Original Research Article

Study of patterns of diseases among patients attending the out-patient department at urban health and training centre of a Medical College in India

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Abstract

Introduction: We are moving from millennium development goals to sustainable development goals having universal health care as a key. To achieve universal health care we need morbidity patterns and data for planning and programming.
Objectives: 1) To assess the morbidity patterns and profile of patients attending the OPD at the urban health and training centre.; 2) To determine the trends of communicable and non-communicable diseases.
Methodology: The presented study was record based cross sectional study. The information was collected from the OPD registers of the UHTC. The 12 months data was taken from 1st January 2016 to 31st December 2016. We collected the information of all the patients who visited even for the medicine collection or even for reviewing the disease conditions and treatments. All the patients those visited the UHTC during one year period were included in this study.
Results: A total 8120 including new, old and review patients attended the OPD of UHTC during the one year period. Out of total, 2524 males, 5591 females, 1273 under five children, 157 Antenatal women and 68 were elderly respectively. Acute Respiratory Infections followed by Hypertension were most common diseases. Communicable diseases had peak during post rainy season as well as during winter season while non-communicable diseases were more common during winters.
Conclusion: To provide universal health care, we should also focus on population other than reproductive and child health group especially geriatric population. Knowledge of trends of total patients and trends of different diseases can help for better health care planning and management
Keywords: Morbidity profile, Communicable Diseases, Non-Communicable Diseases, Seasonal Variation, Urban Health Centre.

1. Introduction

Perception regarding health has been changed from death consciousness to health consciousness over the years & in the same way evaluation of health sciences took place from curative to holistic approach. After the Alma Atta Declaration in 1978, India adopted the primary health care approach to provide health services to every eligible person in the community. The whole world set the target in health in form of Health for All by 2000 & Millennium development goals. In India, even after the huge efforts by Government we could not achieve health for all. Meanwhile with increasing understanding, WHO adopted Sustainable Development Goals as targets and adopted universal health care (UHC) as a key to achieve these goals.

Universal health care (UHC) approach relies on providing equitable health care to all people in the community regardless the age, gender through community participation. In providing Universal Health care the main requirement is to understand the morbidity data or requirement of whole community not only of the special target groups like ANC & under 5 children. Since the Bhore committee in 1946-47, India has developed a vast (though not sufficient) network of peripheral health centres which further improved under National Rural Health Mission. During these all years urban population especially urban poor population was remained neglected. In 2013, National Urban Health Mission was launched. But till date, health care infrastructure is insufficient in urban areas and so are

health care services in urban areas especially in slums. Medical Council of India sensitized towards different needs of poor population of slum recommended Urban Health & Training Centre for every Medical college to cater this population and to sensitize budding doctors for health needs of this segment of community.

Data regarding various maternal and child health indicators are being collected under various national health programmes. But other population sections like geriatric and young adults are always neglected. This section is approximately 60 percent in Indian population according to census 2011.[1] This section is also economically productive group and contributes to overall development of country. Despite of this this section remained neglected by health sector planners.

As a robust health care delivery system is absent in urban area of India, UHTC are important centres providing primary & comprehensive health care to slums in cities where medical colleges are situated. Morbidity and OPD data from these centres is an important source to plan for providing Universal health care to population residing in urban slums. Bareilly is a well-known and big city of western UP with total population 9,04,797 as per census 2011, out of which 17.02% population resides in slums.[1] Like other cities in India, it also lack well organised health care delivery system to provide health care at door step. As per survey by Regional Centre for Urban and Environmental Studies, Hyderabad in 2013, Bareilly city has total 47 slums and none have proper functioning government health centre.[2] Urban health & training centre, Rohilkhand Medical College & Hospital is serving approximately 16754 population both from slum & non slum areas. Field practice area of UHTC comprises 6 slum locality namely Hataphaltoonganj, Kaalibadi, Shiklapur, Semalkhera, Khurramgotiya Part one and Khurramgotiya Part two. These six slum localities are in the two urban wards namely RabdiTola and Rampur Baag in the Bareilly city. As UHTC providing primary health care to urban population which may represent urban population of Bareilly district, morbidity & OPD data of UHTC may be utilized for providing insight of requirement for providing universal health care to whole city.

According to MCI view, UHTC of Rohilkhand Medical College & Hospital is not only providing health services to all urban population but also maintaining crucial data about all sections of the draining population in form of family folders and other records.

As being an important and minority populated city of the most populated and poor performing state, it is important to introduce universal health care in the city so that experienced can be generalised to other part of the country. For implementation of UHC required baseline data

of morbidity profile and pattern of diseases in the region. But such studies were never done before in this region that can facilitate planning to achieve this goal.

With this view the present study was conducted with following objectives.

1.1 Objectives

1) To assess the morbidity patterns and profile of patients attending the OPD at the urban health and training centre.
2) To determine the trends of communicable and non-communicable diseases.

2. Material and Methods

Present study was a record based cross sectional study done on urban health & Training centre, Rohilkhand Medical College & Hospital, situated in Rampur Baag Bareilly. This centre is catering approximately 16754 population including both slum & non slum population. Centre providing primary health services through 6 days per week OPD by a Lady Medical officer & a Public Health Expert along with weekly specialized OPD of Obstetrics& Gynecology, Opthalmology, ENT & Pediatrics. OPD hours are from 8 am to 4 pm (Both morning & post lunch). UHTC also dispenses all essential medicines provided in National Essential Drug List 2015 and provide essential laboratory services provided in revised IPHS standards for PHC (2012). All the health services are available free of cost. All the data of OPD patients regarding morbidity along with their treatment enter in the patient records registers. For this study information was taken of 12 months duration from 1st January 2016 to 31st December 2016. The information was collected from the OPD registers of the Urban Health and Training Centre. The records taken from the following registers available at UHTC

1. Morbidity pattern register
2. Old & new patient record register
3. ANC register with follow up
4. Vaccination register with follow up
5. Register for New survey of catchment area
6. NCD/Geriatric Clinic register
7. ANC camp register
8. Family folders (4508 families)

We collected the information of all the patients who visited for getting the treatment of any disease or health related issue, or visited for follow up or Ante-natal check-up, well baby clinic visit for counselling and immunization. All the patients those visited the UHTC during one year period and get registered were included in this study.

3. Results

During the study period all the patients attended OPD were included in the study. Field practicing area of UHTC comprises app.16754 population. We recorded total under five 1437, total ANC 423, total elderly 4038 in these six localities.

Table 1: Month wise distribution of OPD patients according to gender and target age groups

Month	Male		Female		ANC		Under 5		Geriatric		Total
January	239	32.0%	508	68.0%	20	2.7%	101	13.5%	89	11.9%	747
February	249	33.2%	500	66.8%	23	3.1%	82	10.9%	94	12.6%	749
March	200	32.2%	422	67.8%	25	4.0%	68	10.9%	82	13.2%	622
April	160	30.6%	363	69.4%	15	2.9%	62	11.9%	82	15.7%	523
May	189	31.6%	410	68.4%	27	4.5%	86	14.4%	80	13.4%	599
June	181	32.2%	381	67.8%	24	4.3%	65	11.6%	72	12.8%	562
July	299	41.6%	420	58.4%	30	4.2%	73	10.2%	109	15.2%	719
August	337	43.6%	436	56.4%	23	3.0%	96	12.4%	128	16.6%	773
September	365	43.0%	484	57.0%	36	4.2%	87	10.2%	124	14.6%	849
October	267	42.2%	365	57.8%	17	2.7%	61	9.7%	81	12.8%	632
November	269	42.6%	362	57.4%	17	2.7%	54	8.6%	109	17.3%	631
December	264	37.0%	450	63.0%	11	1.5%	63	8.8%	162	22.7%	714
Total	3019	37.2%	5101	62.8%	268	3.3%	898	11.1%	1212	14.9%	8120

Table 1 shows month wise distribution of OPD patients according to gender and target age group. Total 8120 patients including new, old and review patients attended the OPD of UHTC during one year from 1st January 2016 to 31st December 2016. Out of total patients, 37.2% were males & 62.8% were females. As per age group, 11.1% patients were children below 5 years and 14.9% were elderly respectively. 268 ANC women visited OPD during study period which were 3.3% of total OPD attendance.

Table 2: Month wise distribution of OPD patients according to morbidity

	Acute Respiratory Tract Infections		Suspected TB		Diarrhoea		Skin Disease		Antenatal ladies		Joint pain		Diabetes Mellitus		Hypertension		Other Communicable Diseases		other non-specific symptom/non communicable Diseases		Total
Jan	322	43.11%	15	2.01%	42	5.62%	54	7.23%	20	2.68%	41	5.49%	54	7.23%	85	11.38%	24	3.21%	90	12.05%	747
Feb	336	44.86%	13	1.74%	59	7.88%	58	7.74%	23	3.07%	31	4.14%	44	5.87%	67	8.95%	50	6.68%	68	9.08%	749
March	258	41.48%	21	3.38%	46	7.40%	43	6.91%	25	4.02%	30	4.82%	46	7.40%	71	11.41%	6	0.96%	76	12.22%	622
April	197	37.67%	14	2.68%	28	5.35%	33	6.31%	15	2.87%	36	6.88%	48	9.18%	71	13.58%	10	1.91%	71	13.58%	523
May	252	42.07%	14	2.34%	28	4.67%	41	6.84%	27	4.51%	33	5.51%	49	8.18%	67	11.19%	41	6.84%	47	7.85%	599
June	229	40.75%	12	2.14%	33	5.87%	39	6.94%	24	4.27%	33	5.87%	43	7.65%	58	10.32%	30	5.34%	61	10.85%	562
July	280	38.94%	29	4.03%	74	10.29%	49	6.82%	30	4.17%	32	4.45%	50	6.95%	60	8.34%	21	2.92%	94	13.07%	719
Aug	419	54.20%	14	1.81%	40	5.17%	69	8.93%	23	2.98%	28	3.62%	42	5.43%	62	8.02%	40	5.17%	36	4.66%	773
Sep	377	44.41%	20	2.36%	45	5.30%	82	9.66%	36	4.24%	32	3.77%	37	4.36%	63	7.42%	75	8.83%	82	9.66%	849
Oct	335	53.01%	7	1.11%	23	3.64%	42	6.65%	17	2.69%	30	4.75%	40	6.33%	52	8.23%	30	4.75%	56	8.86%	632
Nov	355	56.26%	6	0.95%	19	3.01%	37	5.86%	17	2.69%	34	5.39%	45	7.13%	54	8.56%	24	3.80%	40	6.34%	631
Dec	389	54.48%	12	1.68%	33	4.62%	53	7.42%	11	1.54%	53	7.42%	54	7.56%	74	10.36%	11	1.54%	24	3.36%	714
Total	**3749**	**46.17%**	**177**	**2.18%**	**470**	**5.79%**	**600**	**7.39%**	**268**	**3.30%**	**413**	**5.09%**	**552**	**6.80%**	**784**	**9.66%**	**362**	**4.46%**	**745**	**9.17%**	**8120**

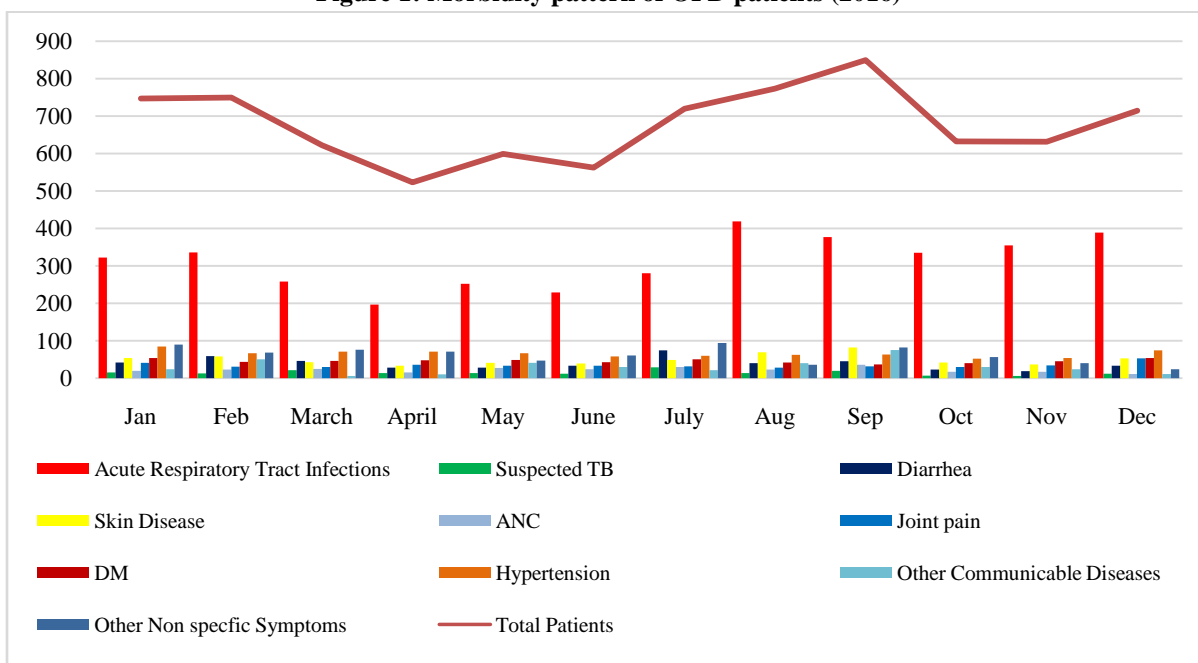**Figure 1: Morbidity pattern of OPD patients (2016)**

Table 2 & figure 1 describes morbidity pattern of OPD patients. The commonest disease was Acute respiratory tract infections (46.17%) followed by Hypertension (9.66%). Skin infections (7.39%), Diabetes Mellitus (6.8%) & Diarrhea (7.1%) were also very common. In whole year, total 65.99% (5358) patients were suffering from any communicable disease and 30.71% (2494) patients were of non-communicable diseases. Total patients numbers in OPD showed bimodal distribution during post rainy season (August-September) followed by winter season (December-January).

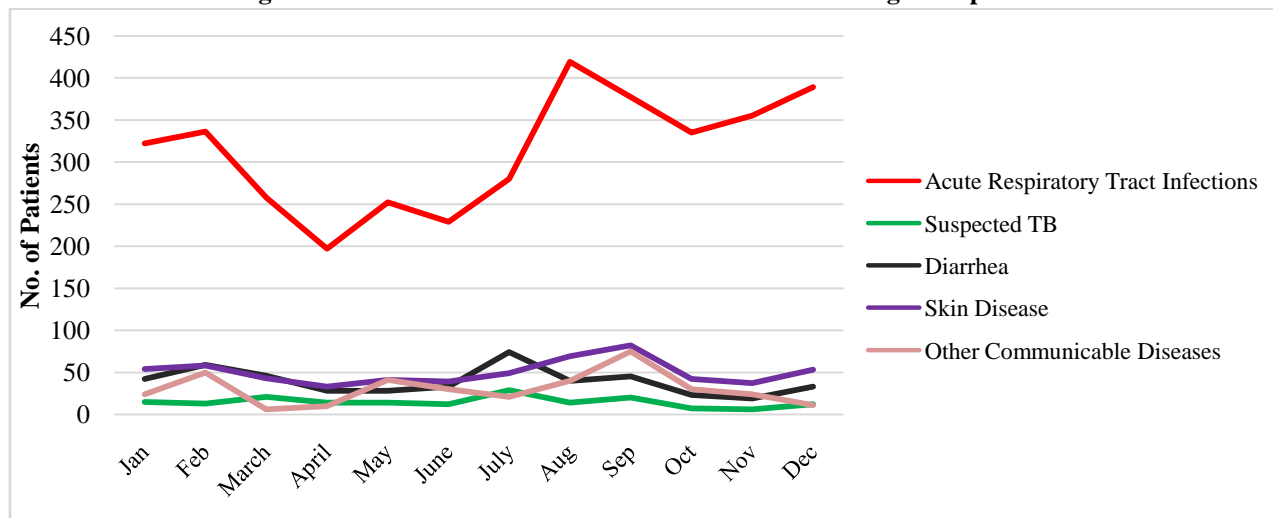**Figure 2: Trends in various communicable diseases among OPD patients**

Figure 2 shows trends of various communicable diseases among OPD patients of UHTC during year 2016. URTI which was the most common communicable disease encountered at UHTC OPD showed bimodal seasonal peaks during winters i.e. December to February and during post rainy seasons i.e. August to September. In case of diarrhea and skin diseases peak was observed during rainy (July) & post rainy season (September). But, another major and important communicable disease Tuberculosis didn't have any major seasonal variation. Other communicable diseases like suspected dengue, typhoid and malaria were also common during post rainy season.
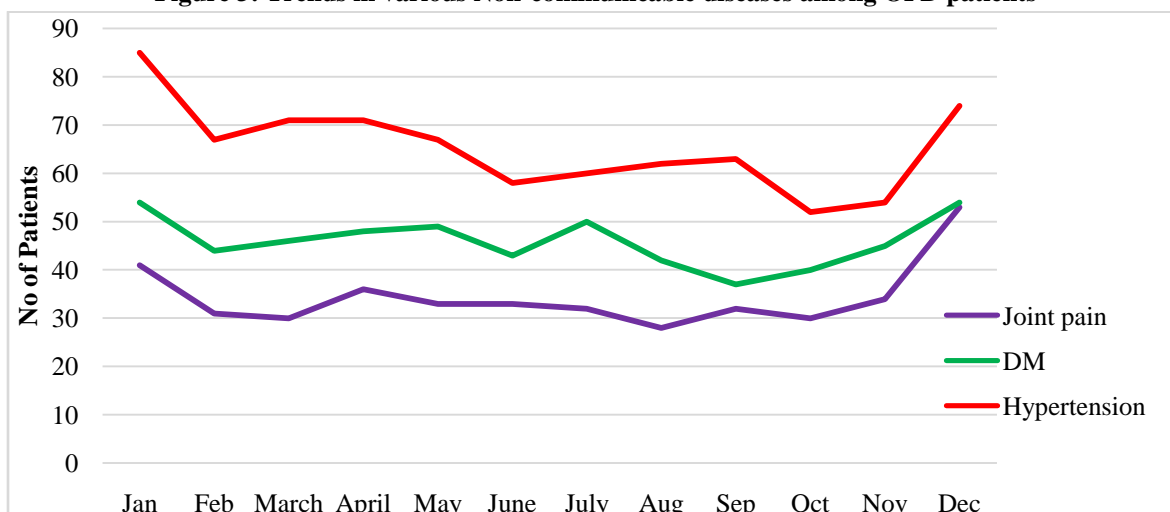
Figure 3: Trends in various Non-communicable diseases among OPD patients

Figure 3 shows trends of various non-communicable diseases among OPD patients of UHTC during year 2016. Hypertension the most common non-communicable disease showed peaks during winters. Similar variations are seen in case of Diabetes Mellitus & Joints pain as well.

4. Discussion

This study gives glimpse of morbidity profile of a typical and mixed (Slum & Non Slum) urban population and need of various logistics i.e. vaccines, contraceptives and drugs to provide universal health care. As per the finding of this study, large proportion of patients were above 5 years and non-pregnant. Findings are in coherence with past finding in various studies.

In our study, it was observed that females utilized the services more than males which may be due to day time OPD. In urban areas, males usually come back to homes late hours (night hours). Similar finding was observed by Sharma *et al* in Haryana and By Yadav et al in Pune, Maharashtra.[3,4] On the other hand Gaur *et al* & Gupta found males utilizing services more frequently.[5,6]

In our study, monthly total OPD patients peaked during post rainy season followed by winter season. This may be due to further deterioration of living and hygienic conditions, faculty water supply during rainy season which helps in spread of communicable diseases and growth of vectors in environment during immediately post rainy season. Kumari *et al* in their study at Khanpur found similar findings.[7] In contrast to this Yadav *et al* in Pune, Sharma *et al* in Chandigarh and Sharma *et al* in Haryana experienced maximum OPD burden of patients during winter season.[3,4,8] This difference may be due to different study settings.

In our study, though communicable diseases were most commonly encountered but non communicable diseases were also having constant presence throughout the year. This may be due to worse living and environmental conditions in urban areas which may contribute for high communicable diseases. Growing aged population is another cause for rising non communicable diseases. Findings are similar with study by Sharma *et al* in Haryana which showed 51.1% patients suffered from communicable diseases and 34.1% patients were suffered from non-communicable disease.[3] In contrast to this Yadav *et al* in their study in Pune found more patients of non-communicable diseases (50.56%) in comparison to communicable disease (49.44%).[4] This difference again may be due to different study settings which may lead to different environmental and living conditions among study participants.

In our study, acute respiratory tract infections were the most common morbidity followed by Hypertension and skin infections. Similar findings were obtained by Arun *et al* in Lucknow.[9] Ghosh *et al* found acute respiratory infections and musculoskeletal pains as most common disease entity and Gaur *et al* found acute respiratory infections followed by GIT infections and musculoskeletal pains as common morbidity.[5,10]

We found acute respiratory tract infections as most common communicable disease followed by skin infections and GIT infections. Sanker *et al* had similar finding in their study in western Nepal.[11] Sharma *et al* in Chandigarh, Arun *et al* in Lucknow, Yadav *et al* in Pune and Sharma *et al* in Haryana found acute respiratory tract infections followed by GIT infections as most common communicable diseases.[3,4,8,9] In contrast to all, Kumari *et al* found skin infections followed by acute respiratory tract infections as most common communicable diseases.[7]

Among non-communicable diseases, Hypertension followed by Diabetes Mellitus were the most common

diseases. Arun *et al* in Lucknow found Hypertension as most common non-communicable disease followed by Anaemia.[9] Yadav *et al* in Pune, Sharma *et al* in Chandigarh, Gupta *et al* in Puducherry and Sharma S in Haryana found musculoskeletal pain as most common NCD followed by hypertension.[3,4,12,13]

Communicable diseases like acute respiratory tract infections showed presence in post rainy season followed by winter season. In studies by Yadav *et al* in Pune, Sharma *et al* in Chandigarh, Gupta *et al* in Puducherry and Sharma *et al* in Haryana, ARTI showed peak during winter season.[3,4,8,13] All the NCDs in our study were more common during winter season. Similar finding were studied by Arun *et al* in Lucknow, Yadav *et al* in Pune and Sharma *et al* in Haryana.[3,4,9] In contrast to it, Kumari *et al* in Khanpur experienced peak of Hypertension patients during summer season.[7]

5. Limitations

The study was conducted in a single health facility and secondary data were used for drawing inferences, hence generalization of findings needs due concern. However, number of people reported with illness to a UHTC, which is alike to a primary level health facility is large enough and could be considered as strength of study.

6. Conclusion

The present study gives glimpse of morbidity profile of a typical and mixed (Slum & Non Slum) urban population and need of various logistics i.e. vaccines, contraceptives and drugs to provide universal health care. To provide UHC, we should also focus on population other than reproductive & child health group especially geriatric population. OPD hours should be according to need of population i.e. late evening hours. Morbidity pattern provides a fair idea that post rainy season experienced surge communicable diseases and winter season comes with more pain for non-communicable disease like musculoskeletal pain along with high acute respiratory infections. It may help not only to plan strategy to handle patient load but also may provide inner side of cause of emergence in particular area to control environmental factors for complete control of diseases in future.

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