of the genitourinary system	27 (1.1)	44 (1.8)	71 (1.4)
Congenital malformations, deformations and chromosomal abnormalities	4 (0.2)	2 (0.1)	6 (0.1)
Injury, poisoning and certain other consequences of external causes	18 (0.7)	11 (0.4)	29 (0.6)
External causes of morbidity and mortality	2 (0.1)	1 (0.0)	3 (0.1)

Table 2: Healthcare facilities utilised by patients

HealthCare facility treatment taken	Hypertension N=342	Diabetes Mellitus N=185	Bronchial Asthma N=88	Heart Diseases N=72	Stroke N=28	A disease of Bones and Joints N=718
Kasturba Hospital	49 (14.3)	33 (17.8)	21 (23.9)	36 (50.0)	13 (46.4)	77 (10.7)
Dr TMA Pai Hospital Udupi/ RMCW	60 (17.5)	24 (13.0)	8 (9.1)	2 (2.8)	1 (3.6)	67 (9.3)
Udupi Govt. Hospital	17 (5.0)	8 (4.3)	8 (9.1)	2 (2.8)	4 (14.3)	58 (8.1)
Primary Health Centre	9 (2.6)	6 (3.2)	2 (2.3)	-	-	6 (0.8)
Registered Allopathic/ AYUSH private practitioner	160 (46.8)	82 (44.3)	44 (50.0)	10 (13.9)	4 (14.3)	340 (47.4)
Pvt. Nursing Home/Hospital/ SDM Hospital	41 (12.0)	31 (16.8)	5 (5.7)	22 (30.6)	6 (21.4)	68 (9.5)
Dispensary ESI, over the counter medicines and others/ANM or Health worker/ Home Remedies	6 (1.8)	1 (0.5)	-	-	-	102 (14.2)

Nearly 99.7% of the reported hypertensives had availed treatment for hypertension. On the other hand, nearly half, 47.4%, of patients with diseases of the Bones and joints preferred going to private practitioners' clinics for treatment services. Among the patients with Diabetes Mellitus, 44.3% availed of treatment services.

Table 3: Healthcare facilities utilised by patients

HealthCare facility treatment taken	Diseases of Kidney and Urinary system N=49	Liver Diseases N=18	Febrile Illness N=94	Acute Diarrheal Disease N=94	Anaemia N=27	Diseases of Skin N=31
Kasturba Hospital	13 (26.5)	4 (22.2)	5 (5.3)	4 (13.8)	3 (11.1)	3 (9.7)
Dr TMA Pai Hospital Udupi/RMCW	2 (4.1)	1 (5.6)	8 (8.5)	3 (10.3)	5 (18.5)	1 (3.2)
Udupi Govt. Hospital	5 (10.2)	3 (16.7)	17 (18.1)	2 (6.9)	8 (29.6)	8 (25.8)
Registered Allopathic/ AYUSH private practitioner	14 (28.6)	3 (16.7)	49 (52.1)	11 (37.9)	8 (29.6)	10 (32.3)
Pvt. Nursing Home/ Hospital/ SDM Hospital	13 (26.5)	7 (38.9)	4 (4.3)	7 (24.1)	1 (3.7)	5 (16.1)
Dispensary ESI, over the counter medicines and others/ANM or Health worker/ Home Remedies	2 (4.1)	-	11 (11.7)	2 (6.9)	2 (7.4)	4 (12.9)

Most patients with febrile illnesses went to registered private practitioners for treatment. 37.9% went to private practitioners for treatment. 58.6% of the people with diarrheal disease also went to private practitioners for treatment.

Table 4: Healthcare facilities utilised by patients

HealthCare facility treatment taken	Mental Disorders N=52	Malaria N=29	Thyroid Disorders N=23	Gynaecological Problems N=19	Accidents/Poisoning N=29
Kasturba Hospital	16 (30.8)	2 (6.9)	6 (26.1)	2 (10.5)	11 (37.9)
Dr TMA Pai Hospital Udupi/RMCW	1 (1.9)	2 (6.9)	3 (13.0)	1 (5.3)	3 (10.3)
Udupi Govt. Hospital	3 (5.8)	8 (27.6)	1 (4.3)	1 (5.3)	1 (3.4)

Registered Allopathic/ AYUSH private practitioner	18 (34.6)	7 (24.1)	8 (34.8)	7 (36.8)	1(3.4)
Pvt. Nursing Home/Hospital/ SDM Hospital	14 (26.9)	10 (34.5)	5 (21.7)	8 (42.1)	13 (44.8)

The majority, 30.4% of patients, went to a private practitioner for treatment. 34.5% with malaria went to private hospitals for treatment. 82.7% of the patients either went to a private hospital or Kasturba hospital for treatment.

Most (38.4%) of women sought ANC care from Government hospitals, followed by private hospitals (23.6%). Among the women who availed of ANC services, 81.7% had ANC visits of > 8.

There is no statistically significant difference between genders availing services of public and private health facilities except for diseases eye (excluding diminished vision, refractive error and cataract), which showed statistical significance (P-value of 0.014).

DISCUSSION

A community-based cross-sectional study by Gupta SK et al. to study the morbidity and mortality profile in the population of Hoshangabad District showed that the prevalence of goitre was 0.03% overall. Still, in rural respondents, it was 0.0%. The prevalence of leucorrhoea and dysmenorrhoea were 1.94% and 0.07%, but in rural respondents, it was 2.17% and 0.09%. The prevalence of burns was 0.03%, but in rural respondents, it was 0.04%. The prevalence of abscess, multiple boils, ulcers, soft tissue injury and breast lump were 0.03%, 0.64%, 0.17%, 0.23% and 0.03%, but in rural respondents it was 0.04%, 0.66%, 0.22%, 0.22% and 0.0%. Prevalence of leukoplakia and breast lump were 0.03% and 0.03%, but in rural respondents it was 0.0% and 0.0%.[8]

A multicentre multi-morbidity cohort study conducted by Schafer I et al. among those aged 65 years and above showed that the overall prevalence of thyroid disorder was 33.8%, in females was 43.5%, while in males was 19.6%. Non-inflammatory gynaecological problems were 2.0%, and in females was 3.4%. The overall prevalence of renal insufficiency and urinary tract calculi were 10.7% and 1.8%, respectively. In females, it was 7.1% and 1.3%, while in males, it was 15.8% and 2.6%.[9]

A Finnish population registry-based study (2007) conducted by Nihtila et al. among the elderly showed that the prevalence of Hip fracture and Accidents or violence were 1.0% and 4.0%, respectively, in females, while 0.5% and 3.5% in males.[10]

A study done in Karachi by Anjum A et al. had shown the prevalence of Endocrine, Nutritional and metabolic disease was 1.15% overall, in males was 1.16%, while in females, it was 1.14%.[11]

Ashok KT et al. conducted a cross-sectional study among older people to assess their needs. They found out that the prevalence of dental caries and oral carcinoma among the population was 3.9%, in males was 3.5%, while in females was 4.3%.[3]

The study conducted by Singh R et al. about the morbidity profile of women during pregnancy had 4.2% of women belonging to the age group 17-19 years, 70.1% belonging to age group 20-29 years, 15.7% of women belonging to ages 30-34 and 10% of women were above 35 years.[12]

Venkatachalam J et al. conducted a Cross-sectional study among 201 antenatal women about morbidity patterns and health-seeking behaviour among antenatal women in the coastal district (Villupuram) in Tamil Nadu, showed that about 63% of respondents had visited government health facilities for a routine antenatal check-up. In contrast, 37% visited Private health facilities for the same.[13]

Alguwaihes A et al. (2009), in a Study, showed that 85% of low educational level patients and 88% of high academic level patients had health insurance coverage, while 15% and 12% of the low and high educational level patients did not have health insurance coverage.[14]

In our study, most patients sought health services from private health care facilities. In the case of acute minor illness, the majority preferred private practitioners. However, most sought treatment from a private secondary/tertiary hospital for major acute illness.

CONCLUSION

Among the reported morbidities, the most common were diseases of the eye and adnexa, followed by diseases of the musculoskeletal system, connective tissue, and the respiratory system. On the other hand, chronic diseases like Hypertension, Diabetes and Coronary Artery Disease may be under-reported because they remain asymptomatic during the initial phase of the disease.

There were 4097 episodes of illness during the study period, for which 3752 (91.6%) episodes of study subjects utilised private health care facilities; among those who utilised private health care facilities, 26.9% belong to low and 67.9% from middle socio-economic status. This study finding provides insights into the need to galvanise the public health sector by making it more comprehensive, appropriate, adequate, accessible, affordable and available for better utilisation.

676

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