



**ORIGINAL RESEARCH PAPER**

**Occupational Health**

**PREVALENCE OF COMMON HEALTH DISEASE AMONG EMPLOYEES VISITING OCCUPATIONAL HEALTH CENTERS ACROSS DELHI NCR RUN BY A TERTIARY CARE HOSPITAL: A RETROSPECTIVE OBSERVATIONAL STUDY.**

**KEY WORDS:** occupational health centers, trends of diseases, health patterns, prevalence, employes.

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**ABSTRACT**

The health surveillance in occupational health centers in India, are mostly focused on reporting notifiable diseases. The need to identify changes in health patterns utilizing data from various on-site health care centers in their respective workplace is less explored. **Aim:** in order to describe and present longitudinal assessment of morbidity patterns and trends among employees seeking health care in various occupation health clinic (OHC) of various unrelated centers across Delhi NCR run by a corporate hospital. **Background:** Occupational Health Centers (OHCs) serve as critical access points for primary care, early symptom management, and workplace-related health surveillance. Understanding disease trends across regions can guide targeted interventions to improve employee well-being. This study analyzes patient presentations across OHCs in Delhi, Noida, and Gurgaon from January to September 2025. **Methods:** We conducted record-based analysis and studied retrospective data available from OHCs located in Delhi, Noida and Gurgaon from January 2025 to September 2025, roughly 9 months data was analyzed. The data of all employees visiting our health centers were documented which included their presenting symptoms and health conditions they were suffering from their provisional diagnosis of current episode and their long-term illness if any for which they needed medications. All this data was recorded in specific software which in turn provides summary diagnosis based on affected body organ system as per ICD-11 categories. This information was used to assess the morbidity pattern and trend among workers. Chi-square test of significance and Extended Mantel-Hansel chi square test was used to assess the association and its linear trend. A retrospective review of monthly OHC records from the three regions was collected and studied to draw an inference. Data from January to September were extracted, and consolidated for the same. Disease-wise and month-wise frequencies were computed, and comparative analyses were performed across three cities. **Results:** Across all three regions, a total of 239,798 patient visits were recorded. Noida accounted for the highest caseload, followed by Gurgaon and Delhi. The most common presenting complaints across all OHCs included headache, acidity, musculoskeletal pain, fever, cold, and abdominal pain. Delhi exhibited pronounced seasonal fluctuations, Gurgaon demonstrated moderate monsoon-associated increases, and Noida showed consistently high utilization throughout the year. Top disease categories were largely similar across regions, reflecting shared occupational and environmental determinants. **Conclusion:** The findings highlight significant and region-specific patterns of disease burden across Delhi NCR OHCs. High prevalence of stress-related, ergonomic, and seasonal complaints underscores the need for strengthened workplace health programs focusing on preventive care, ergonomic improvements, and lifestyle modification. These results emphasize the essential role of OHCs in employee health monitoring and provide evidence to support data-driven occupational health interventions. A clinic visit record, with its own strengths and limitations, provides information on morbidity pattern and its trends among workers. This study and many such studies will help us to better understand the health patterns of employees in day-to-day life and not only focus on notifiable or communicable disease. Our study presents a holistic view on health conditions which affect the employees of multinational companies. This information will further help the authorities to better plan, implement and evaluate health needs and address the preventive, pro motive, and curative services to improve the quality of life for employees pan India.

**INTRODUCTION**

Occupational health is defined as the highest degree of physical, mental and social well-being of workers in all occupations with emphasis on the prevention of hazards at a primary level.<sup>[1]</sup> Changing risks in general population may influence morbidity patterns and health patterns in employees of various MNC's.<sup>[1,2]</sup> Changes in work environment determinants can also alter disease pattern and health priorities of employees. Industries and MNC's must identify the problem areas well in advance and take cognizance of these expectant changes and identify them at the earliest by efficient surveillance systems and studies like ours to help them identify and correlate the problem areas and provide timely preventive measures. Occupational health surveillance in India is targeted to detect and notify only "notifiable diseases" specified in The Indian Factories Act,<sup>[3,4]</sup> mostly through periodical medical examination or by isolated surveys. We need to also focus on health and disease patterns and prevalent disease among employees on everyday basis by studying and introspecting from the data that is available in records of on-site clinics. Occupational Health Centers (OHCs), are onsite out-patient health care facilities established in industries as per The Indian Factories

Act.<sup>[3]</sup> The OHC records are maintained regularly and digitally in most large companies. Data from OHC records can help to identify leading health problems, their trends, distribution and their corroboration with the general population risks.

This paper describes a longitudinal assessment of morbidity patterns and trends among employees seeking care in occupation health clinic (OHC) in multiple OHC's in Delhi NCR region run by tertiary healthcare hospital in India, from January 2025- September 2025. The study also intends to explore the disease pattern prevalent in this time period and its importance in relevance to work productivity.

**METHODOLOGY**

This is a retrospective observational study which analyzed the data from January 2025 to September 2025 of multiple unrelated OHC's situated in Delhi, Noida and Gurgaon region in India. This paper is limited to data from OHCs. We tried to identify predominant health conditions and patterns for seeking health care in OHC among employees and its association with the work department. The 24/7 OHCs is responsible for providing first aid and basic occupational health services including primary care, emergency care,

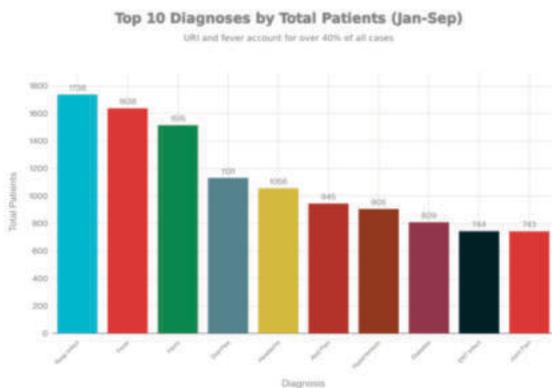
health surveillance, health promotion, physiotherapy, and record maintenance and is staffed by doctor, nurses, and physiotherapist (as per norms specified by Indian Factories Act).<sup>(3)</sup> Each visit by an employee is registered and details of vitals, diagnosis, management are documented in their "Patient Health Record". Data is maintained in hard and digital format using company developed software. Data for this current study was extracted from this software for the year 2025 (January-September) in MS excel format. Every employee visiting the OHC was seen by a doctor, who makes a provisional diagnosis on basis of their presenting symptoms. Employees were also provided the facility to rest for 30-45min in-case they were unwell with prior permission from their respective supervisor and their details and health conditions was recorded in health register. Visits made to OHC for the sole purpose of Annual Medical examination were excluded from the study. We only observed and studied the data regarding their medical illness and categorized them on basis of various body systems which were affected. We categorized the data month wise as per the presenting disease or illness which were reported in that respective month. We also classified the prevalent health conditions or illness reported on basis of the geographical location of that OHC. Number and proportion of OHC visits was calculated and presented month wise for the year 2025. Leading health conditions for each month is presented as frequency and percentage (provisional and summary diagnosis). Ranking of top five health conditions is provided for each month from January to September in 2025.

**RESULTS**

The chart sums up all cases from all OHCs across Delhi OHC's from January 2025 to September 2025.

The analysis of patient footfall across all Occupational Health Centres (OHCs) in Delhi from January to September reveals trends in disease burden and healthcare-seeking pattern.

**Graph-1**



**Total no. Of cases reported across all OHC'S located all over Delhi from January 2025 to September 2025 was 59270.**

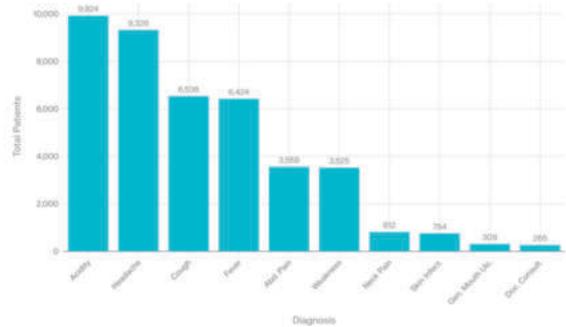
The top 10 presenting complaints is indicative of predominance of non-communicable, lifestyle-related, and episodic symptomatic conditions, reflecting of disease burden of an occupational care center. Gastric and related symptoms such as Abdominal Pain, Vomiting and Nausea together accounted for a significant proportion of visits, suggesting the major contributors may be related to dietary patterns, dehydration, stress, and irregular work hours. The high number of cases for regular health check-up visits such as blood pressure monitoring indicates growing awareness and screening for hypertension which is an important positive indicator of preventive health system. Seasonal illnesses such as Fever, Cold, and Throat Pain seems to be aligning with expected trends due to weather fluctuations, viral infections, and increased exposure in crowded and polluted

environments. Musculoskeletal complaints like Body ache/Back Pain remain prevalent which is consistent with the physical strain associated with prolonged standing, improper sitting habits or long duration of sitting hours and sedentary work patterns. Additionally, conditions such as minor cuts and local injuries reflect workplace-related minor injuries that continue to be a routine part of OHC caseloads.

Delhi OHCs also showed a steady rise in patient footfall from January to May, which seemed to be largely driven by increasing cases of fever, abdominal pain, and respiratory symptoms as summer approaches. A noticeable peak occurred in April and May, reflecting seasonal infections, dehydration-related complaints, and rising heat stress. Month of June shows a temporary decline, likely due to school holidays and reduced footfall in educational institutions where some of the OHCs were located. The caseload then surges sharply in July, corresponding with monsoon onset and increased episodes of fever, vomiting, body ache, and waterborne disease. August and September maintain moderately high numbers, indicating persistent monsoon-related illnesses. In totality, Delhi shows distinct seasonal fluctuations, with major spikes in months influenced by weather conditions and changes.

The disease pattern highlights a predominance of stress-related, lifestyle-linked, and various other symptomatic conditions reflecting upon the occupational and urban profile of Noida's working population.

**Graph-2**



Total no. Of cases reported in OHC's located all over Noida city from January 2025-September 2025 was 104,829.

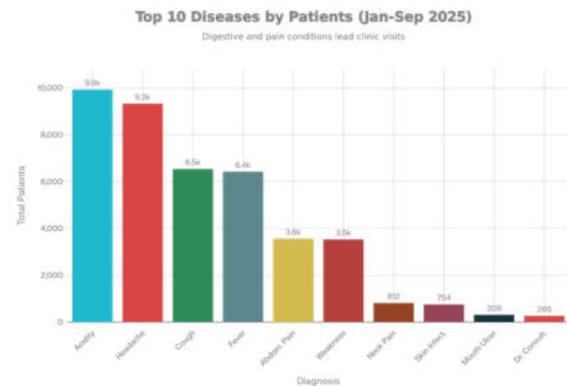
Acidity, Headache, Body ache, abdominal and back pain emerge as the top three complaints, together contributing a substantial share of the total caseload. This disease pattern is suggestive of the impact of increased work pressure, irregular and unhealthy meals, inadequate and irregular hydration, prolonged screen exposure, and poor ergonomics among employees across various sectors of Noida.

Seasonal illnesses such as Cold, Fever, Throat Pain, and Cough is matching with expected seasonal and viral illness patterns seen during monsoon and winter transitions. Number of visits for routine health checkup like Blood pressure is indicative of health awareness and ongoing emphasis on routine monitoring and early detection of hypertension, which is a crucial preventive health measure. Minor reported cases were of local injuries and minor cut for which adequate and timely first aid were provided. Overall, the findings represent the essential role of OHCs in delivering accessible primary care, promoting preventive health practices, and identifying workplace-related risk factors that require targeted interventions in Noida's corporate centers. Noida records a consistently high caseload across all months, reflecting large corporate hubs and industrial clusters that depend heavily on OHC services. The gradual rise from January to April corresponds with increasing incidence of headache, acidity, and musculoskeletal complaints linked to rising work

intensity and improper posture habits amongst employees. The caseload remains steadily high through summer, with complains of acidity, headache, and dehydration symptoms prevalent. July marks a noticeable increase due to monsoon onset, with more cases of fever, cold, and throat pain. Despite minor monthly variations, Noida maintains the highest and most footfall among the three cities, suggesting continuous utilization and high workforce dependency on onsite medical care throughout the year.

The top presenting complaints in OHC's across Gurgaon and Bawal regions were Acidity, Headache, Fever, Cough, and Cold highlighting the burden of lifestyle-related disorders, stress-induced symptoms, and seasonal respiratory illnesses common in rapidly growing corporate and industrial environments.

**Graph-3**



**Total no. of cases reported in all OHC's located across Gurgaon city from January 2025 to September 2025 was 75,699.**

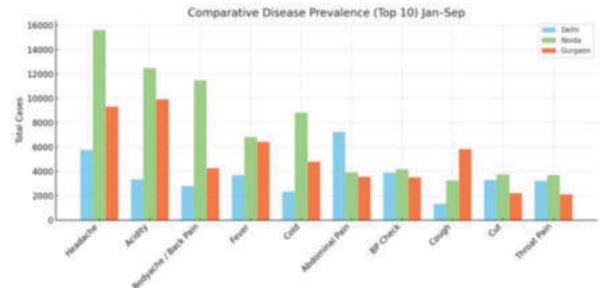
Majority of cases complaining of body ache, Back Pain and Abdominal Pain further indicate the effects of poor posture practice, long working hours, irregular meals, sedentary lifestyle among other challenges faced by employees. Recurrent cases of Weakness and BP Check point toward increasing attention to preventive health monitoring, particularly for fatigue and early signs of hypertension. The presence of cases like Shoe Bite/Scratch reflects routine workplace-related minor injuries, reinforcing the need for continuous workplace safety measures and accessible first-aid support. Holistically, the findings emphasize the essential role played by Gurgaon OHCs in delivering primary care, early symptom management, and preventive health interventions, while helps in preventing recurring health issues.

Gurgaon also demonstrates moderate case numbers in early months, followed by a progressive increase through March and April. The region shows a peak around June–July, driven by fever, cough, cold, and gastrointestinal symptoms associated with monsoon onset. Gurgaon's industrial and corporate mix contributes to repeated presentations of acidity, back pain, and respiratory illnesses. At monsoon peak, July shows one of the highest spikes, after which numbers stabilize but remain elevated in August and September. Overall, Gurgaon displays a balanced seasonal trend less extreme than Delhi's fluctuations but more variable than Noida's consistently high pattern.

A comparative assessment of disease prevalence across Delhi, Noida, and Gurgaon OHCs from January to September reveals distinct patterns reflective of the demographic, occupational, and industrial differences between the cities. Noida reports the highest overall caseload (104,829 cases), significantly surpassing Delhi and Gurgaon, indicating larger workforce density, higher footfall, and potentially greater

dependence on on-site medical services. Gurgaon follows with 75699 cases, while Delhi records 59,270 cases, suggesting a relatively lower but steady utilization of OHC facilities.

**Graph-4**



**Delhi OHC's -59,282, Noida OHC's -104,829, Gurgaon OHC's-76,068 Combined Total cases reported in OHC's across Delhi, Noida and Gurgaon -239,798 cases**

Across all OHC's situated across these three regions, Headache, Acidity, Body ache/Back Pain, Fever, Cold, and Abdominal Pain consistently appear among the top conditions, highlighting a shared burden of lifestyle-related complaints, stress-induced symptoms, and seasonal illnesses. Noida depicts considerably higher burden in most disease categories, especially Headache and Acidity. Gurgaon shows elevated counts of Fever, Cough, and Cold, suggesting stronger seasonal influences or higher respiratory illness exposure, while Delhi exhibits comparatively higher presentations for Abdominal Pain and BP Check, aligning with dietary and preventive health trends.

Overall, the comparative data emphasize the need for region-tailored occupational health strategies focusing on stress management and ergonomics in Noida, respiratory health and infection prevention in Gurgaon, and routine screening and digestive wellness in Delhi. These findings stress upon the value and importance of OHCs as frontline centers for workplace health monitoring, early diagnosis, and preventive interventions. The analysis of Occupational Health Centre (OHC) data from Delhi, Noida, and Gurgaon across the nine-month period from January to September highlights important patterns in disease prevalence, workforce health needs, and city-specific trends. Collectively, the three regions reported over 1.7 lakh cases, defining the critical role of OHCs in providing accessible primary care, first aid, and preventive health services to large corporate and institutional populations.

Strengthening OHC infrastructure, implementing preventive wellness programs, and promoting employee health awareness can significantly reduce recurrent complaints and improve workforce well-being.

**DISCUSSION**

The present paper is part of a larger longitudinal study examining the relationship between employee health and productivity across multiple Occupational Health Centers (OHCs) operating at different locations and over different time periods in the Delhi NCR region. Periodic evaluation of OHC records allows early identification of trends in employee health and disease patterns. While morbidity assessment using periodic medical examination data is well established, the utilization of routine OHC visit records for identifying morbidity patterns and trends remains relatively underexplored. OHC data reflect disease patterns among employees seeking care due to perceived ill health and may serve as a proxy for morbidity in the source population.

The findings of this study (January–September 2025) indicate that morbidity patterns observed in OHCs largely resemble those seen in general outpatient and primary care settings,

with respiratory, digestive, and musculoskeletal conditions predominating. Respiratory system-related morbidities were the most common across all regions and demonstrated clear seasonal variation. Similar patterns have been reported in studies from India, as well as from occupational health clinics in developed countries, where respiratory and musculoskeletal disorders are among the leading causes of outpatient visits.

Musculoskeletal disorders (MSDs) were particularly prevalent in multinational corporate settings, likely attributable to prolonged sitting, poor posture, and the repetitive nature of work. Previous studies have reported a high burden of MSDs among industrial and corporate workers. Gastrointestinal complaints also showed an increasing trend during the study period across regions, suggesting the influence of lifestyle factors, stress, and work-related routines.

Injuries reported at OHCs were predominantly minor and did not require hospitalization. However, repeated visits to OHCs, prolonged rest periods, and frequent absenteeism are closely associated with reduced productivity. Frequent attendance may reflect chronic illness, inadequate response to treatment, increased vulnerability, or workplace-related factors. Evidence from international occupational health studies indicates that musculoskeletal and mental health conditions are major contributors to repeat OHC visits.

Overall, OHC records represent a valuable yet underutilized source of occupational health surveillance data. They enable monitoring of outpatient morbidity trends, early detection of deviations from expected patterns, and identification of location-specific or seasonal health risks. However, limited digitalization of OHC records and the absence of standardized reporting mechanisms constrain their wider use. Strengthening OHC data systems and integrating occupational health services with primary health care could substantially enhance workforce health surveillance and support evidence-based preventive and promotive interventions in India.

**CONCLUSION**

This study provides a comprehensive assessment of patient presentations across Occupational Health Centres in Delhi, Noida, and Gurgaon from January to September. The findings demonstrate a substantial overall caseload, with notable inter-city variation driven by differences in workforce density, occupational demands, and seasonal influences. Across all regions, headache, acidity, musculoskeletal pain, and common respiratory and gastrointestinal symptoms constituted the majority of consultations, reflecting shared patterns of occupational stress, ergonomic strain, and environmental exposures. Noida recorded consistently high utilization throughout the study period, whereas Delhi exhibited marked seasonal peaks and Gurgaon showed moderate but distinct monsoon-related increases. These trends highlight the pivotal role of OHCs in delivering primary and preventive care within workplace settings. Strengthening surveillance, enhancing preventive health programs, and addressing modifiable risk factors such as ergonomics, hydration, nutrition, and infection control will be essential to reducing disease burden and improving employee well-being.

Holistically, the study points towards the importance of OHCs as an integral component of occupational health systems and provides evidence to support data-driven interventions tailored to the specific health profiles of different urban workforce environments.

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