

## ORIGINAL ARTICLE

# Community Medicine Outpatient Department: Patient profile and reasons for bypass of lower-level public health facilities

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### ARTICLE CYCLE

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### ABSTRACT

**Background:** The General OPD under the department of Community Medicine at LLRM Medical College, Meerut was inaugurated with the vision to improve quality of OPD services by reducing the patient burden and waiting time at specialist OPDs. **Aim & Objective:** To describe the profile of patients attending the Community Medicine OPD in LLRM Medical College, Meerut and to estimate the extent and reasons for bypass of lower-level public health facility by patients attending the general OPD. **Settings and Design:** A hospital based descriptive study was conducted in the general OPD. **Methods and Material:** Data of all patients from 1st July,2023 to 31st August,2023 was collected from the registers maintained in the OPD. A sample of 215 patients were selected by systematic random sampling to study the objective to assess bypass of lower-level public health facility. **Statistical analysis used:** Descriptive statistics. **Results:** A total of 2570 patients attended the general OPD from 1st July,2023 to 31st August,2023. Around 12.8% patients required referral to specialist OPDs. Most common presenting complaints were respiratory symptoms (29.8%). It was seen that 58.8% patients had bypassed the lower-level public health system and the most common reasons were non-availability of a facility nearby (26.8%), not satisfied with previous experience (23.7%), non-availability of treatment (21.6%) and investigations (17.5%), and lack of awareness of services available at the public health facility (15.4%). **Conclusions:** The general OPD serves as a model for other medical colleges to emulate and improve the quality of services at tertiary care centres.

### KEYWORDS

Community Medicine; Outpatient Care; Tertiary Care; Public Health System

### INTRODUCTION

India has a three-tiered health system- primary, secondary, and tertiary care centres- with patients ideally arriving at the tertiary

care level through referral.(1) Tertiary care centres include medical colleges and other super speciality hospitals. It has been deduced that only 1% of the total population annually

requires advanced tertiary care services.(2) Overcrowding in Out Patient Departments (OPDs) is an important problem in these tertiary care centres.(3,4) One of the main reasons for the overcrowding is that patients who do not require specialist care also visit the OPDs thereby causing delay to the patients who are in real need of expert care.(5) Most patients attending Outpatient department (OPD) in tertiary care centres could be managed in primary or secondary level. Overcrowding in OPDs lead to patient dissatisfaction, increased medical errors, spread of infectious diseases and burnout of doctors and other staff members.(5)

The problem of overcrowding in OPDs may be tackled by establishing a general OPD. In medical colleges, a general OPD functions as a screening OPD for triaging patients who require specialist care and to manage those who are not in need of such referral.(6) It has been seen that only one-third of patients required referral to specialist OPDs from the general OPD.6 Several successful models of General OPD run by Community Medicine departments in Medical Colleges in different states of India are available.(7,8,9) Community medicine is a distinct specialisation since it combines clinical practise with an emphasis on community health.(10) According to National Medical Commission, a student of Community Medicine is expected to demonstrate clinical skills of preparing case history, examination, provisional diagnosis, treatment and clinical case management and interpretation of laboratory findings.(11) It also specifies training of MD Community Medicine residents in General preventive OPD although no further specifications are provided.(11) A general OPD under department of Community Medicine will help in improved management of OPD patient load as well as training of MD residents and MBBS students during their internship.

In tertiary care centres, focus is given for curative care. The doctor trained in community medicine deals with health promotion, specific protection, early diagnosis and prompt treatment, disability limitation, and rehabilitation.(12) Hence, more focus can be given for health promotion and disease

prevention along with curative services in the OPD managed by a Community Medicine physician.

The General OPD under the department of Community Medicine at the SVBP hospital associated with LLRM Medical College, Meerut was inaugurated on January 28,2023 with the vision to improve quality of OPD services by reducing the patient burden and waiting time at specialist OPDs. To the best of our knowledge, this is the first such initiative in Uttar Pradesh. All patients, unless on follow up from a specific speciality, are directed to the general OPD from the OPD ticket counter. Each patient is examined and managed if referral is not required. In case of referral to any specific OPD, the patient is directed for the same. Along with curative care, preventive and promotive services are also incorporated.

The objectives of the study were to describe the profile of patients attending the Community Medicine OPD in LLRM Medical College, Meerut and to estimate the extent and reasons for bypass of lower-level public health facility by patients attending the general OPD.

#### **MATERIAL & METHODS**

A hospital based descriptive study was conducted in the Community Medicine OPD. Data of all patients who attended the OPD from 1st July,2023 to 31st August,2023 was collected from the registers maintained in the OPD to study the patient profile. Age of the patient, sex, chief complaints, provisional diagnosis and follow up (if any) were recorded. If the patient was on follow up for a chronic disease but presented with a different symptom, the current complaint was considered for main diagnosis in data entry. Details of the chronic condition was collected separately.

Assuming that 50% of patients attending the General OPD bypass the lower-level public health system, taking absolute error of 7%, using the formula  $n = \frac{z^2 pq}{e^2}$  (where n= sample size, z= value of normal deviate at 95% confidence interval, p=prevalence of bypassing lower-level facilities=50%, q=1-prevalence=50%, e= absolute error) and taking non-response rate as 10%, the final sample size

was calculated to be 215 for the second objective – estimation of the extent and reasons for bypass of lower-level public health facility by patients attending the general OPD. Systematic random sampling was used to select the sample of 215 patients. Since data collection was planned for around 30 working days, data was planned to be collected from seven patients in one day. Assuming average daily patient load of 90 patients per day, sample interval was calculated to be 12. First patient was selected randomly every day and every 12th patient from the first was selected on basis of entry in the OPD patient register. All patients aged between 15 to 80 years who were stable and oriented and gave written informed consent were included in the study. Patients who required emergency care/admission and those who required referral to any specialist OPD were excluded. Any patient residing >5km or requiring more than 30 minutes to arrive at the medical college by their usual mode of transportation, was asked about the nearest primary/secondary level government facility, distance (in km and travel duration) to the same, if the patient has sought care at that facility, if he/she was referred to the medical college and reasons for not availing the lower-level health facilities if applicable. Bypass of lower-level facility was defined as any patient residing >5km or requiring more than 30 minutes to arrive at the medical college who came directly to the medical college without seeking care at the nearest Primary Health Centre (PHC)/Community Health Centre (CHC)/District Hospital (DH).

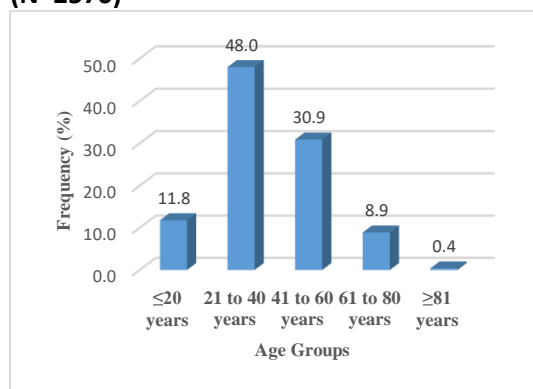
Data was entered into Microsoft Excel and was analyzed using IBM SPSS vs 26. Descriptive statistics was used and qualitative data was expressed as frequency (percentage) while quantitative variables were described as mean± standard deviation. Ethical approval was obtained from the Institutional Ethical Committee before commencing the study.

**RESULTS**

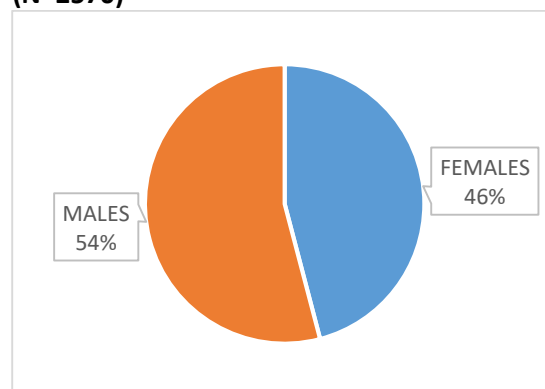
A total of 2570 patients attended the Community Medicine OPD from 1st July,2023 to 31st August,2023. The mean age of patients was 39.1 ± 15.6 years, ranging from 10 years to 88 years. Most of the patients, 1233 (48.0%) were in the age group 21 to 40 years followed by 794(30.9%) in 41 to 60 years group (Figure 1). Around 1390(54.1%) patients were males (Figure 2). Almost similar age distribution was seen among both males and females (Figure 3). Around 329 (12.8%) patients required referral to specialist OPDs.

The morbidity profile of the patients is given in Tables 1. Most common presenting complaints were respiratory symptoms (29.8%) followed by 24.6% who presented with gastrointestinal symptoms and 10.9% with probable nutritional deficiency. Around 44.2% patients were diagnosed with a probable infectious disease. It was seen that 8.4% patients were on follow up treatment for a chronic disease like Hypertension, Diabetes Mellitus, Coronary Artery Disease or Chronic obstructive pulmonary disease. It was noted that 76 patients (3.0%) were Anti Hepatitis C reactive and 20 patients (0.8%) HBsAg reactive.

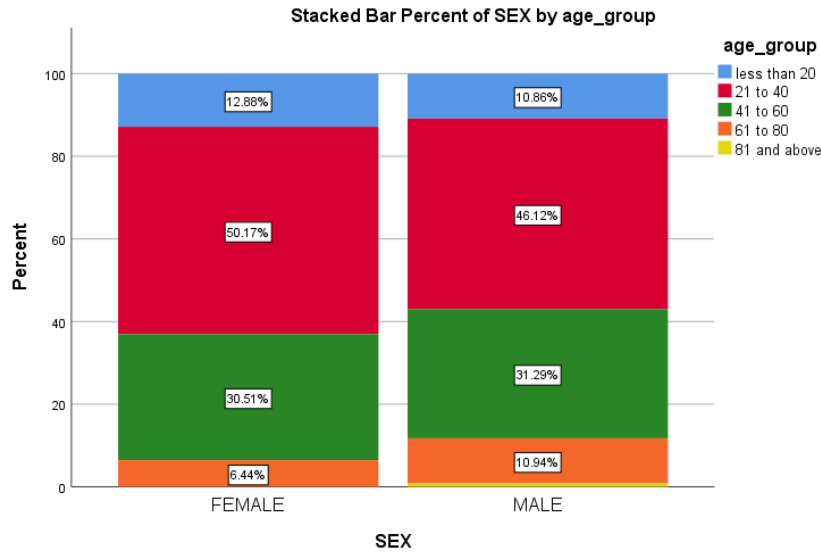
**Figure 1: Age Distribution of Patients attending Community Medicine OPD (N=2570)**



**Figure 2 Sex Distribution of Patients attending Community Medicine OPD (N=2570)**



**Figure 3 Age-sex distribution of patients (N=2570)**



**Table 1 Morbidity profile of patients attending Community Medicine OPD (N=2570) (multiple diagnoses possible in case the patient has a chronic condition)**

Diagnosis	Frequency	Percentage
Respiratory cases	767	29.8
Gastrointestinal cases	631	24.6
Probable Nutritional deficiency	280	10.9
Fever	244	9.5
Musculoskeletal pain	204	7.9
Liver disease	117	4.6
Hypertension	113	4.4
Others	79	3.0
Urinary Tract Infections	57	2.2
Headache	25	0.9
Dermatology cases	22	0.8
Diabetes	18	0.6
Anxiety	13	0.5
Gynaecological problems	11	0.3

It was seen that 29.8% patients presented with symptoms and signs of respiratory tract disease. Among the patients presenting with respiratory symptoms, 78.7% were diagnosed and managed as upper respiratory tract infection. Among patients presenting with URTI, 48.8% belonged to the age group 21 to 40 years while 29.4% were aged between 41 to 60 years. Around 9.1% patients were diagnosed and managed as Chronic obstructive pulmonary disease (COPD). All patients with chronic cough were screened for tuberculosis. Among the patients who presented with symptoms and signs of gastrointestinal disease, 69.7% presented with acidity and epigastric discomfort; majority (64.8%) being male patients and in the age group 21 to 40 years (52.1%). Around 10% cases had

diarrhoea while 3.6% presented with complaints of constipation.

Among the patients who presented with probable nutritional deficiency (anemia/hypocalcemia/Vitamin B12 or folic acid deficiency), majority (59.8%) were females. Most of these patients were in the age group 21 to 40 years (48.6%) followed by 41 to 60years (31.4%).

Among the 215 patients assessed for bypass of the lower-level health facilities, it was seen that mean distance of the tertiary care hospital in which the study was conducted was  $24.7 \pm 23.4$  km from their home, the minimum being 1 km and maximum 135km. The mean time for the participants to reach the medical college was  $66.4 \pm 48.2$  minutes, ranging from 10 minutes to 240 minutes. Around 165 (76.7%)

patients were residing >5km or requiring more than 30 minutes to arrive at the medical college. Among these 165 patients, only 68 (41.2%) sought care at the nearest PHC/CHC/DH (Table 2). Hence it was seen that 58.8% patients had bypassed the lower-level public health system. Among those who sought care at the nearest public health facility, 23.5% were referred but only 12.5% had a referral document. The nearest

PHC/CHC/DH was at a distance of  $5.6 \pm 5.1$  km or  $23.2 \pm 14.8$  minutes from the participant's home. The most common reasons for the bypass of lower-level public health facilities were non-availability of a facility nearby (26.8%), not satisfied with previous experience (23.7%), non-availability of treatment (21.6%) and investigations (17.5), and lack of awareness of services available at the public health facility (15.4%).

**Table 2 Extent and reasons for bypass of lower-level public health facilities (N=215)**

Variable	Frequency	Percentage
Distance from medical college (Km/time to reach by usual mode of transport) (n=215)		
≤5km/≤30 minutes	50	23.3
>5km/>30 minutes	165	76.7
Sought care at nearest PHC/CHC/DH (n=165)		
Yes	68	41.2
No	97	58.8
Referred from nearest PHC/CHC/DH (n=68)		
Yes	16	23.5
No	52	76.5
Reasons for not availing the nearest public health facility (n=97) *		
No public health facility nearby	26	26.8
Not satisfied with previous experience	23	23.7
Treatment not available	21	21.6
Investigations are not available	17	17.5
Not aware of services available	15	15.4
Family member admitted at medical college	9	9.28
Difficult to access	3	0.03
Doctors not always available	2	0.02
Better care at medical college	2	0.02

\*Multiple answers

## DISCUSSION

The present study was undertaken to describe the profile of patients attending the Community Medicine OPD in SVBP hospital associated with the LLRM Medical College, Meerut. A total of 2570 patients availed the services of the OPD during the study period. Majority of the patients were managed at the general OPD while 12.8% patients required referral to other departments. Similarly, in the study by Chavan B Y et al, it was seen that 15.75% of patients were referred to specialist OPDs.<sup>6</sup>

Most common presenting complaint was respiratory symptoms (29.8%). Similarly, in the multi-centric study by Salve S et al, most common cause of a visit to a health-care practitioner in India was respiratory symptoms (50.6%).<sup>(13)</sup> Among the patients with

respiratory symptoms, 78.7% were diagnosed and managed as upper respiratory tract infection. All these patients were also educated about cough etiquette and preventive measures for droplet infections. Patients with chronic cough were screened for tuberculosis and referred to respiratory medicine department for treatment if required. Smoking cessation counselling was done for the required cases.

Diseases of the gastrointestinal tract have been found to increase considerably in the last decade due to considerable lifestyle changes.<sup>(14)</sup> In our study we found that 24.6% patients presented with gastrointestinal symptoms. Among them, 70% of patients, mostly males aged 21 to 40 years, presented with acidity and epigastric discomfort. Similar findings were seen in the study by Kuntoji SB et al where in the ratio of male to female patients

with dyspepsia was 1.6:1.(15) Diet and lifestyle factors like lack of physical activity, smoking and alcohol intake have been associated with gastric function changes like gastric acid secretion and motility.(16) Along with medications, all patients were counselled about importance of lifestyle modifications.

It was seen that 10.9% patients had probable nutritional deficiency like anemia, hypocalcemia, Vitamin B12 or folic acid deficiency. In a metanalysis by Venkatesh U et al, it was seen that micronutrient deficiency was a major public health problem in India with prevalence of Vitamin D deficiency being 61%, iron deficiency anemia being 17%, and vitamin B12 deficiency 37%.(17) Dietary sources of these nutrients were explained to the patients along with supplementation.

Only 8.4% patients were on follow up for chronic diseases. The low proportion of patients on follow up could be because the general OPD is relatively new. Cohort studies are planned on the patients on follow up to assess the disease control.

In India, the public-sector health system provides basic health services close to communities through a vast network of subcentres, PHCs, CHCs and DHs.1 In our study it was seen that 58.8% patients had bypassed the lower-level public health system. A study by Rao K A et al., found that 63% of patients bypassed lower level health facilities.(18) The most common reasons for the bypass of lower-level public health facilities were non-availability of a facility nearby (26.8%), not satisfied with previous experience (23.7%), non-availability of treatment (21.6%) and investigations (17.5), and lack of awareness of services available at the public health facility (15.4%). This is similar to the national level study by Bagchi T et al.(19) If these issues are not resolved, achieving Universal Health Coverage will remain an elusive goal.

Around 2500 to 3000 patients attend various OPDs in LLRM medical college, Meerut daily. Increased footfall in the OPDs is related to reduced quality of patient care and poor patient satisfaction.(20) Most of the patients who sought care in the general OPD run by the department of Community Medicine were managed appropriately and only 12.8%

required referral, thereby contributing to reduction in unnecessary overcrowding at specialist OPDs. Along with therapeutic care, focus on health promotion and disease prevention ensures provision of more comprehensive care. Similar successful models of general OPD have been described in various studies.(6,21,22) The concept of screening/preventive/general OPD has been adapted even in the private healthcare setting and has been recommended even for Unani hospitals.(23,24,25)

Posting at the general OPD helped improve the clinical knowledge of the interns and residents posted there. Patients who are referred to specialist OPDs are followed up to enhance knowledge. The research activities and health counselling opportunities also contribute to the overall scholastic opportunities of the post-graduates.

This model of General OPD is replicable in other colleges too. Setting up of the general OPD required very few additional resources. Manpower for the OPD includes faculty, residents and interns of Community Medicine who are posted on rotatory basis, one staff nurse and one support staff. Few challenges faced in setting up the OPD included difficulty in coordination with the registration desk regarding the type of patients to be sent to the OPD and requirement of training for the residents posted for recent updates in diagnosis and management.

## CONCLUSION

The general OPD under Community Medicine department successfully provided health promotion, preventive and therapeutic care to 2570 patients from July to August,2023 and 12.8% patients were referred to specialist OPDs. It was seen that 58.8% patients had bypassed the lower-level public health system. Most common presenting complaints were respiratory symptoms followed by gastrointestinal symptoms and probable nutritional deficiency. This general OPD serves as a model for other medical colleges to emulate and improve the quality of services at tertiary care centres.

### Relevance of the study

This study showcases the success of OPD set up in a government medical college under department of Community Medicine. This helps reduce the patient load on other OPDs and also provides training to residents and interns. The study also highlights the need to strengthen the lower level public health facilities to avoid overcrowding at tertiary care centres.

### AUTHORS CONTRIBUTION

All authors have contributed equally.

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Nil

### CONFLICT OF INTEREST

There are no conflicts of interest.

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