Morbidity Profile of Inpatients in a Secondary Care Center Run by Family Physicians

Kirubah Vasandhi David, Ruby Angeline Pricilla¹, Sajitha Parveen MF Rahman, Prince RH Christopher², Moses Kirubairaj Amos Jegaraj³, Rajaram Murugan⁴

Departments of Family Medicine, ¹Community Medicine, Low Cost Effective Care Unit, ²Department of Family Medicine, Staff and Students Health Service Unit, ³Department of Family Medicine, Ida Scudder Citizens Clinic, ⁴Department of Rural Unit for Health and Social Affairs, Christian Medical College, Vellore, Tamil Nadu, India

Abstract

Background: There is a scarcity of records of morbidity pattern in secondary care centers. Reliable morbidity data will help in proper allocation of human resources. Materials and Methods: A retrospective study of inpatient admission records of an urban secondary health center run by family physicians was done between April 2010 and March 2011. Results: Pneumonia and other respiratory illnesses (represented by ICD code J) was the most common diagnosis. This was followed by infectious and viral diseases, circulatory diseases like hypertension, ischemic heart disease and endocrine diseases like non-insulin dependent diabetes mellitus. Conclusion: Physicians working in secondary care centres need to be experts in managing respiratory diseases, viral diarrheal illnesses, hypertension, ischemic heart disease and diabetes mellitus and patients with co-morbidities. They also need to be able to manage common obstetrics and neonatal emergencies. As the discipline of family medicine specializes in management of common ailments and multiple co-morbidities with an attitude of patient centeredness, family physicians would be the best managers of such centers. Inclusion of family physicians as specialist in secondary care centers will help in covering the manpower shortage in such centers.

Keywords: Center, family physician, inpatient, morbidity

Introduction

Records of morbidity pattern in secondary or primary health center are scarce. Studying the morbidity pattern of admissions in a secondary care hospital will aid in appropriate allocation of human and material resources.

Secondary care hospitals play a very important role in providing acute and chronic care in common medical, pediatric, surgical, and obstetric ailment. In India, there are studies outlining causes of admissions in emergency units in tertiary care.¹ The clinical profile of admissions in units like neonatal intensive care units has also been reported.² However, the morbidity profile in a community health center where a broad based disease spectrum is treated has not been studied. The community health center (CHC) in India is defined as a 30-bedded secondary health care center catering to a population of 80,000 in tribal areas and 120,000 in the plains. The Indian Public Health Standards recommend that the CHC be staffed by specialists in internal medicine, obstetrics, pediatrics, surgery, and anesthesia.³ In 2011; 9,831 posts were sanctioned for these posts, but 6,935 of these posts are vacant.⁴ Vacancy of these posts resulted in suboptimal functioning of the CHC. There are no studies documenting the morbidity profile of admissions in these secondary healthcare centers which will aid in deciding whether specialists staffing is required or not.

We therefore felt the need to record the morbidity profile of admissions in a secondary healthcare center.

Materials and Methods

A retrospective study was done using data from inpatient admission records of an urban secondary health center between April 2010 and March 2011. The unit caters to…

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Address for correspondence: Dr. Kirubah Vasandhi David, Low Cost Effective Care Unit, Schell Eye Hospital Campus, Christian Medical College, Vellore - 632 001, Tamil Nadu, India. E-mail: kirubahc@gmail.com
As the unit is managed by family physicians, the morbidity managed is not restricted to particular specialty like surgery, general medicine, or pediatrics. Children, adults, and elderly are managed by all the physicians and referred if tertiary care was needed. The unit has daily outpatient services. In the year 2010-2011 a total of 54,131 patients were seen in the outpatient. The mean duration of hospital stay was 5.1 days and the mean bed occupancy rate was 62.7%.

We analyzed data of all consecutive admissions between 1st of April 2010 and 31st March 2011 from the ward admission books maintained by the ward clerk and secretary that is routinely checked by one of the family physicians. The discharge diagnosis is entered by the inpatient duty doctor. These diagnoses were retrospectively coded by two of the study authors, a family physician and a community physician. When there were comorbidities, all the diagnoses for that particular patient was coded using the International Classification of Diseases (ICD)-10 code. The collected data was recorded in Microsoft Access. The numbers of incomplete records were 35/2015 (1.7%), which were omitted. During this period there were 404 admissions in labor room with 235 deliveries which were not coded or included in the admissions. The variables recorded were age, sex, duration of stay, discharge diagnosis, whether patient was referred, or expired. Statistical analysis was done using Statistical Package for Social Sciences (SPSS) 17.0.

Results

A total of 2,015 patients were admitted to the ward during the 1 year period from April 2010 to March 2011. Their age and sex distribution was as follows [Table 1].

A considerable number of children of age 0-14 years (33.6%) were managed in the unit. Most of the patients (66.4%) were in the hospital for less than 5 days. Among the 2,015 admissions; there were 12 (0.6%) deaths and 74 (3.7%) patients needed referral to the tertiary unit for further management.

73.6% of the patients had a single diagnosis whereas 24.3% of the patients had two to three diagnoses, and 2% of the patients had more than three diagnoses. When patients had multiple diagnoses all the diagnosis was coded. The following bar graph illustrates the distribution of the morbidity of diagnosis based on the ICD codes [Figure 1].

The three most common disease categories (ICD code mentioned in brackets) managed in the unit were diseases of the respiratory system (J): 545; infectious, parasitic, and viral diseases (A and B): 482; and diseases of the circulatory system (I): 413. Pneumonia (J18.9) and acute lower respiratory infections (J22) was the most common diagnosis (249) made in the respiratory system. Acute viral gastroenteritis (A08.4) was the most common diagnosis (200) made under infectious and

| Age (years) | Male | Female | Total (%) |
|-------------|------|--------|-----------|
| 0-14        | 404  | 272    | 676 (33.6)|
| 15-29       | 52   | 299    | 351 (17.5)|
| 30-44       | 141  | 137    | 278 (13.7)|
| 45-59       | 183  | 200    | 383 (19.0)|
| 60-74       | 133  | 146    | 279 (13.8)|
| 75-89       | 20   | 28     | 48 (2.4) |
| Total       | 933 (46.3%) | 1,082 (53.6%) | 2,015 (100)|

Table 1: Age and sex distribution

Figure 1: Distribution of morbidity (the numerical total of all the columns will not add up to the total admissions mentioned above as some of the patients have more than one diagnoses)
viral diseases. A total of 514 (25.5%) children aged 5 years and below were managed during the observed study period. The common diagnoses for the children aged 5 years and below managed in the unit were pneumonia, viral gastroenteritis, and meningitis and skin infections. The most common disease of the endocrine system managed in the unit was diabetes mellitus 253/278 (91%). These included insulin dependent diabetes mellitus, noninsulin dependent diabetes mellitus and patients with diabetes related complications. The most common diagnosis for patient with disease of the circulatory system was essential hypertension 152/413(36.8%) followed by congestive cardiac failure 88/413 (21.3%).

Discussion

The results show that the most common morbidity in inpatients of this urban health center was respiratory infections and viral gastroenteritis. This trend in morbidity reflects the trend of causes of hospitalization in other developing countries like Bangladesh and Sri Lanka.[5,6] The leading cause of admission in children was disease of the respiratory system and viral gastrointestinal infections. As noticed in other developing countries, the dual burden of communicable and noncommunicable diseases was noted.[7] Thus a physician working in a secondary healthcare facility needs to be an expert in managing these common morbidities namely common viral infections, diarrheal illness, lower respiratory tract infections, essential hypertension, congestive cardiac failure, ischemic heart disease, and diabetes mellitus. The family physicians working in this unit were able to manage these morbidities with minimal referral (3.7%) and mortality (0.6%).

This study is limited by the fact that it was done in only one urban health center. If a morbidity analysis of admissions in several and community health centers is done, a total morbidity profile for a population group would be revealed. It would strengthen the case for staffing of CHCs with trained family physicians rather than specialists.

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