



Clinical And Epidemiological Study Of Tinea Versicolor In A Tertiary Care Hospital In Puducherry- A Cross-Sectional Study

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Abstract

Pityriasis Versicolor is a chronic fungal infection of the skin that is caused by the proliferation of lipophilic yeast (*Malassezia* species) in the stratum corneum layer of the epidermis. Clinically, they typically present with asymptomatic or slightly pruritic well-defined round or oval hyper-pigmented or hypo-pigmented macules with fine branny scales which may coalesce to form patches on the trunk, neck, and upper arms, face. For diagnosis purposes, Wood's lamp is used, which demonstrates the coppery-orange fluorescence of pityriasis versicolor and for confirmation, microscopic examination of skin scrapings soaked in potassium hydroxide examination can be done, which demonstrates the typical grape-like clusters of yeast cells and long hyphae. It can be treated effectively with topical and/or systemic antifungal agents. Here, we have done a study on the clinical and epidemiological aspects of Pityriasis versicolor in a tertiary care hospital in Puducherry.

Keywords: Pityriasis, fungus, *Malassezia*, versicolor

Introduction

Pityriasis Versicolor or Tinea versicolor is a chronic fungal infection of the skin that is caused by the hyper-proliferation of lipophilic yeast (*Malassezia* species) in the stratum corneum layer of the epidermis [1,2]. *M. globosa* is the most prevalent *Malassezia* species linked with PV, but *M. sympodialis* and *M. furfur* are also common [3]. *Malassezia*, being part of the normal skin flora, is not usually harmful unless it takes on a mycelial shift [2]. Various conditions, such as humidity, high temperature, hyperhidrosis, family predisposition, and immunosuppression, might induce this [1, 2]. As a result, PV is found more commonly in tropical regions (up to 40%) than in temperate ones [3]. PV is difficult to cure, with relapse rates as high as 80% within two years of therapy [4].

Clinically, they present with well-defined round or oval macules on the trunk, neck, upper arms, face, where there is a high density of sebaceous glands. These lesions can be hypo-pigmented i.e. achromic PV (Figures-1,2) on darker or tanned skin and hyper-pigmented i.e. chromic PV (Figure-3) on lighter skin types [5]. Smaller-sized macules may have a powdery surface due to flaking skin, whereas flaking may manifest only on the edges of larger lesions [2]. Although some people complain of mild itching, PV is usually asymptomatic. The most common reason for individuals seeking therapy is the undesirable aesthetic look of their skin [2]. Unfortunately, changes in pigmentation might last even after therapy. This is seldom employed as a criterion for treatment success, with mycological cure (negative microscopy) and relief of physical symptoms, including lesion eradication, pruritus, erythema, and desquamation, being favored. Pityriasis Versicolor

may be confused with various other conditions like pityriasis rosea, vitiligo, pityriasis alba, tinea corporis, seborrheic dermatitis, post-inflammatory hypo- and hyperpigmentation, confluent reticulated papillomatosis of Gougerot and Carteaud, guttate psoriasis, nummular eczema, mycosis fungoides, secondary syphilis.

Microscopy is used to confirm the diagnosis of PV, which is done using skin scrapings taken from the edges of lesions, or if that isn't possible, it's done with samples obtained using the transparent tape method. Lesions that appear yellow or gold on Wood's light examination may assist in diagnosis [2, 6]. Topical antifungals are presently the first line of therapy for PV, while systemic antifungals are indicated for severe or recalcitrant cases [7]. Many non-specific topical therapies, on the other hand, have been shown to be beneficial in the treatment of PV [8,9]. Misdiagnosis can lead to improper and inefficient therapy (antibiotics, corticosteroids) in some situations [5].

Aims And Objectives

Figure-1: Three discrete well-defined hypo-pigmented macules with branny scales seen on the left upper shoulder

1. To study clinical patterns of the disease with respect to morphology, distribution, and associated conditions.
2. To study the epidemiological factors like age and sex distribution of the disease.

Materials And Methods:

Study Design: Cross-sectional study

Study Population:

Inclusion Criteria: All patients attending the dermatology OPD diagnosed with Tinea versicolor belonging to the age group: 10–60 years.

Exclusion Criteria: All patients who are already undergoing treatment for Tinea Versicolor and those who are belonging to ages <10 years or > 60 years of age.

1. Sample size: n= 100; Sampling method: Convenience sampling
2. Data analysis: SPSS Software V.21
3. Study period: 8 months (January 2021 to August 2021)



Figure-2: Multiple hypo-pigmented macules with branny scales coalescing to form patches on the left upper shoulder

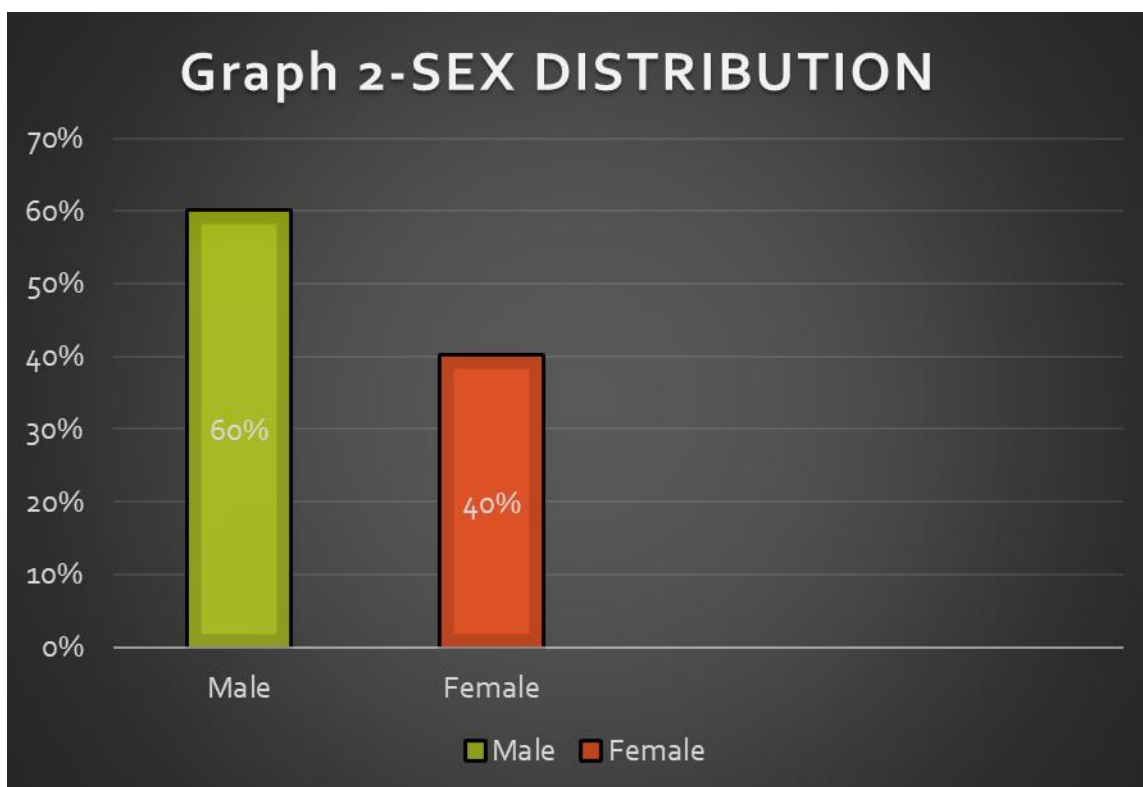
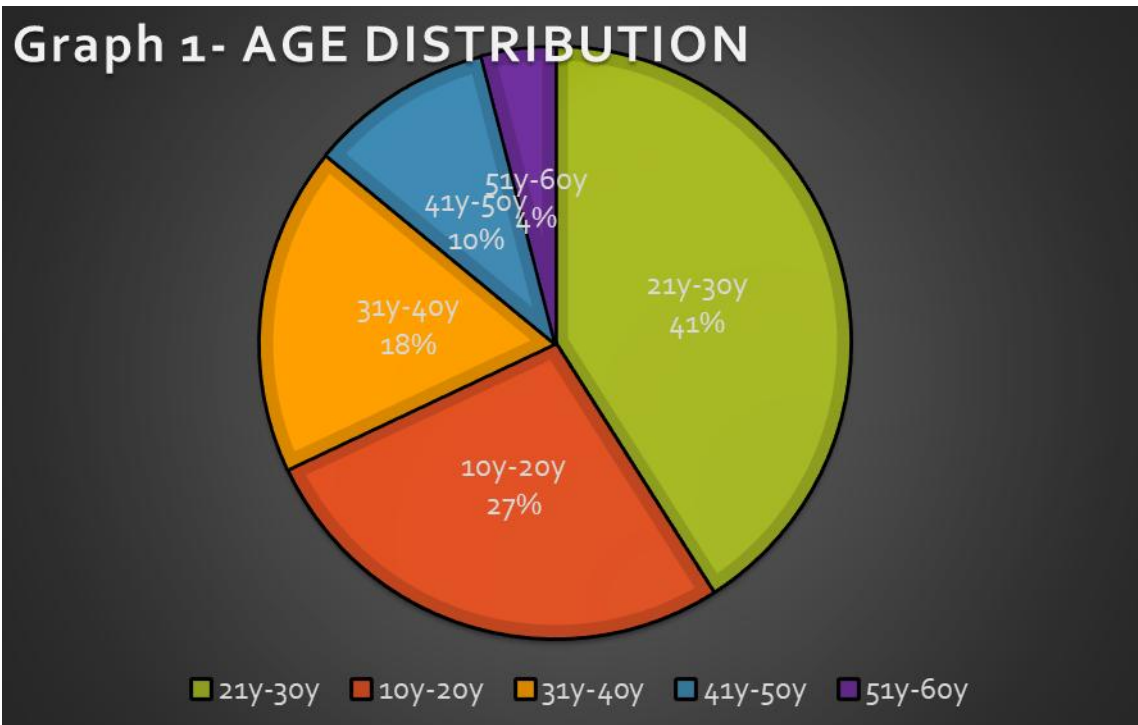


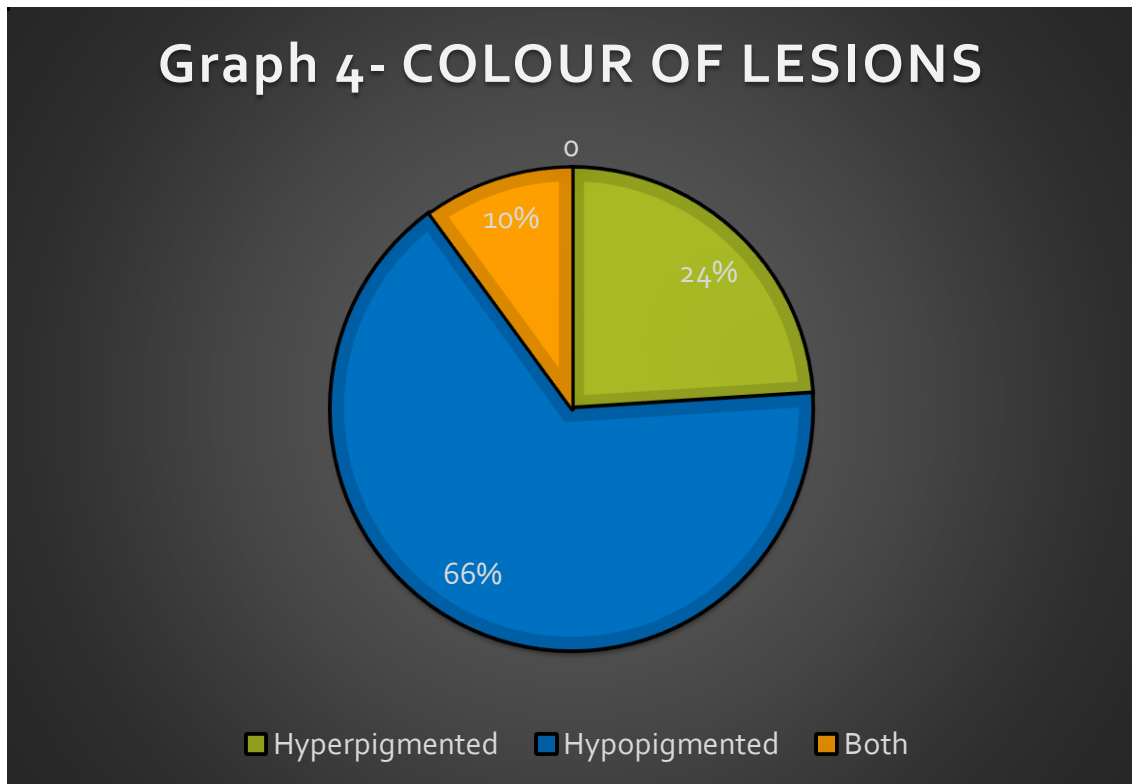
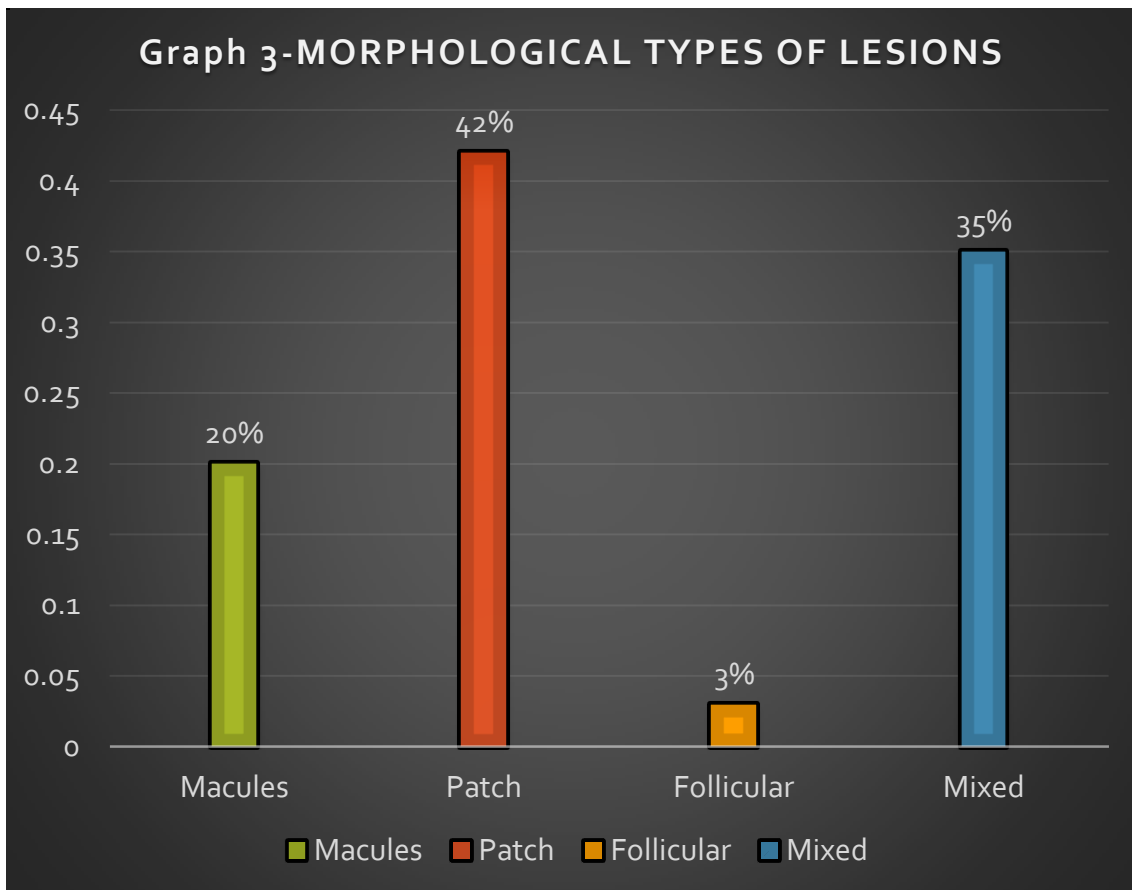
Figure-3: Multiple well-defined hyper-pigmented macules with branny scales on the back of right side of the trunk

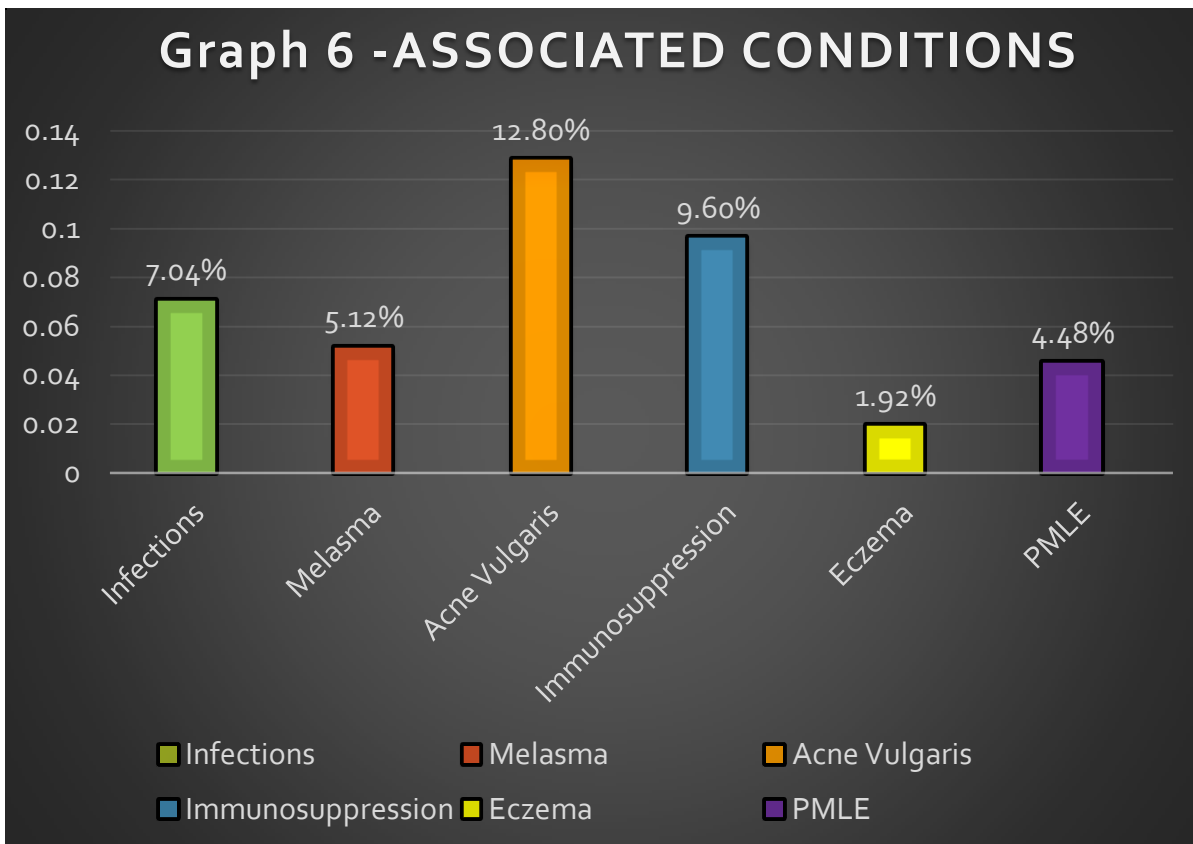
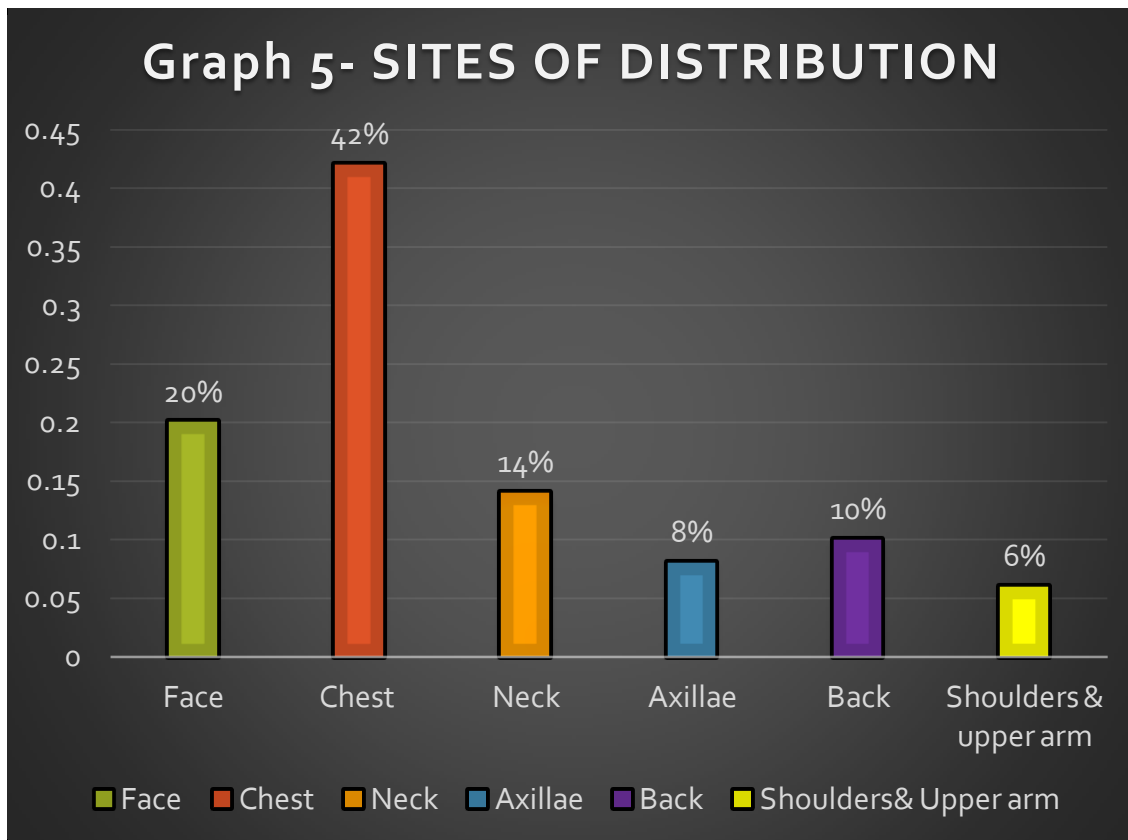


RESULTS:

1. Out of 100 patients in the study, the majority of the patients belonged to 21-30 years (41%), followed by 10-20 years (27%), then 31-40 years (18%), 41-50 years (10%) and was rare in 51-60-year-old age group (4%). (*Graph-1*)
2. The male-female ratio was 1.5:1. (*Graph-2*)
3. The lesions were predominantly patches (42%), followed by mixed type (35%), macules (20%), and follicular type (3%). (*Graph-3*)
4. They were predominantly hypo-pigmented (66%), followed by the hyper-pigmented type (24%), while both types were seen in 10% of patients. (*Graph-4*)
5. The most commonly involved site was the chest (42%), followed by the face (20%), neck (14%), back (10%), axillae (8%), shoulders, and upper arms (6%). (*Graph-5*)
6. The most commonly associated diseases were acne vulgaris (12.8%), immunosuppression (9.6%), infections (7.04%), melasma (5.12%), PMLE (4.48%), and eczemas (1.92%). (*Graph-6*)







Discussion:

Out of 100 patients in our study, the majority of the patients belonged to the age group 21–30 years (41%), followed by 10–20 years (27%), then 31–40 years (18%), 41–50 years (10%), and was rare in the 51–60-year-old age group (4%).

Tschen discovered that the condition begins in most individuals at adolescence or shortly thereafter and that it is less common in those beyond the age of 50. [10]

Cullen, [11] Michalowski et al, [12] Terragni et al [13] have observed that pityriasis versicolor is unusual before adolescence, presumably because of the modifications in the skin sebum levels that take place at this time, although some cases have been reported in children, particularly in tropical countries.

Michalowski et al [12] found that the incidence of pityriasis versicolor reduces with age; older people are less likely to get pityriasis versicolor, which might be due to changes in sebum production, which decreases with older age. As a consequence, the findings of this investigation are in line with the observations made by the above-mentioned authors.

In the present study, the percentage of males (60%) involved was more than the females (40%).

Amma, [14] Gurumohan Singh et al [15] concluded that males have a greater incidence than females.

According to Rao et al [16], there was a male prevalence of 73.30% while a female prevalence of 26.60%.

Hence, the current study's gender incidence is consistent with previously obtained findings; the observations were made by the foregoing three authors, and all of their investigations were performed in India.

In the current study, the lesions were predominantly patches 42 (42%), followed by mixed type 35 (35%), macules 20 (20%), and follicular type 3 (3%).

Rao et al [16] discovered that macular lesions were found in 86.60% of patients, follicular lesions in 6.60%, confluent lesions in 10%, and guttate lesions in 1.60% of patients.

In their research, Assaf and Weil [17] discovered that patchy lesions were more common

In this study, 66 (66%) individuals had hypopigmented lesions, whereas 24 (24%) individuals had hyperpigmented lesions. Both lesions were seen in 10 (10%) individuals.

According to Gupta et al [18], lesions can be hypopigmented (which is more evident in dark-skinned people) or hyperpigmented; a single patient can have both types of lesions, and the hyperpigmented lesions can range in colour from pink to tan to dark brown.

Similarly, Tschen [10] discovered that the lesions' coloration ranged from hypopigmented to dark brown.

According to Assaf and Weil [17], lesions often start as reddish macules that get depigmented over time, and hyperpigmentation that develops on occasion may be attributable to individual variances in the immune response. As a result, the patients in this study exhibited hypopigmented lesions more than hyperpigmented lesions.

In this study, the most commonly involved site was the chest 42 (42%), followed by the face 20 (20%), neck 14 (14%), back 10 (10%), axillae 8 (8%), shoulders, and upper arms 6 (6%)

According to Gupta et al [18], lesions were more common in lipid-rich regions of the body, such as the face, neck, and trunk.

Tschen [10] discovered that the trunk, neck, face, arms, and shoulders were the most affected areas, despite the fact that other areas such as the genital area may also be involved.

Assaf and Weil [17] discovered that the trunk, arms, and neck were the most typically impacted areas. According to Rao et al [16], the illness affected 71.60% of the neck, 70.0% of the back, and 58.30% of the chest.

As a result, the distribution of lesions in the current study is comparable to what other authors have seen.

In the current study, 12.8% of patients had acne vulgaris, 9.6% of patients were immunosuppressed, and 7.04% of patients had concomitant infections, melasma was seen in 5.12% of patients, 4.48% of patients exhibited polymorphous mild eruptions, and 1.29 % of the patients had concomitant eczemas.

Tschen [10] discovered that pityriasis versicolor commonly coexisted with seborrheic dermatitis, hyperhidrosis, psoriasis, and atopic dermatitis.

Assaf and Weil [17] have identified a common link between pityriasis versicolor and seborrheic dermatitis as two disorders that respond well to azole antifungals.

In immunosuppression, Borrelia et al [1] discovered a higher prevalence of pityriasis versicolor.

Rao et al [16] discovered seborrheic dermatitis in 11.60 percent of their tinea versicolor patients.

The majority of patients with acne and pityriasis versicolor were teens; thus, it was an unintentional co-existence, and tinea infections were discovered in individuals with substantial hyperhidrosis.

Conclusion:

After making the observations in this study, the following conclusions may be reached.

The condition was shown to be more prevalent in individuals in their second and third decades of life, since it is more commonly seen among teens and young adults who are more active and, thus, sweat more.

Men are observed to have a higher incidence of the condition, which is likely due to their work and outdoor activities.

Patches were the most common lesion, followed by macules.

The majority of the lesions were hypo-pigmented and were seen predominantly on the chest, face, neck, and back.

Acne vulgaris, immunosuppression, and infections were the most prevalent associated dermatoses.

Despite the fact that pityriasis versicolor is a chronic, mild, and typically asymptomatic skin infection, it poses a significant therapeutic challenge to dermatologists in tropical countries due to its wide range of clinical presentations and frequent relapses following therapy.

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