MORBIDITY PROFILE OF RURAL POPULATION OF RAJASTHAN: A PROSPECTIVE COMMUNITY BASED STUDY

Munish Kakkar¹, Mukesh Kumar Gupta², Shallu Kakkar³, Rajat Vohra⁴, Divya Bohra⁵

HOW TO CITE THIS ARTICLE:

Munish Kakkar, Mukesh Kumar Gupta, Shallu Kakkar, Rajat Vohra, Divya Bohra. "Morbidity profile of rural population of Rajasthan: a prospective community based study". Journal of Evolution of Medical and Dental Sciences 2013; Vol. 2, Issue 42, October 21; Page: 8079-8084.

ABSTRACT: INTRODUCTION: A comprehensive analysis of the epidemiological pattern of the occurrence of various diseases in a region provide an efficient tool to the policy makers and administrators for the formulation of policies to circumvent the effect of the morbidity and mortality due to these diseases as well as reduce the overall burden of the illness in the community. The objective of this study was to determine the morbidity profile of patients being treated at the camps at peripheral rural remote area of Rajasthan under NRHM scheme. **MATERIALS AND METHODS:** The study was done prospectively at randomly selected five villages in Karauli District in May 2012. The patients were examined by the consultant medical officer, and the diagnosis was classified according to the systemic involvement. **RESULTS:** A total of 485 patients were treated at the OPD, which included 243 males and 242 females. Pain Abdomen/ epigastrium were the commonest complaint (10.5%) while musculoskeletal pain (8.9%) and diarrhea (8.0%) were other two common complaints. As far as systemic involvement was concerned, most cases belonged to medicine (39.2) followed by pediatrics (19.6%) and orthopedics (12.8%). Surprisingly, no neonate (< 1 month of age) was brought for any complaint. It could be because of taboo of not bringing out babies before 40 days of birth or due to institutional deliveries under Janani Suraksha Yojana. **CONCLUSION:** The knowledge of the burden of the diseases would help the health administrators in judicious allocation of the resources. The lower percentage of the communicable, vaccine preventable, vector-borne and neonatal diseases is a good sign and gives us an indication of the successful implementation of the various programs for the control of these diseases. On the other hand, the relatively more number of the cases of water-borne diseases is a matter of concern and necessitates the implementation of specific programs.

KEYWORDS: morbidity patterns, outpatients

INTRODUCTION: A comprehensive analysis of the epidemiological pattern of the occurrence of various diseases in a region provide information to the physicians to diagnose them accurately and equips health care setting, in particular, to treat them effectively. It also provides an efficient tool to the policy makers and administrators for the formulation of policies to circumvent the effect of the morbidity and mortality due to these diseases as well as reduce the overall burden of the illness in the community. A constant watch on the changing pattern of the diseases provides us an opportunity for timely intervention as well as monitor the progress of the ongoing disease control programs and helps in optimizing the allocation of the limited resources. ⁽¹⁾

According to the institutional framework of the rural health delivery system in India, there is one PHC covering about 30,000 population (20,000 population in hilly/ tribal/desert area). ⁽²⁾ Most of the studies done till now are either retrospective studies or studies done at the PHC level. Very little literature is available regarding the morbidity profile at peripheral village level.

We did the present study prospectively at peripheral village level with a population of 2000 having very limited medical facilities. The objectives of the study were to:

1. Obtain information on morbidity patterns of the patients being treated through NRHM mobile unit;
2. Analyze the overall morbidity pattern according to age.
3. Find out the common diseases in the community and to provide treatment and appropriate referral.

MATERIAL & METHODS: First the list of all villages coming under Karauli district was procured. Then, by simple random sampling, five villages were selected namely Bichipuri, Mohanpur, Pahadi, Jat Mogari & Luharkheda. The mobile National Rural Health Mission (NRHM) camps were organized in the month of May 2012 at Governments units preferably schools. The patients, attending the camps, were examined by the consultant medical officer and were diagnosed and treated accordingly. The diagnosis of the patients was then classified according to the involvement of the following systems:

- Medicine
- Surgery
- Obstetrics and Gynaecology
- Pediatrics
- Orthopedics
- Dermatology
- Ophthalmology
- Ear, nose and throat

The data was further analyzed to find out the most common complaint of the patients attending and the most common system involvement.

RESULTS: Table 1 shows the age wise distribution of the patients attending the camps. 38.4% patients coming with complaints belonged to 15-45 years age group followed by 29.5% patients belonging to 45-65 years age group. Interestingly, only 1.8 % patients belong to 1 month – 1 year age group while no patient of age less than 1 month came to the camp.

The most common complaint of patient was pain abdomen/ epigastrium (10.5%) followed by musculoskeletal pain (8.9%) and diarrhea (8.0%). Other groups of diseases in decreasing frequency were Otitis Media, Upper respiratory tract infection, Headache, Anemia, Hypertension, cataract and Poor growth. Patients with poor growth were only 2.7% & belonged to pediatric age group. (Table 2)

Table 3 shows the system involvement of the patients attending the camps. The most common system involvement was Medicine, Pediatrics and Orthopedics with 39.2%, 19.6% and 12.8% patients respectively. The least common system involvement was surgery with only 3.1% patients.

Other disorders reported in present study according to the system involvement are as follows:

- **Obstetrics and gynecology:** reproductive tract infection (1.9%), abnormal bleeding (1.65%), Ante Natal care (1.65%).

- **Dermatology:** Scabies (1.24%), Chronic Dermatitis (2.9%) and Tinea Infection.
- **Orthopedic problems:** Osteoarthritis (1.9%), backache, myalgia, prolapsed disc, sciatica, arthritis, injuries/fractures.
- **Pediatric disorder:** Mental retardation, pika, residual mono/hemiparesis, acute respiratory infections (ARI), asthma.
- **Surgical problems:** Urinary problem, abscesses, big lipoma, inguinal hernia, injuries, piles.
- **Ear, nose and throat Disorders:** Epistaxis, deafness, foreign body in ear, dizziness, goiter, laryngitis.
- **Ophthalmology:** chronic Dacryocystitis, epiphora, chalazion, conjunctivitis, blepharitis, corneal opacity, blindness, refractive error
- **Medical problems:** Chronic obstructive pulmonary disease (1.24%), Tuberculosis, Urinary tract infection (UTI), chest pain, fever, constipation, jaundice, generalized swelling, hematemesis, obesity, stomatitis, burning feet.
- Surprisingly no neonate (below 1 month) was brought for any complaint.

DISCUSSION: In present study, pain abdomen/ epigastrium were commonest symptom (10.5 %) and musculoskeletal pain (8.9%) was second commonest complaint. Other disorders were diarrhea (8.0%), otitis Media (4.7%), acute respiratory tract infection (4.1%), headache (3.5%), significant anemia (3.3%) and hypertension (3.1%). In another study from Kanpur in 2012, skin infections were the most commonly diagnosed diseases followed by the acute respiratory tract infections (ARI), diarrheal diseases (16.9%). Chronic obstructive pulmonary disease (COPD) (34.5%) was found to be the most commonly diagnosed non-communicable disease, followed by gastritis, falls/injuries, and arthritis. Pyrexia of unknown origin (PUO) contributed to a major proportion of the other diseases. ⁽¹⁾ A retrospective hospital record based study from western Nepal Diseases of the skin and soft tissues (18.8%) which included tinea infection, acne vulgaris, scabies, and musculoskeletal pain were the most common. ⁽³⁾ In this study musculoskeletal pain were included with dermatological problem.

In present study, musculoskeletal pain was second commonest reason to visit Medical Officer (8.9%). The results of this study are consistent with the studies done in other parts of the world. A study conducted among the frequent attendees in a primary health clinic, it was observed that musculoskeletal problems were the most common reasons for visit to the health center ^[4]. In another study from Nepal, a similar pattern of diseases was found with upper respiratory tract infection and acid peptic disease was the most common diagnoses. ⁽⁵⁾

Our results differed from those of Bajracharya et al., who in their study conducted at the PHC in Duwakot near Katmandu found that viral fever, cut/injuries, hypertension, worm infestation were the more common diseases. ⁽⁶⁾ Shanker et. al. in another study found that ARI was the commonest illness for which treatment was sought (12.6%), followed by wounds and wound infection (10.1%), APD (7.4%), diarrhea/dysentery (6.6%), and worm infestation (5.6%). ⁽⁷⁾ In a Taiwanese study by Lai et al., the most common illnesses encountered were ARI, skeletal and joint disease, hypertension, and APD. ⁽⁴⁾ A study conducted among the frequent attendees of a primary health clinic observed that musculoskeletal problems were the most common reasons for visit to the health center ⁽⁹⁾ Upper respiratory tract infections were found to be the most common illness encountered among adolescents at a primary health care center⁽¹⁰⁾

The variations in the frequency of the occurrence of the various diseases could be attributed to the differences in the environmental and the host factors in the different geographic areas as well as retrospective nature of studies and most of them at PHC level. If the frequency of a certain disease varies in areas with similar environmental conditions, it coerces us to think about the lacunae in either the delivery of health care to the people or an investigation for the search of the host factors leading to the differences.

CONCLUSION: Medical Officer at peripheral rural level should be well versed with common Medical, Pediatric, Dermatological, orthopedic, ENT & Ophthalmic Disorders to treat such patients appropriately.

The lower percentage of the communicable, vaccine preventable, vector-borne and neonatal diseases is a good sign and gives us an indication of the successful implementation of the various programs for the control of these diseases. On the other hand, the relatively more number of the cases of water-borne diseases is a matter of concern and necessitates the implementation of specific programs.

REFERENCES:

1. Ranjeeta Kumari, Bhola Nath, Tanu Midha, Narain D Vaswani, Seema Lekhwani, Bhupendra Singh. Morbidity Profile and Seasonal Variation of Diseases in a Primary Health Center in Kanpur District: A Tool for the Health Planners. *J Fam Med Primary Care*. 2012 Vol 1, Issue 2, Page : 86-91
2. Country Health System Profile. Available from: http://www.searo.who.int/EN/Section313/Section1519_10853.htm. [Last accessed on 2012 Mar 12]. Annual Report 2006-07. Office of the Chief Development Officer, Kanpur Nagar
3. DC Lamichhane, BR Giri, OK Pathak, OB Panta, and PR Shankar. Morbidity profile and prescribing patterns among outpatients in a teaching hospital in Western Nepal. *McGill J Med*, v.9(2); Jul 2006
4. Lai MS, Chu CS, Lin SH, Lin MS. prescribing patterns in primary health care in Taiwan. *Int J Clin Pharmacol Ther* 1995; 33:437-41.
5. Sharma MK, Bhatnagar T, Goel NK, Verma A, Swami HM. Operationalisation of surveillance of communicable diseases in Chandigarh. *J Commun Dis* 2005; 37:197-202.
6. Bajracharya S, Pandey S, Shakya YL. Drug prescribing pattern and disease pattern in KMC Duwakot health center. *Kathmandu Univ Med J (KUMJ)* 2004; 2:35-42.
7. Shankar RP, Kumar P, Rana MS, Shenoy N, Partha P, Dubey AK. Morbidity profile, prescribing patterns and working of the community drug programme in a health post in Western Nepal. *World Health Popul* 2006; 8:62-9.
8. Kamath KR, Feldman RA, Rao PS, Webb JK. Infection and disease in a group of south Indian families. General morbidity patterns in families and family members. *Am J Epidemiol* 1969; 89:375- 83.
9. Jyvasjarvi S, Keinanen-Kiukaanniemi S, Vaisanen E, Larivaara P, Kivela SL. Frequent attenders in a Finnish health centre: Morbidity and reasons for encounter. *Scand J Prim Health Care* 1998; 16:141-8.

ORIGINAL ARTICLE

10. Al-Eissa EI. The morbidity pattern among adolescents visiting primary health care centres. Saudi Med J 2000; 21:934-7.

Age	No. of patients n (%)
0-1 month	0 (0.0)
1 month – 1 year	9 (1.8)
1-5 years	43 (8.9)
5-15 years	72 (14.8)
15-45 years	186 (38.4)
45-65 years	143 (29.5)
> 65 years	32 (6.6)
Total	485

Table 1: Age wise distribution of the patients

Complaint/ Diagnosis *	No. of patients n (%)
Pain abdomen/ epigastrium	51 (10.5)
Musculoskeletal pain	43 (8.9)
Diarrhea	39 (8.0)
Otitis Media	23 (4.7)
Upper respiratory tract infection	20(4.1)
Headache	17 (3.5)
Anemia	16 (3.3)
Hypertension	15 (3.1)
Cataract	15 (3.1)
Poor growth	13(2.7)
Total	252 (100)

Table 2: Distribution of the patients according to the complaint/diagnosis

* Only commonest 10 complaints and diagnosis have been mentioned

System involvement [#]	No. of patients n (%)
Medicine	190 (39.2)
Pediatrics	95 (19.6)
Orthopedics	62 (12.8)
Dermatology	41 (8.5)
Ophthalmology	40 (8.3)
Ear, nose and throat	30 (6.2)
Obstetrics and gynecology	27 (5.6)
Surgery	15 (3.1)
Total	500 (100)

Table 3: Distribution of the patients according to the system involvement

[#] Few patients have multiple diagnosis

AUTHORS:

1. Munish Kakkar
2. Mukesh Kumar Gupta
3. Shallu Kakkar
4. Rajat Vohra
5. Divya Bohra

PARTICULARS OF CONTRIBUTORS:

1. Associate Professor, Department of Pediatrics, Mahatma Gandhi Medical College, Sitapura, Jaipur.
2. Associate Professor, Department of Pediatrics, Mahatma Gandhi Medical College, Sitapura, Jaipur.
3. Consultant, Department of Obstetrics & Gynaecology, Fortis-Excorts Hospital, Jaipur.

4. Assistant Professor, Department of Community Medicine, Mahatma Gandhi Medical College, Sitapura, Jaipur.
5. Resident Pediatrics, Department of Pediatrics, Mahatma Gandhi Medical College, Sitapura, Jaipur.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Munish Kakkar,
T-1, Anand Niketen, 255, Frontier Colony,
Adarsh Nagar, Jaipur – 302004.
Email – mkkakkar@yahoo.co.in

Date of Submission: 04/10/2013.
Date of Peer Review: 05/10/2013.
Date of Acceptance: 08/10/2013.
Date of Publishing: 15/10/2013