Epidemiological Pattern of Dermatoses among Adults Attending Dermatology Outpatient Department in a Tertiary Centre in Central Kerala

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Abstract
Dermatoses vary from country to country and region to region. There are very few studies on epidemiological pattern of dermatosis. The pattern of dermatoses serve as an index of community development and quality of health care provision. A hospital based descriptive observational study was conducted in a tertiary centre, which is a teaching institution in the public sector in central Kerala, among adults who attended the dermatology outpatient department for a period of six months. The participants in the study were given a validated semi-structured interview schedule in which sociodemographic variables such as age, sex, religion, educational qualification, marital status, socioeconomic status, occupation and diagnosis on dermatoses were captured. The data collected was then entered and analysed. Non-infectious dermatoses were more compared to infectious dermatoses. Among infectious dermatoses fungal infections were the commonest and among non-infectious dermatoses eczemas were the commonest. More than half of the patients belonged to the 18 to 36 category. Females outnumbered males in the total op attendees. More than ninety percent of study population were literate and majority were students and unemployed. Less than three fourths of the participants were married and two thirds were above the poverty line. Majority of them were Muslims and resided in villages. However educational status and occupation did not have a significant influence on the pattern of dermatoses. Early diagnosis and management can prevent the spread of infectious dermatoses thereby reduce the burden of dermatoses in the society.

Keywords: Epidemiology pattern, Dermatoses.

Background
Dermatoses are common in developing countries which can vary from less severe superficial fungal infections to life threatening drug reactions such as Steven Johnson syndrome and Toxic Epidermal necrolysis. The pattern of dermatoses serves as an index of community development and quality of care provision.

Introduction
Dermatoses are very much prevalent in developing countries. The prevalence of dermatoses in various studies varied from 6.16% to 51.9% in various studies. In Denmark, Egypt and Singapore, non-infectious dermatoses are common, but in UK, premalignant and malignant dermatoses are more common. In India infectious dermatoses are more common.
A hospital based descriptive observational study conducted among all adults aged 18-60 years and speaking the regional language, who gave the informed written consent, attending the dermatology outpatient department in Government Medical College Ernakulam for a period of six months from February 2016 to July 2016. The participants in the study were given a validated semi structured interview schedule in which sociodemographic variables such as age, sex, religion, educational qualification, marital status, socioeconomic status, occupation and diagnosis on dermatoses were captured. The data collected was then entered and analysed using SPSS version 21. Approval for the study was taken prior to data collection from Institutional Ethics Committee Government Medical College Ernakulam.

Results and Interpretation
Among the 4017 participants who were included in the study population the mean age was 36.10. Taking age category into consideration, more than half (51.7%) of the participants belonged to the 18 to 36 years category and the rest (48.3%) to the 37 to 60 age category.

### Table 1 Age category

| Age group | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------|-----------|---------|---------------|--------------------|
| 18-36     | 2077      | 51.7    | 51.7          | 51.7               |
| 36-60     | 1940      | 48.3    | 48.3          | 100.0              |
| Total     | 4017      | 100.0   | 100.0         |                    |

In the study population less than two thirds (63.6%) were females.

### Table 2-Sex category

| Sex     | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------|---------|---------------|--------------------|
| Male    | 1463      | 36.4    | 36.4          | 36.4               |
| Female  | 2554      | 63.6    | 63.6          | 100.0              |
| Total   | 4017      | 100.0   | 100.0         |                    |

98.2% of the study population were literate with 23.5% were graduates.

### Table 3 Educational status

| Educational status | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------------------|-----------|---------|---------------|--------------------|
| Illiterate         | 73        | 1.8     | 1.8           | 1.8                |
| Literate           | 919       | 22.9    | 22.9          | 24.7               |
| SSLIC              | 994       | 24.7    | 24.7          | 49.4               |
| plus2              | 687       | 17.1    | 17.1          | 66.5               |
| Technical          | 217       | 5.4     | 5.4           | 71.9               |
| Degree             | 946       | 23.5    | 23.5          | 95.5               |
| Professional/PG    | 181       | 4.5     | 4.5           | 100.0              |
| Total              | 4017      | 100.0   | 100.0         |                    |

Considering marital status, less than three fourths (72.7%) were married and the rest belonged to the unmarried (25.7%) separated (0.3%) and widowed (1.3%) category.
Among dermatoses, non-infectious dermatoses constituted about 65.1% and infectious dermatoses (34.9%). Fungal infections (23.6%) constituted the majority in the infectious dermatoses category. Seasonal influence, environmental factors and misuse of topical steroids may be the reason for the higher percentage of fungal infections comparing previous studies. Viral infections 3.4%, bacterial infections, (6%) parasitic infestations (1.5%) and protozoal infections (0.4%), sexually transmitted infections 0.29%, Hansens disease (0.049%) respectively, STIs and Hansen’s disease are less compared to previous studies which may be due to the proper implementation of National Health programmes. Among the non-infectious dermatoses eczemas 22.2% constituted the majority, vesiculobullous disorders 0.19%, Hair disorders 1.49%, mucosal disorders 0.22%, Drug reactions 0.72%, tumours 4.18%, miliaria 6.52%, lichen planus 0.9% autoimmune diseases like SLE 0.34%

In the study population more than two third (67.4%) belonged to the ‘above poverty line’ category and the remaining (32.6%) to the ‘below the poverty line’.

When religion was considered about less than half of the population were Muslims (43.1%)
Table 9 Non-infectious

| Noninfectious                          | Frequency | Percent |
|----------------------------------------|-----------|---------|
| Psoriasis & disorders of keratinisation| 90        | 2.2%    |
| Hair                                   | 89        | 2.2%    |
| Nail                                   | 5         | 0.1%    |
| Eczema                                 | 922       | 22.2%   |
| Vesiculobullous                         | 8         | 0.2%    |
| Autoimmune                             | 38        | 2.77%   |
| Congenital                             | 9         | 0.2%    |
| Traumatic                              | 3         | 0.1%    |
| Pruritus                               | 177       | 4.4%    |
| Mucosal disorders                      | 9         | 0.22%   |
| Miliaria                               | 262       | 6.5%    |
| Lymphomas                              | 168       | 4.18%   |
| Lichen planus                          | 39        | 0.9%    |
| Drug reaction                          | 29        | 0.72%   |
| Hair disorders                         | 60        | 1.49%   |

Discussion

When considering the disease pattern, 65.1% were non-infectious which is out of tune with the findings by researchers in southern India where infections were common. But studies in Guwahati and Uttarakhand showed a similar picture. In the non-infectious group, Eczemas constituted the majority (22.2%). In this study healthy age group of 18-60 was considered and more than 50% were of the younger age group \((18-36)\). This was at par with similar studies conducted in Telangana and Wardha. The reason for this increase could be the social mobility of the younger population. In this study females were the majority which is similar to other studies. The better socioeconomic positioning as evidenced by 67.4% could be the reason for the reduction in the infection load. Among the infective conditions, fungal infections accounted for 23.6%, which is the case in most studies in India, Bangladesh and a study from Pakistan, which could be due to the warm and humid climatic conditions. The religious practices and the traditional attire would be the reason contributing to the increased incidence of fungal infections in Muslims in this study.

In this study, the patients attending the outpatient department were mostly literate, 24.7% with secondary education and 23.5% being degree holders. Increased literacy rate, leading to health consciousness and increased awareness may be the reason for the increased number of female patients (63.6%) compared to other studies were it was 50%-2,4,6.9. 50% of the study population resided in villages and outpatient attendance is 16.33%, which is more when compared to studies conducted in Trivandrum in 1976 by Gangadharan C et al and in Thrissur, nine years back by Ashokan et al. This is also more when compared to 6.16% and 6.3% seen in studies conducted in Uttarakand and Guwahati respectively. The educational status and occupation did not have a significant effect on the pattern of dermatoses which is similar to other studies. Unemployed category was found to be more than 50%. This could be because the students were not separately categorised in our study. Early identification of dermatoses is important for treating patients and also to prevent the spread of infectious dermatoses.

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