

Original Research Article

Prevalence of dermatoses in adult migrant workers attending dermatology OPD in a tertiary care centre in Puducherry

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Received: 09 March 2021

Revised: 25 March 2021

Accepted: 26 March 2021

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ABSTRACT

Background: Migrant workers are exposed to dangerous and unhygienic work environments, which puts them at risk of developing skin diseases. This study aims to assess the prevalence of skin diseases and provide epidemiological data regarding various dermatoses among migrant workers in Puducherry.

Methods: This is a hospital-based, cross-sectional study conducted in Aarupadai Veedu Medical College and Hospital from August 2019 to February 2021. 350 migrant workers were randomly selected and examined for the prevalence of infective and non-infective dermatoses. The observations were documented and data were analyzed using statistical package for the social sciences (SPSS) version 22.

Results: A total of 350 migrant workers were included in the study. Of most migrants, 90.9% (n=318) were males, while the remaining 9.1% (n=32) were females. The prevalence of infective dermatoses was found to be 76% (n=266) and the prevalence of non-infective dermatoses was 43.10% (n=151) in this study. Fungal infections are the most common infective dermatoses affecting 51.5% of the workers, followed by bacterial skin lesions in 27.4%.

Conclusions: This study reveals a high prevalence of infective and non-infective dermatoses among migrant workers, with fungal infections being the most commonly occurring infective skin disease. Eczema was the commonly occurring non-infective dermatoses, according to this study.

Keywords: Migrant workers, Physical health, Infective dermatoses, Fungal skin infections, Eczema

INTRODUCTION

Workers migrate for paid work in a state or a region where they are not domicile. Migration is a social process that is constantly growing and can greatly impact socio-economic growth. According to an East Asia forum study, an estimated 454 million migrants in India, 60 million are inter-state labour migrants.¹ The magnitude of inter-state migration in India was around 9 million per annum between the years 2011 and 2016, according to a study report by the Economic Survey of India in 2017.² The source states of migration in India are Uttar Pradesh, Bihar,

Madhya Pradesh, Uttarakhand, Rajasthan, West Bengal and Punjab and the destination states being New Delhi, Tamil Nadu, Kerala, Maharashtra, Andhra Pradesh and Gujarat. For males, the most common reason for migration was work and for females, it was marriage.³

The migrant workers are a vulnerable community in India who are often poorly paid and exposed to hazardous work environments. They might even lack basic amenities like proper sanitation, pure drinking water, electric supply and drainage around their shelters. This unhygienic environment puts them at risk of developing infectious

diseases like typhoid, malaria, dengue and hepatitis, and skin infections.⁴ Studies indicate a high incidence of fungal and bacterial skin diseases among these migrants owing to poor personal hygiene.⁵ The high incidence of skin diseases among this category due to lack of basic amenities and lack of awareness about the possible health problems that could arise from such unhealthy living environments. Our study aimed to assess the prevalence of skin diseases and provide epidemiological data regarding various dermatoses among migrant workers in Puducherry. This study could be an eye-opener in providing proper care and awareness to the migrant workers of India, which can in turn reduce the incidence of skin diseases among them.

Aim of the research was to assess the prevalence of skin diseases and provide epidemiological data regarding various dermatoses among migrant workers in Puducherry.

METHODS

This hospital-based, cross-sectional study was conducted to survey and document the prevalence and predictors of skin diseases in migrant workers in Aarupadai Veedu College and Hospital during the period August 2019 to February 2021. The study included a total of 350 migrant workers who were selected randomly as per convenient sample size, all the study participants signed the informed consent form before starting the study. Migrant labourers visiting dermatology outpatient department (OPD) of Aarupadai Veedu Medical College and hospital, residing in Puducherry for less than five years and willing to take part in the research were included in the study. Migrants living in Puducherry for more than 5 years and those unwilling to participate in the study were excluded. A semi-structured, pre-validated questionnaire with standard questions about their socio-demographic profile was given to them. After this, the study participants were examined for skin diseases in a well-lit, bright room by the treating dermatologist. The prevalence of infective and non-infective dermatoses was assessed and then we compared the occurrence of skin diseases with their occupation and socio-demographic factors to see if there was any association. Data were analyzed using statistical package for the social sciences (SPSS) 22 version software. For qualitative data, the chi-square test was used as a test of significance. A p value <0.05 was considered significant. Following the study, health education was given to all migrant workers about personal hygiene and occupational hazards.

RESULTS

A total of 350 migrant workers were included in the study. Of the majority of the migrants, 90.9% (n=318) were males while the remaining 9.1% (n=32) were females (Figure 1). In this study, 20 to 30 years age group migrant workers are higher in numbers 207 (59.1%) (Table 1). Education of the migrant workers, 53.1% of migrant workers are illiterate. The prevalence of infective

dermatoses was found to be 76% (n=266) and the prevalence of non-infective dermatoses was 43.10% (n=151) in our study. Our study revealed that fungal infections are the most common infective dermatoses affecting 51.5% of the workers, followed by bacterial skin lesions in 27.4%. Scabies, viral dermatoses and pediculosis were seen in 9.7%, 7.1% and 3% of the workers. Leprosy was the least occurring infective skin lesion seen only in 0.4% of the workers (Figure 2). We observed from our study that among fungal dermatoses (n=137), *Tinea corporis* was the commonly occurring infection (37%), followed by *Tinea cruris* (23.6%) and *Pityriasis versicolor* (21.3%) (Figure 3). Among bacterial dermatoses, folliculitis was most frequently encountered with a prevalence rate of 24.5%. This was followed by pitted keratolysis (21.9%) and secondary pyoderma (17.8%) (Figure 4). The pattern of dermatoses presented here is an expressive of poverty, ignorance, overcrowding, poor hygiene and exposure to common irritants and sensitizers in the industry. A marginally high percentage of warts (57.9%) was present among the viral dermatoses. Varicella (26.3%), herpes zoster (10.5%) and herpes orolabialis (5.3%) were the other viral skin lesions encountered in this study (Figure 5). Among the 151 cases of non-infective dermatoses, eczema was the most common lesion seen in 41.1% (n=62) of the workers. miliaria (20.5%), fissure feet (18.5%), PMLE (7.9%), hyperhidrosis (6%), melasma (2.6%) and nevi (1.3%) were the other skin lesions observed in our study. Psoriasis, lichen planus and callosity were seen in 0.7% of the migrant workers (Figure 6). Contact dermatitis is being identified as most common type of eczema in this study is seen in 46 cases. Contact dermatitis due to chemicals, rubber compounds, pesticides, soaps, cement, PVC is noted in this study (Table 2).

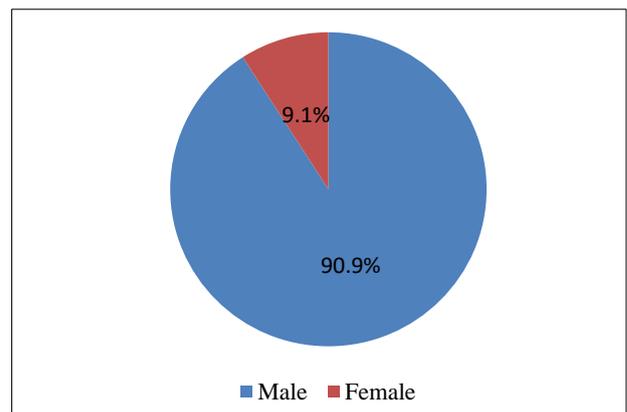


Figure 1: Sex distribution.

Table 1: Age distribution.

Age group (years)	Male	Female
20-30	192	15
31-40	71	8
41-50	37	6
51-60	18	3

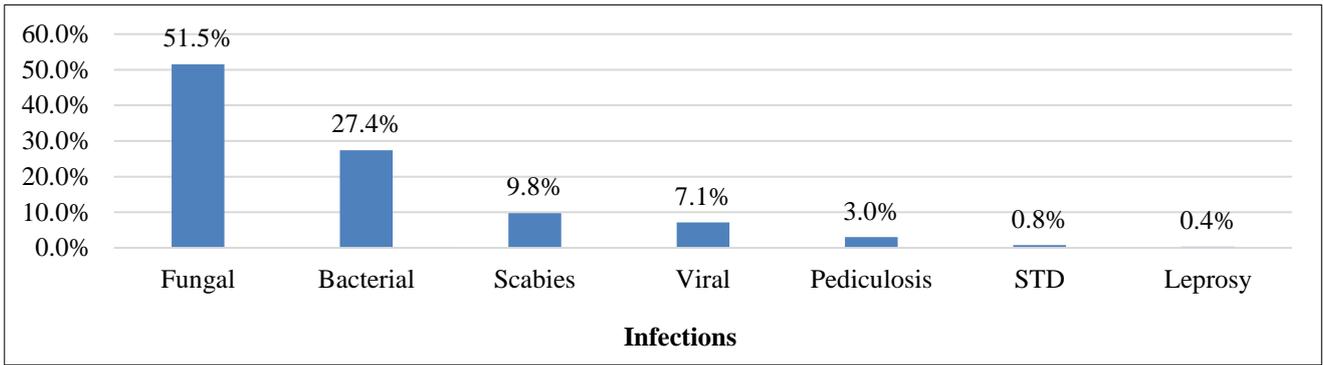


Figure 2: Infective dermatoses.

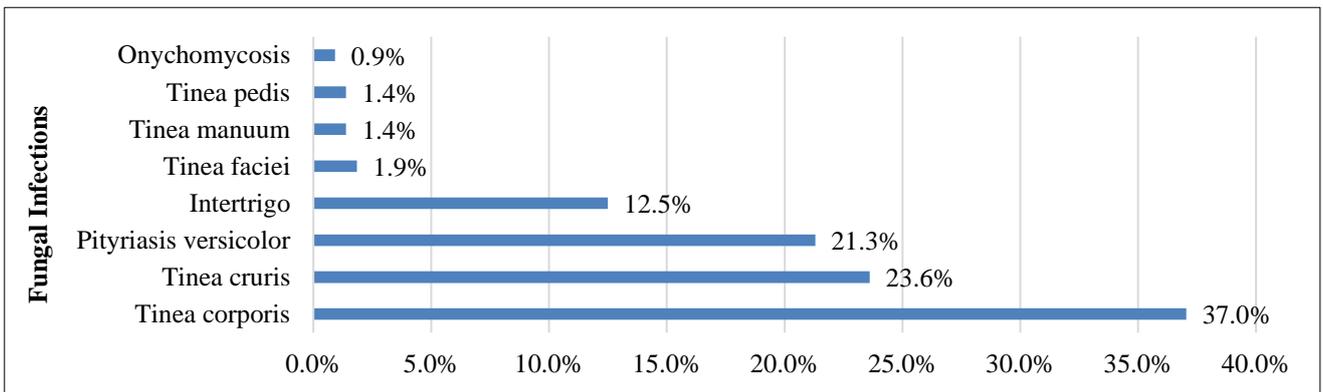


Figure 3: Fungal infections.

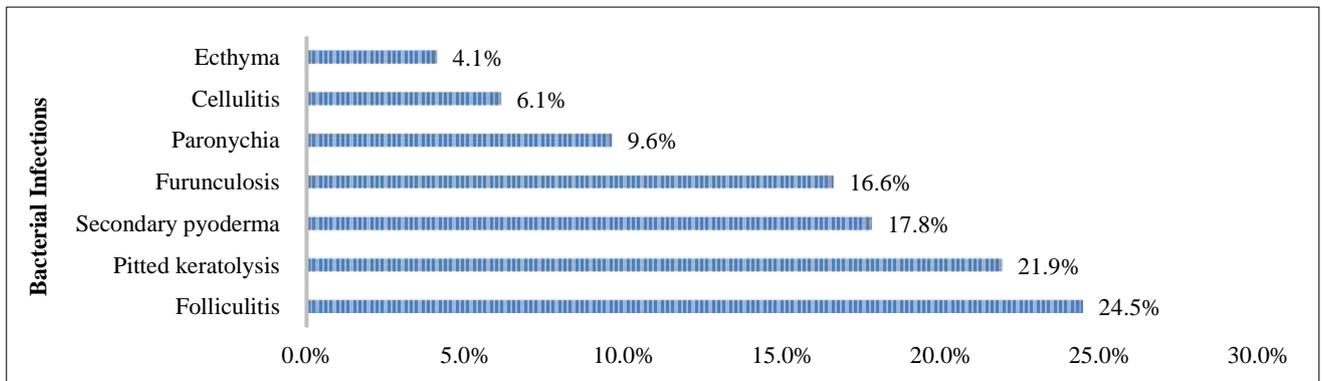


Figure 4: Bacterial infections.

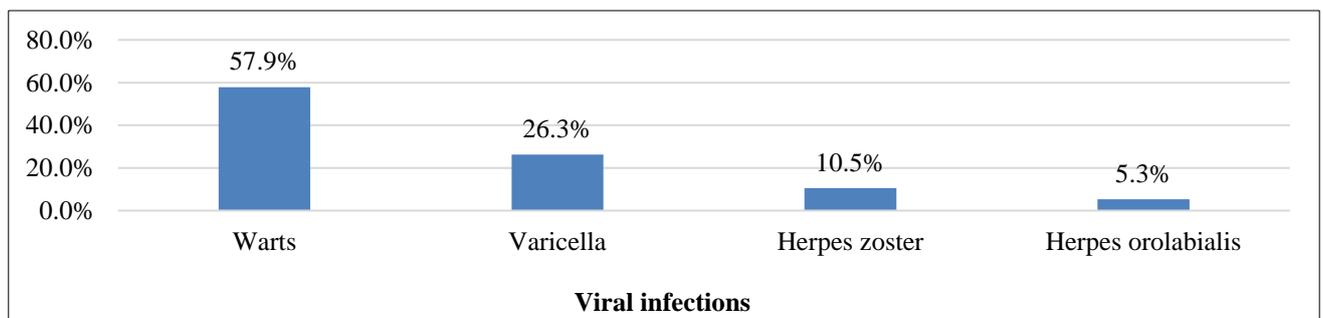


Figure 5: Viral infections.

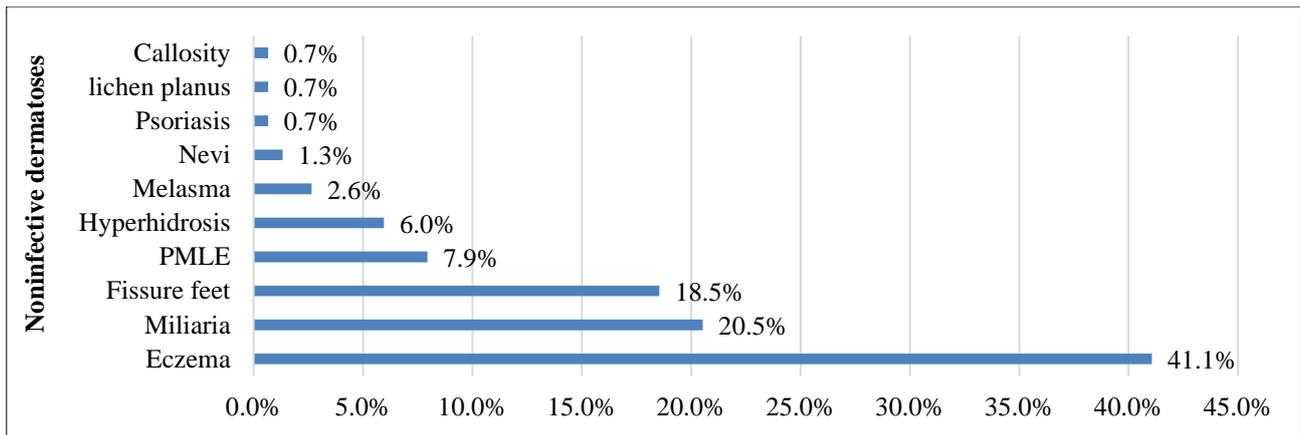


Figure 6: Non-infective dermatoses.

Table 2: Type of eczema.

Type of eczema	Frequency	Percentage
Contact dermatitis	46	74.2
Stasis eczema	9	14.5
Discoïd eczema	4	6.5
Pompholyx	2	3.2
Apron eczema	1	1.6

DISCUSSION

The skin serves as a biologically active barrier between a person and their surroundings. Environmental stressors can predispose to skin disease, although the skin is designed to adapt to a wide range of external changes.⁶ In a variety of occupations, such exposures are a regular part of the job. Migration is a social phenomenon since ancient times and in India, people migrate especially for better work and better quality of life. Many studies have shown that skin diseases among migrant workers are high due to poor work environmental conditions. Banerjee and his associates reported a prevalence of 65% infectious skin diseases in their study among migrant workers in Karnataka.⁷ In our study, the prevalence of infective dermatoses was 76% which is very high.

According to our study, fungal dermatoses was the most commonly occurring infective skin disease, with a prevalence of 51.5%. Among these, the commonest was *Tinea corporis* (37%), followed by *Tinea cruris* (23.6%) and *Pityriasis versicolor* (21.3%). Kuruvila et al also showed a high prevalence of 89.72% infective dermatoses in their study, with fungal infections being the most common (46.25%).⁸ Among the bacterial infections, folliculitis was the commonly occurring disease, with a prevalence of 24.5%. Shah et al in their study among migrant workers, also showed a similar finding.⁹ Pitted keratolysis, secondary pyoderma, furunculosis, paronychia, cellulitis and ecthyma were the other bacterial dermatoses observed in our study.

Regarding viral skin infections, warts were present in 57.9% of the patients, followed by varicella (26.3%) and herpes zoster (10.5%). Adsul reported a similar finding in his study with an incidence of 6.42% of viral infections among migrant workers.¹⁰ In our study, viral infections were seen in 7.1% of the workers, which is comparable with Adsul and his associates' study results. Scabies (9.8%), pediculosis (3%), sexually transmitted diseases (STD) (0.8%) and leprosy (0.4%) were the other infective dermatoses observed in this study. The occurrence of scabies may be due to the crowded and close contact at the worksite.

According to our study results, eczema (41.1%) was the most frequently occurring skin disease next to fungal dermatoses. Similar results have been observed in many other studies, with eczema being the commonly occurring non-infective dermatoses.^{11,12} Studies by Pradeep and his associates in the year 2018 among migrant workers states that eczematous dermatitis was present in 25.34% of the subjects. Miliaria (20.5%), fissure feet (18.5%), PMLE (7.9%), hyperhidrosis (6%), melasma (2.6%) and nevi (1.3%) were the other skin lesions observed in this study. Melasma was common among women, and miliaria and hyperhidrosis incidence may be related to the hot and humid environmental conditions. Psoriasis, Lichen planus and callosity were seen each in 0.7% of the migrant workers. Callosity is usually seen in manual workers, and fissure feet may be due to not wearing protective footwear.

CONCLUSION

This study reveals a high prevalence of infective and non-infective dermatoses among migrant workers, with fungal infections being the most commonly occurring infective skin disease. Eczema was the commonly occurring non-infective dermatoses, according to this study. Lack of awareness among these workers is the reason behind such a high prevalence of skin diseases. More public awareness programs must be initiated among these communities whilst providing their basic sanitation needs, which can help reduce new skin lesions in the future.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the institutional ethics committee

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Cite this article as: Sampadarao B, Kumar GJ, Kaliaperumal D, Dileep JE, Sekar S, Parthasarathi UK. Prevalence of dermatoses in adult migrant workers attending dermatology OPD in a tertiary care centre in Puducherry. *Int J Res Dermatol* 2021;7:383-7.