

Original Article

MORBIDITY PROFILE OF OUT-PATIENTS ATTENDING A PRIMARY HEALTH CENTRE IN RURAL PUDUCHERRY, SOUTH INDIA

Arti Gupta¹, Vinoth Chellaiyan², Ayush Lohiya³, Rizwan SA⁴, Ravi P Upadhyay⁵, Palanivel C⁶

Financial Support: None declared

Conflict of interest: None declared

Copy right: The Journal retains the copyrights of this article. However, reproduction of this article in the part or total in any form is permissible with due acknowledgement of the source.

How to cite this article:

Gupta A, Chellaiyan V, Lohiya A, Rizwan SA, Upadhyay RP, Palanivel C. Morbidity Profile of Out-Patients Attending a Primary Health Centre in Rural Puducherry, South India. *Natl J Community Med* 2014; 5(4):424-7.

Author's Affiliation:

¹Senior Resident, Dept of Community and Family Medicine, AIIMS, Bhopal; ²Asst Prof, Dept of Community Medicine, Madha Medical College & Research Institute, Kovur; ³Junior Resident, Centre for Community Medicine, AIIMS, New Delhi; ⁴Asst Prof, Dept of Community medicine, Velammal Medical College and Research Institute, Madhurai; ⁵Senior Resident, Dept of Community medicine, Vardhman Mahavir Medical College and Safdarjung Hospital, New Delhi; ⁶Asst Prof, Dept of Preventive and Social Medicine, Jawaharlal Institute of Postgraduate Medical Education & Research, Puducherry

Correspondence:

Palanivel C,
E-mail: palaniccm@gmail.com

Date of Submission: 31-10-14

Date of Acceptance: 29-12-14

Date of Publication: 31-12-14

ABSTRACT

Background: Knowledge on distribution and burden of diseases in a community is essential for planning of public health services. In the absence of information on morbidity profile through community based surveys, facility based data provide a good alternative. The aim of this study was to describe the morbidity profile of patients attending the Primary Health Centre (PHC).

Methods: A record based descriptive study was carried out in a rural PHC of Puducherry, South India. Information on age, sex, residence, new or old case and principal diagnosis were extracted from the outpatient registers for the period between January, 2011 and December, 2011. Only newly registered patients for the study year (2011) were included. Descriptive analysis was done.

Results: A total of 68,818 episodes of illnesses were treated. Adults (>15 years) constituted about 84%. Overall respiratory disorders (26.2%) and musculoskeletal disorders (26.0%) were the most common illnesses followed by circulatory disorders (10.9%), digestive disorders (9.5%) and external causes of morbidity (7.6%).

Conclusion: This study gives a brief description of the morbidity profile of patients attending a primary health care centre over a period of one year. This knowledge would help in planning health services to meet the patients' needs and also help in training health staff.

Keywords: Morbidity profile, facility based, rural health, primary care, Primary Health Centre, India

INTRODUCTION

The Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation

and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self reliance and self-determination. It is an integral part both of the country's health system and of the overall social and economic development of the community.¹ The World Health Report, 2008 reinforced the

concept of primary health care as now more than ever.²

India has a unique primary health care structure. The Primary Health Centre (PHC) is one of the main components of the rural health system in India. A typical Primary Health Centre caters to a population of 30,000 in plain areas with 4-6 inpatient beds. It is the first port of call for the people residing in rural areas to a qualified doctor in the public sector. It acts as a referral unit for 6 sub-centres so there is a wide spectrum of patients attending the outpatients department of a PHC. A thorough knowledge of the distribution and magnitude of health problems is essential for understanding the burden of various diseases at the grass-root level. Morbidity reporting of a health facility further strengthens the data available for planning health services efficiently. In addition the knowledge of the burden of diseases will also help in providing effective and timely treatment to the community. It will also help public health planners provide enhanced quality of services to the community.³ With the above thought, the aim of this study was to describe the morbidity profile of patients attending the Primary Health Centre in a rural area of Puducherry, South India.

METHODS

A record based study was carried out using the morbidity registers maintained for outpatients at a rural Primary Health Centre (PHC) in the Union territory of Puducherry, South India. The PHC caters to a population of about 27000. There were five sub centres attached to the PHC, each catering to approximately 5000 population. An outpatient clinic managed by three to four registered medical practitioners in the PHC provided services for six days in a week and the average patient attendance was about 150 patients per day. Patient details, diagnosis, and treatment provided by physicians were documented in the morbidity register. Information like age, sex, residence, new or old case and principal diagnosis were extracted from the registers using a data extraction sheet. Diagnoses were categorized as per International Classification of Disease (ICD) 10 classification of 2010.⁴ Newly registered outpatients between January 2011 and December 2011 were included in the study. Those outpatients who visited for follow up of acute illnesses

and chronic conditions like diabetes and hypertension were excluded. Analysis was done in SPSS version 17.0. Descriptive analysis was done. Patients less than fifteen years of age was considered as children, and proportions given wherever necessary.

RESULTS

The total number of new episodes of illnesses that were treated in the outpatient department (OPD) during 2011 was 68,818. Adults (>15 years) constituted about 84%. Among adults, males (51%) and females (49%) constituted nearly equal proportions, but among children, about 62% were girls. Overall the respiratory disorders were the most common (26.2%) followed by the musculoskeletal disorders (26.0%), circulatory disorders (10.9%), digestive disorders (9.5%) and external causes of morbidity (7.6%). (Table 1)

In adults, the most common diseases were of the musculoskeletal system (in males 30.5%, in females - 31.7%) followed by respiratory system infections (in males - 18.2%, in females - 21.6%). The five most common diseases among adult males were diseases of the musculoskeletal system (30.6%), acute nasopharyngitis (15.3%), primary hypertension (12.1%), diseases of oesophagus, stomach and duodenum (9.3%), and lacerated wounds (5.3%). The corresponding diseases among adult females were diseases of musculoskeletal system (31.7%), acute nasopharyngitis (19.8%), primary hypertension (9.8%), diabetes mellitus (6.7%), and diseases of oesophagus, stomach and duodenum (5.0%). (Table 1)

Among the paediatric cases, the most common diseases were acute nasopharyngitis (in boys - 26.7%, in girls - 33.2%) followed by accidental lacerated wounds (in boys - 17.3%, in girls - 9.4%) and viral fever (in boys - 11.2%, in girls - 14.9%). Among male children, the five most common diseases were acute nasopharyngitis (26.8%), lacerated wounds (17.4%), skin diseases (15.4%), viral fever (11.3%), and diarrhoea (6.0%). Among female children, the five most common diseases were acute nasopharyngitis (33.2%), viral fever (15.0%), lacerated wounds (9.5%), skin diseases (9.0%), and diarrhoea (7.0%). (Table 1)

There were no significant seasonal variations or trends in specific diseases. (data not shown)

Table 1: Morbidity profile of out patients of arural Primary Health Centre in Puducherry, South India (January-December 2011)

| Morbidity as per ICD-10 | Adult males | Adult females | Children - male | Children- female | Total |
|---|--------------|---------------|-----------------|------------------|---------------|
| Infectious and parasitic diseases (A00-B99) | 152 (0.52) | 76 (0.27) | 134 (1.94) | 134 (3.11) | 496 (0.72) |
| Tuberculosis | 67 (0.23) | 2 (0.01) | 1 (0.01) | 4 (0.09) | 74 (0.11) |
| Worm infestation | 61 (0.21) | 54 (0.19) | 122 (1.76) | 123 (2.85) | 360 (0.52) |
| Diseases of the blood and blood forming organs (D50 - D89) | 6 (0.02) | 760 (2.67) | 10 (0.14) | 0 (0.00) | 776 (1.13) |
| Circulatory system (I00-I99) | 4122 (14.10) | 3315 (11.60) | 56 (0.81) | 12 (0.27) | 7505 (10.91) |
| Ischemic heart disease | 393 (1.35) | 373 (1.31) | 0 (0.00) | 0 (0.00) | 766 (1.11) |
| Hypertension | 3513 (12.10) | 2774 (9.75) | 0 (0.00) | 0 (0.00) | 6287 (9.14) |
| Respiratory system (J00-J99) | 6791 (23.30) | 7419 (26.10) | 2169 (31.30) | 1685 (39.16) | 18064 (26.25) |
| Acute Nasopharyngitis | 4456 (15.30) | 5627 (19.80) | 1853 (26.80) | 1430 (33.23) | 13366 (19.42) |
| Asthma | 1464(5.02) | 1258(4.42) | 44 (0.64) | 28 (0.65) | 2794 (4.06) |
| Digestive system (K00-K93) | 3190 (10.90) | 2114 (7.43) | 740 (10.70) | 527 (12.25) | 6571 (9.55) |
| Diarrhea | 393 (1.35) | 530 (1.86) | 414 (5.98) | 300 (6.97) | 1637 (2.38) |
| Diseases of esophagus, stomach and duodenum | 2709 (9.30) | 1421 (4.99) | 261 (3.77) | 170 (3.95) | 4561 (6.63) |
| External cause of morbidity (S00-Y98) | 2277 (7.81) | 914 (3.21) | 1477 (21.30) | 587 (13.64) | 5255 (7.64) |
| Lacerated wounds | 1547 (5.31) | 420 (1.48) | 1201 (17.40) | 408 (9.48) | 3576 (5.20) |
| Injury eye | 199 (0.68) | 181 (0.64) | 129 (1.86) | 100 (2.32) | 609 (0.88) |
| Nervous system (G00-G99) | 23 (0.08) | 12 (0.04) | 8 (0.12) | 3 (0.07) | 46 (0.07) |
| Diseases of the musculoskeletal system (M00 - M99) | 8909 (30.60) | 9021 (31.70) | 0 (0.00) | 0 (0.00) | 17930 (26.05) |
| Total | 29139 | 28456 | 6920 | 4303 | 68818 |

ICD - International Classification of Diseases

DISCUSSION

Our study outlines the spectrum of health problems that presented to our primary health centre during the year 2011. The results of the present study showed that commonly diagnosed diseases were diseases of musculoskeletal system followed by acute nasopharyngitis, primary hypertension, gastrointestinal disorders, diabetes mellitus and injury among adults. Another study conducted in India found skin disorders and acute respiratory tract infections as the most common illness in their setting.⁵The major reason for this difference could be the different age distribution of the sample studied. On the contrary, the prevalence of poisoning, snake bites, scorpion stings and bites due to other arthropods were the least common morbidities. This was similar to that reported in a study done in the primary health centre of Kanpur district.⁵A very low burden of anaemia and vitamin D deficiency was present in our primary health centre. Eye disorders accounted for 1 to 3 percent in the present study similar to the study conducted in primary health set up of Kanpur district (4.9%).⁵

In addition, the studies conducted in primary healthcare clinics of Nepal and Taiwan also reported musculoskeletal diseases and hypertension as the common diagnoses.^{6,7} Other studies conducted in Pakistan and Saudi Arabia observed that skin disorders and acute respiratory tract infections were the most common illness in their setting.^{8,9} Similarly a study conducted in Finland among patients attending primary health clinic had found that musculoskeletal disorders were the commonest cause of morbidity.¹⁰ The prevalence of NonCommunicable Diseases (NCDs) like diabetes and hypertension varied from five to six percent in our study. The findings for diabetes were similar to a study conducted in three primary care clinic in Perlis, Malaysia.¹¹

In children, the most common illness identified was acute nasopharyngitis. Injuries, skin infection, diarrhoea and viral fever were the common causes of morbidities. Another study conducted in rural areas of Aligarh among under five children found that respiratory and skin disorders were the most common illnesses followed by

diarrhoea.¹² Similarly, a study done in primary health clinic in Pakistan reported that diseases of respiratory system (27.6%), and infectious and parasitic diseases (18.7%) were the most common.¹³ While acute ailments formed the major morbidities among children attending our OPD, chronic morbidities were common among adults. These findings point out that broad range of health care services needs to be provided in PHCs. Special health care services targeting children and elderly persons are the need of the hour in primary health care settings. A study done in ten primary health centres in Saudi Arabia, among adolescents documented that 43% of patients had upper respiratory tract infection.¹⁴ Nearly two percent of children had a worm infestation in our study. A study conducted in Aligarh found that nearly ten percent of under-five children reported the passage of worms in stools in preceding one month.¹²

The present study was conducted at one primary health centre in south India and hence it cannot be generalised to whole of South India. Though the morbidity profile was stratified by age and sex, it was not possible to classify on socioeconomic structure. Since treating physicians sometimes recorded symptoms rather than a diagnosis, misclassification could have occurred during coding. However, number of episodes of illnesses included in the study is large and is a strength of the study.

The knowledge of the morbidity profile will help in providing effective and timely treatment to the community. It will also help public health planners provide enhanced and high quality service to the community.

This study gives a brief description of the morbidity profile of patients who attended a primary healthcare centre over a period of one year. This knowledge will help in planning appropriate range services to meet the patients' needs and also help in training of health staff to meet these needs.

REFERENCES

1. Declaration of Alma-Ata. International Conference on Primary Health Care, Alma-Ata, USSR, 6-12 September 1978. Available from http://www.who.int/publications/almaata_declaratio_n_en.pdf [Accessed on August 13, 2014]
2. World Health Organisation. World Health Report - Primary Health Care: Now more than ever. Geneva 2008. p 5
3. Ministry of Health and Family Welfare, Government of India. Indian Public Health Standards (IPHS), guidelines for primary health centres. New Delhi 2012. p 1-10
4. International Statistical Classification of Diseases and Related Health Problems. Available from <http://apps.who.int/classifications/icd10/browse/2010/en> [Accessed on September 23, 2013]
5. Kumari R, Nath B, Narain T, Vaswani ND, Lekhwani S, Singh B. Morbidity profile and seasonal variation of diseases in a primary health center in Kanpur district: a tool for the health planners. *Journal of Family Medicine and Primary Care* 2012;1:86-91.
6. Shankar R, Kumar P, Rana M, Dubey A, Shenoy N. A comparative study of drug utilisation at different levels of the primary healthcare system in Kaski district, Western Nepal. *The New Zealand Medical Journal*. 2003;116:1-8
7. Lai MS, Chu CS, Lin SH, Lin MS. Prescribing patterns in primary health care in Taiwan. *Int J ClinPharmacolther* 1995;33:437-441
8. Anjum Q, Alam E, Rizvi R, Usman J, Shaikh S, Ahmed Y. Morbidity pattern and utilization of Primary Health Care Centre in a low Socioeconomic area of Karachi. *J Pak Med Assoc* 2006; 56:13-6.
9. Al Sharif Ai, Al Khalid YM, Al Shahrani AM. Utilization of primary health care during summer. *Saudi Med J* 2000; 21:376-8.
10. Jyvasjarvi S, Keinanen-Kiukaanniemi S, Vaisanen E, Larivaara P, Kivela SL. Frequent attenders in a Finnish health care: morbidity and reasons for encounter. *Scand J Prim Health Care*. 1998; 16:141-8.
11. Kamarudin MFB, Noh KM, Jaafar S. Morbidity profiles at the three primary care clinics in Perlis, Malaysia. *Med J Malaysia* 2012;4:67
12. Ansari MA, Khan Z, Khaliq N, Siddiqui AR. Health profile of under fives in rural areas of Aligarh, India. *Indian J Prev Soc Med*. 2008; 39:3-4
13. Suleman M. Patterns of health-care utilization and morbidity in a rural community near Lahore, Pakistan. *Ann Trop Med Parasitol*. 1996;90:79-85.
14. Al-Eissa EI. The morbidity pattern among adolescents visiting primary health care centres. *Saudi Med J*. 2000;21:934-7.