

# Study of Skin Manifestations Among Migrant Workers in a Coastal City of Dakshina Kannada District, Karnataka

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## ABSTRACT

**Introduction:** Skin manifestations are more common in migrant labourers because of poverty, ignorance, overcrowding, poor hygiene and exposure to common irritants and sensitizers in the construction. Occupational diseases comprise multiple manifestations, skin manifestations being the most predominant. Aims and objectives of the study were to Study of skin manifestations among migrant workers and to determine the socio demographic profile of these workers

**Material and Methods:** Migrant population in coastal city will be the study population. Study duration: From November 2013 to April 2014. Study design: Cross sectional study. Subjects of this study will include migrant population from 4 different areas of coastal city. Clinical examination was done in a well-lighted room at the site of camp. Pretested questionnaire was used to collect data by interview method.

**Results:** 255 workers examined had presentation of various dermatoses. The most common age group was 21- 30 years (28.23%). A total of 181 males (70.98%) and 74 females (29.02%) were examined. The subjects with fungal dermatoses recorded was 36.07 %. Bacterial infections contributed to 19.60 %, of all dermatoses. 08.23% of the workers examined had viral infection. Scabies was seen in 6.66% of workers. Amongst the non-infective dermatoses, Contact dermatitis was seen in 16.86%.

**Conclusion:** The pattern of dermatoses presented in these groups is expressive of ignorance, poverty, living in overcrowded condition. So education of these workers in the health aspects, provision of cost effective and efficient protective measures will help reduce the morbidity of the migrant workers.

**Keywords:** Migrant workers, Contact dermatitis, Dermatoses

masons, helpers, fitters, supervisors, carpenters and painters. Occupational diseases comprise multiple manifestations, skin manifestations being the most predominant. Various agents encountered at the workplace can cause injury, irritation, sensitization, infection, discoloration or any other changes in exposed workers

Most common exposures in migrant labourers which the general population will not be encountered, are exposure to organic and inorganic dust, fungi, bacteria and chemicals. These additional exposures result in diverse skin problems. Other obstacles in accessing health services to migrants are language barriers. These workers also live in unhygienic conditions and due to low income and lack of health insurance have limited affordability of the available health services.

## MATERIAL AND METHODS

### Source of data

Study population: Migrant population in Mangalore City Corporation limits in different places. 1. Shakti nagar health centre 2. Bharati ship yard in Tanir bhavi, 3. Construction site in Kulashekara, 4 Construction workers at Kottara chowki, Study duration: From November 2013 to April 2014. Study design: Cross sectional study. Sample size: 255 Inclusion criteria: Migrant workers of Mangalore city not residing for more than 3 years are included. Exclusion criteria: Resident laborers of Mangalore city residing for more than 3 years are not included.

### Method of collection of data

Informed written consent was obtained by explaining to the subjects about the method of study, outcome and possible intervention. A pre-tested semi structured questionnaire was

## INTRODUCTION

Migration is a process of social change during which a person moves from one cultural setting to another to settle for a longer period of time or permanently.<sup>1</sup> A migrant labourer is someone who is engaged or has been engaged in a remunerated activity in a place of which he/she is not a part.<sup>2</sup> Skin manifestations are more common in migrant labourers because of poverty, ignorance, overcrowding, poor hygiene and exposure to common irritants and sensitizers in the construction industry. Contact dermatitis is the most common, comprising 20-90% of all the cases.<sup>3</sup> In the construction industry, various categories of workers are involved such as

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used for collection of data. Data was collected by interview cum, clinical examination. Clinical examination was done in a well- lighted room at the site of camp.

## RESULTS

In the table-1 out of the total 255 migrant workers, 145 (56.86%) migrant workers were married and 110 (43.14%) migrant workers were unmarried. Majority of the migrant workers were Hindus by religion- 122 (47.84%) followed by Muslims – 84 (32.94%). In 255 migrant workers, 181(70.98%) were male workers and 74 (29.02%) were female workers.

In the table-2 out of 255 migrants were examined, 98 (38.43%) workers belonged to the age group of 21-30 year and 72 (28.23%) workers belonged to the age group of 31-40 years. The youngest migrant worker was 13 years of age and the oldest was 65 years in age.

Table 3 shows the distribution of infective dermatoses among migrant workers. In that fungal infection was the most common (36.07 %) followed by bacterial (19.60%) and viral infection (8.23%). The parasitic infection was scabies seen in 6.66% of the migrant workers. In fungal infection tinea cruris was found in 13.72 % of the migrant workers followed by pityriasis versicolor 10.19% and tinea corporis 8.23 %. Amongst the bacterial infection, acne vulgaris was the most common with 07.05% followed by folliculitis 05.09%, pyoderma with 4.31% and furuncles with 3.31%. In the viral infections, herpes infection was seen in 3.13 %, molluscum contagiosum 2.74 % and warts in 2.35 %.

Table 4 shows the distribution of non- infective dermatoses in migrant workers was 52.15%. The most common was contact dermatitis 16.86% followed by eczema with 11.37% and photo dermatitis with 08.62%. Fissured feet was found in 5.09% migrant workers and miliaria was found in 4.70% migrant workers. Callosity was seen in only 2.35% migrant workers.

## DISCUSSION

255 migrant workers in different areas of Mangalore city Corporation were included in the study. Majority of the workers belonged to the age group of 21-30 years followed by 31- 40 years. Male workers were more (70.98 %) followed by females (29.02%). Majority of the workers were married (56.86%). The large group of workers were Hindus (47.84%) followed by Muslims (32.94%) and Christians (12.15%)

In the present study on various infective dermatoses, fungal infection was the most common (36.07 %). This was because of the hot and humid climate of Mangalore which is a coastal city which creates an ideal environment for the propagation of superficial dermatophytic infections of the migrant workers. Tinea cruris was found in 13.72 % of the migrant workers followed by pityriasis versicolor 10.19% and tinea

Socio-demographic factors	Number (N=255)	%
Marital status		
Married	145	56.86
Unmarried	110	43.13
Total	255	100
Religion		
Hindu	122	47.84
Muslim	84	32.94
Christian	31	12.15
Others	18	07.05
Total	255	100
Sex		
Male	181	70.98
Female	74	29.02
Total	255	100

**Table-1:** Socio- demographic distribution of the migrant workers

Age group	Number	Percentage
10- 20	34	13.33
21- 30	98	38.43
31- 40	72	28.23
41- 50	41	16.07
More than 50	10	03.92
Total	255	100

**Table-2:** Age group distribution of the migrant workers(n=255)

Sr. No	Fungal infections	Number	%
1	Tinea cruris	35	13.72
2	Pityriasis versicolor	26	10.19
3	Tinea corporis	21	08.23
4	Candidiasis	10	03.92
	Total	92	36.07
	Bacterial Infection		
1	Acne vulgaris	18	07.05
2	Folliculitis	13	05.09
3	Pyoderma	11	04.31
4	Furuncles	8	03.13
	Total	50	19.60
	Viral Infections		
1	Herpes infection	8	03.13
2	Molluscum contagiosum	7	02.74
4	Warts	6	02.35
	Total	21	08.23
	Parasitic		
1	Scabies	17	06.66

**Table-3:** Distribution of infective dermatoses seen in migrant workers (n=255)

corporis 8.23 %.

Maria Kuruvila et al have done a study on pattern of skin disease amongst migrant construction workers in Mangalore in the year 2006 and they have found 46.25% fungal infection in workers.<sup>4</sup> Sanjiv Grover et al have done a cross sectional study on skin disease in rural Allahabad and found fungal infection(54.52%.) were the most common.<sup>5</sup>

In the present study, bacterial infection constituted 19.60 %,

Sr. No	Others	Number	%
1	Contact dermatitis	43	16.86
2	Eczema	29	11.37
3	Photodermatitis	22	08.62
4	Fissured feet	13	05.09
5	Miliaria	12	04.70
6	Psoriasis	8	03.13
7	Callosity	6	02.35
	Total	133	52.15

**Table-4:** Distribution of non- infective dermatoses in migrant workers(n= 255)

this may be due to unhygienic condition at the working place or site of work and humid climates. Amongst the bacterial infection, acne vulgaris was the most common with 07.05% followed by folliculitis 05.09%, pyoderma with 4.31% and furuncles with 3.31%.

Maria Kuruvila et al have done a study on pattern of skin disease among migrant workers in Mangalore and they have found to have bacterial infection in 24.83% of migrant workers.<sup>4</sup>

In the present study 08.23% of the workers examined had viral infections. Amongst the viral infections, herpes infection was seen in 3.13 %, molluscum contagiosum 2.74 % and warts in 2.35 %.

Maria Kuruvila et al have done a study on pattern of skin disease among migrant workers in Mangalore and they found to have viral infections in 6.42% of workers and warts were most common with 3.64%.<sup>4</sup> Porta N et al have done a study on the immigrant population in Miguel Servet hospital in Saragossa in 2004 and they found to have viral infection in 11.8% of the patients and the most common was genital warts with 1.7%.<sup>6</sup>

In the present study, parasitic infection was scabies found in 17 patients (6.66%) Scabies was seen because of overcrowding and close contact. Maria Kuruvila et al have done a study on pattern of skin disease among migrant workers in Mangalore and they have found to have scabies in 8.56% of the migrant workers.<sup>4</sup> Porta N et al have done a study on the immigrant population in Miguel Servet hospital in Saragossa in 2004 and they found to have parasitic infections in 2.07% of the study population.<sup>6</sup>

In the present study, 52.15 % of migrant workers had non infective dermatoses. Amongst non-infective dermatoses, the most common was contact dermatitis 16.86% followed by eczema with 11.37% and photo dermatitis with 08.62%. Contact dermatitis was most common because these workers are constantly exposed to allergens like cement, chromates, chalk, food preservatives and rubber.<sup>7</sup> Photodermatitis was seen in 22 patients, the obvious contributing factors leading to this form of dermatoses is prolonged exposure to sunlight at place of work. Miliaria was found in 12 migrant workers and this was attributed to environmental factors like hot and humid climate.

Fissured feet was found in 13 migrant workers because ce-

ment is a known hygroscopic substance which can lead to dryness of skin especially in those workers who do not wear protective foot wear. Callosity was seen in 6 migrant workers because it is a well-known disorder of keratinization in manual labourers.

In a study done by Maria Kuruvila et al on pattern of skin disease among migrant workers in Mangalore, they have found workers with miliaria with 10.06%, fissured feet to be 9.85% and callosity with 4.28%.<sup>4</sup>

## CONCLUSION

Among 255 migrant workers with various dermatoses the incidence of infective dermatoses was highest. The incidence of fungal infections (36.07%) could be attributed to humidity being more owing to Mangalore city being a coastal area along with maceration due to increased sweating. The increased incidence of scabies (6.66%) and molluscum contagiosum (2.74%) could be due to living in overcrowded conditions, poverty, trauma sustained during work and poor hygiene.

From all the non- infective dermatoses, contact dermatitis to cement was significantly higher in daily wage labourers, construction workers and road workers. This high incidence in these groups may be due to prolonged and frequent exposure to allergens like cement.

The pattern of dermatoses present in these groups is expressive of ignorance, poverty, living in overcrowded condition and an unfavourable hygienic conditions leading to imbalance between man and microbes. Keeping the above mentioned reasons, education of these workers in the health aspects, provision of cost effective and efficient protective measures like clean accommodations, clean clothes, hygienic surroundings, foot wear and protective creams at site of work will help reduce the morbidity of the migrant workers.

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