

## Review Article

### Footwear Usage and Practice in Indian Healthcare Centres

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Healthcare Centres are where the patients get treated, but most of the time, we ignore that it is also a major source of Infections, to both patients and visitors. In India, many hospitals don't allow patients & visitors to enter with their Footwear on, whereas, Doctors & other Health Care Workers can. There are no specific guidelines for visitors and patients for wearing Footwear in India. Also, the Indian National Guidelines of infection prevention & control doesn't provide sufficient protocol regarding the importance of wearing Footwear for patients and visitors in Healthcare Centres. This article focuses on finding the risk of acquiring Infection & transmission of microorganisms when a patient walks barefoot within the hospital.

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**Key words :** Footwear, Floor Contamination, Infection, Personal Protective Equipment.

*"We have come from a World of Infection, we live in a world of Infection, and in the future, unless we take control of Infection now, we will continue to live in a world of Infection"*

— **Professor John Oxford**

In an environment like a hospital, the cause and cure lie in the same place. Our Healthcare System always emphasises hospitals being a two-dimensional setup involving Health Care Providers and patients. But another significant dimension of care by attenders and visitors of patients is often neglected which plays a crucial role.

In a developing country like India, where there are a lot of emotions and cultural expectations running among family and friends, often when an individual falls ill, relatives are expected to visit the patient at the hospital. Unfortunately, many hospitals and clinics in India don't allow patients and visitors to enter the hospital with their Footwear. So, on walking barefoot in the hospital, they will be exposed to many harmful and life-threatening microorganisms<sup>1</sup>. On the other hand, people with common Foot infections like Athlete's Foot (tinea pedis), Paronychia, Necrotizing Fasciitis, Unhealed Diabetic Foot Ulcer, Open Wounds etc may transmit the infection to others coming to the hospital<sup>2</sup>.

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#### **Editor's Comment :**

- Restriction of footwear usage in healthcare settings has more of a negative effects than positive outcomes. Risk of infections and injuries increases when the footwear is not used. Footwear usage by patients and visitors must be managed except in strike zones like operation theatre and ICU.

In this article, we have reviewed the risk of infection transmission and the importance of patients and their attenders wearing Footwear in hospitals to prevent hospital-acquired infections.

#### **Risk of Infection :**

The American Journal of Infection Control in 2017 published a study that proved the presence of highly contagious microbes on hospital floors<sup>3</sup>. Commonly isolated organisms from the hospital floors are Clostridium Difficile, Methicillin-resistant Staphylococcus Aureus (MRSA), Staphylococcus Aureus, Vancomycin-Resistant Enterococcus (VRE) etc.<sup>4</sup> Another report by Korin Miller on April 14, 2020, confirms that Centers for Disease Control (CDC) researchers discovered Novel Coronavirus being widely distributed on floors, trash cans and handrails of hospital beds<sup>5</sup>.

The environment was sampled before and after cleaning, using a defined microbiological screening method. All floor cleaning procedures lowered the overall microbial burden, according to the findings. But bacterial pathogens occasionally persisted despite cleaning. So, wearing Footwear reduces direct exposure to microbes<sup>6</sup>. Minnesota Department of Health, USA, confirms that Footwear provides a barrier

against exposure to microorganisms or contact within a contaminated environment<sup>7</sup>.

A cross-sectional study was done on needle stick injuries in hospitals. Based on this study, the prevalence of needle stick injury in Indian Healthcare Centres was found to be 20.1%<sup>6</sup> while in Australia it was 4% which is lower than that in India<sup>8</sup>.

Also, a few incidents of discomfort and agony have been recorded in India. One such incident was reported by Times of India - in the Community Health Centre at Karwan, Hyderabad by patients and visitors who felt uncomfortable & irritated when they were asked to remove their Footwear on entering the hospital<sup>9</sup>. This has made patients, visitors and attenders feel inferior to Doctors and other Healthcare Professionals in the hospitals.

### Guidelines :

Various Guidelines regarding 'Footwear' usage in Hospitals for Healthcare Professionals have been given and they are as follows :

- In India, the National Guidelines for Infection Prevention and Control in Healthcare facilities, authorised by the Ministry of Health and Family Welfare provided a few guidelines on Footwear usage. These guidelines were framed based on CDC guidelines<sup>10</sup>.

- Occupational Safety and Health Administration (OSHA) suggests the usage of Footwear for Health Care Workers in hospitals, to prevent Blood-borne Infection transmission and Foot Injuries<sup>10</sup>.

Based on these guidelines, in general, hospitals are divided into zones to prevent Contamination and Infection effectively.

According to the World Health Organisation (WHO), the hospital can be divided into 4 zones.

- Zone A indicates no patient contact
- Zone B indicates care of patients who are not infected
- Zone C is for infected patients who are constrained to isolated wards.
- Zone D is for highly susceptible patients.<sup>11</sup>

### The Operation Theatre is also divided into Zones

- Zone 1 : It is the outer zone that has a similar level of cleanliness as other patient-care areas in the hospital.
- Zone 2 : It is the restricted zone where the entry is also restricted.
- Zone 3 : It is the cleanest or ultra-clean zone.
- Zone 4 : It is the disposal zone that is relatively dirty.<sup>3</sup>

But there are no guidelines regarding footwear usage in hospitals for patients and visitors.

### Recommendations :

- The Hygiene of the hospital must be maintained by regular and periodic cleaning and disinfection.
- Footwear usage by patients, attenders and visitors must be mandated in hospitals except for sterile Zones like Operation Theatres and Intensive Care Unit (ICU).
- Footwear must be provided by the hospital for patients, visitors and attendees while they enter the Sterile Zones.
- An innovative method is being followed by a hospital in Ahmedabad. Here fee is collected from visitors when they come to the hospital to visit patients. This money was deducted from the bill of the patient at the time of discharge.

### Conclusion :

In India, there are no specific guidelines regarding Footwear usage for patients and visitors in hospitals. Many hospitals do not allow patients and visitors to wear Footwear. So, they are prone to get infections. According to existing data, walking without Footwear in the hospital irrespective of Zones proves to contribute to the transmission of organisms. So, susceptibility to infections from hospitals can be solved through routine cleaning and regular disinfection. Footwear usage by patients and visitors must be mandated except in Sterile Zones like Operation Theatres and ICU. Thus, measures such as new Laws, Policies, Rules and Guidelines regarding wearing Footwear can be enforced and strict practising of these guidelines by the patients & visitors in Indian Healthcare facilities will help to overcome this situation.

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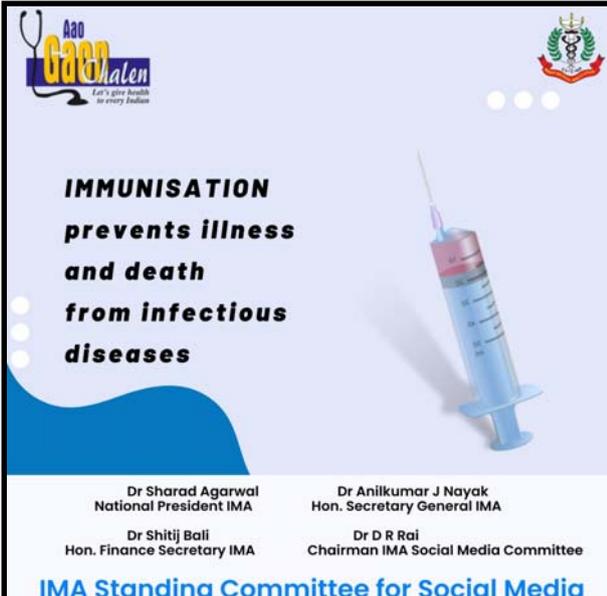
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