Disease Burden Assessment Beyond In-patient Data: A Morbidity Profile Assessment of Outpatients

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ABSTRACT

Background: Global disease burden estimates often lack real data on morbidities, especially from patients treated in Outpatient Department (OPD). In Sri Lanka, around 40 million visits are made annually to the OPDs in government hospitals and we conducted a preliminary study to assess the morbidity profile of these OPD patients.

Methods: Patients attending the OPD, in teaching hospital Peradeniya, Sri Lanka, was recruited into the study using systematic random sampling procedure. A self-administered, structured questionnaire was used to collect data. Investigators explained the study to patients and data collection was completed before seeing the physician. Self-reported presenting complain was used to analyze the morbidity profile of the patients.

Results: The study sample consisted of 1439 patients (male - 515, female - 924). The mean age of the study sample was 40 years (SD = 19 years). The mean age of the females were statistically significantly higher than that of the males (t = 4.03, P<0.001). Housewives constituted the major occupational group (52%) followed by students (15.9%). The most common presenting complaints reported were body aches and pains (15.6%), cough and cold (10.5%), and abdominal pain (8.5%). Leading cause of hospital visit among different demographic categories showed statistically significant variations.

Conclusions: The morbidity pattern observed in this patient population was not previously reported. OPD surveillance should be established to understand the changing pattern of minor ailments which might have a huge impact on health of the public.

Key words: Outpatient department, morbidity profile, Sri Lanka

INTRODUCTION

Reliable information on morbidity and mortality is the key for evidence-based public health practice. More emphasis on estimating burden of diseases was given at global level, especially since the launch of “Global burden of Disease study.” While
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The decision-making priorities of global health authorities are dependent on these projected data, developing countries often lack the local data for proper public health planning. Health professionals still fight to establish vital registration, while the morbidity surveillance is still in its initial stage. In countries where information is available, those are based on indoor hospital statistics. Data from ambulatory care services, primary healthcare centers, and outpatient departments (OPD) are often lacking. Economic impacts of the mild to moderate ill health conditions are considerable given the large number of patients utilizing these services. As an example, in Sri Lanka, more than 43 million visits are made to the OPDs in government hospitals annually.\(^1\) Given that the only 50% of outpatient care is delivered through public sector, the total outpatient visits are estimated to be more than 80 million, four times the Sri Lanka population of 20 million. Despite this heavy burden, information on OPD morbidities are not routinely collected and used in healthcare planning.

**METHODS**

As a preliminary study to assess the burden of disease and morbidity pattern in OPD, we conducted a rapid survey in a tertiary care hospital in Sri Lanka. Study sample consisted of OPD patients visiting teaching hospital Peradeniya, which is the teaching hospital for second largest medical school in Sri Lanka. Patients were recruited using systematic random sampling procedure. Three of the six authors physical presented at the OPD during the study period, explained the procedure to patients, and consented patients filled a self-administered short questionnaire. Assistance was given when necessary to fill the questionnaire. Data collection was completed before the patients were examined by the OPD physicians. A half-page questionnaire was used and the main problem which patients sort medical advice was inquired.

**RESULTS**

A total of 3817 patients attended OPD during the study period and 1908 were recruited as the study sample using the systematic sampling strategy. Of them, 1439 completed the questionnaire with a response rate of 75.4%. A significantly higher number of females (924, 64.2%) visited the OPD compared to males (515, 35.8%) (chi square for Table 1:

**Table 1:** Commonest presenting complaint by demographic characteristics among patients attending outpatient department of teaching hospital Peradeniya, Sri Lanka (n = 1439)

| Age                  | N   | Commonest Complaint | %   | 2nd Commonest Complaint | %   | 3rd Commonest Complaint | %   |
|----------------------|-----|---------------------|-----|------------------------|-----|-------------------------|-----|
| Children <11 yrs     | 75  | Cough               | 26.7| Fever                  | 17.3| Dog bite                | 16.0|
| Adolescents (11-19 yrs) | 174 | Skin conditions     | 13.2| Fever                  | 11.5| Cough                   | 10.3|
| Young adults (20-40) | 466 | Ab. pain            | 13.1| Cough                  | 10.7| Skin conditions         | 10.1|
| Middle age (40-64)   | 576 | Body aches          | 24.8| Backaches              | 10.6| Cough                   | 9.4 |
| Elderly (>64 yrs)    | 148 | Body aches          | 15.5| Fever                  | 12.8| Ab. Pain                | 8.8 |
| Sex                  |     |                     |     |                        |     |                         |     |
| Male                 | 515 | Body aches          | 11.8| Fever                  | 10.9| Ab. Pain                | 9.3 |
| Female               | 924 | Body aches          | 17.7| Cough                  | 11.7| Backache                | 8.7 |
| Ethnicity            |     |                     |     |                        |     |                         |     |
| Sinhalese            | 1189| Body aches          | 16.7| Cough                  | 11.1| Ab. Pain                | 9.1 |
| Tamil                | 152 | Constipation        | 14.5| Body aches             | 9.9 | Fever                   | 9.2 |
| Muslim               | 91  | Body aches          | 11.0| Rashes                 | 11.0| Ab. Pain                | 6.6 |
| Employment           |     |                     |     |                        |     |                         |     |
| Employed             | 374 | Body aches          | 15.2| Backache               | 9.6 | Fever                   | 9.4 |
| Unemployed           | 777 | Body aches          | 17.9| Cough                  | 13.0| Backache                | 9.0 |
| Retired              | 59  | Body aches          | 25.4| Ab. pain               | 10.2| Cough                   | 8.5 |
| School children      | 229 | Cough               | 11.8| Dog bite               | 10.9| Fever                   | 10.5|

Cough - respiratory symptoms including cough and cold, Body aches - Generalized Body aches and pains, Ab.pain - Abdominal pain, Backache - Backache and joint pains
goodness of fit 116, $P<0.001$). The age of the patients attending the OPD ranged from 1 year to 89 years. The mean age of the study sample was 40 years (SD = 19 years). Majority of the females attending the OPD were of middle age while males were distributed evenly among all age categories. The mean age of females was significantly higher than that of males ($t = 4.03, P<0.001$). Housewives constituted the major occupational group among females, accounting for 52% of the total sample, followed by adolescents (15.9%). Ten leading cause of OPD visits were nonspecific body aches and pains – 225 (15.6%); respiratory symptoms (cough and cold) – 151 (10.5%); Abdominal pain – 122 (8.5%); Fever - 117 (8.1); Backache and joint pains – 112 (7.8); Skin conditions - 106 (7.4); Constipation - 84 (5.8); Chest pain – 66 (4.6); Diarrhea - 59 (4.1); and Dog bite/s – 51 (3.5). Table 1 shows the leading morbidities according to sociodemographic profile of the patients. Among children (≤ 10 years)/school children, cough and cold was the commonest complaint followed by dog bites. Constipation (14.5%) was the commonest presenting complaint among Tamils (6.3%) but was not in the leading five commonest complaints among the other ethnic groups. Main presenting symptom among adolescents was various skin conditions, which was third commonest condition among young adults.

**DISCUSSION**

Two thirds of OPD patients in the present study were females. This could be explained partly from the so-called “male-female health survival paradox” (i.e., males report better health than females, but encounter higher mortality at all ages). There is growing evidence to conclude that men are healthier, but have substantially higher mortality rates. However, this could be also due to a gender difference in health-seeking behavior as shown in previous studies. Children less than 10 years accounted for only 5% of the OPD patients, which shows a marked difference from the private sector utilization in Sri Lanka where 32% of encounters were reported as children, which was completely different from the findings of the present study. Previously, respiratory tract problems were reported as the commonest encounter in government PHC setting as well as in GP practice in Sri Lanka, with higher percentages ranging from 20% to 55%. In our study, respiratory problems was the commonest among younger age groups. However, nonspecific body aches and pains was the leading encounter. This finding was unexpected and difficult to describe without further investigation. However, this problem needs to be studied to provide meaningful services. Despite having low annual numbers of rabies, dog bite showed to be a leading problem among children. Reported constipation encounters as leading reason for OPD care seeking among Tamil ethnic group needs further investigations.

**CONCLUSION**

These observations from a single hospital could not be generalized to Sri Lanka or other developing countries. However, our study provides early evidence for probability of changing morbidity patterns with demographic transitions that should be taken into account in public health program planning.

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