

Original article

Pityriasis versicolor in Ahvaz, Iran

Ali Zarei Mahmoudabadi¹, Zahra Mossavi², Majid Zarrin³

¹Department of Medical Mycoparasitology, School of Medicine, and Infectious and Tropical Diseases Research Center, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

²Department of Dermatology, School of Medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

³Department of Medical Mycoparasitology, School of Medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

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Abstract

Introduction and objective: Pityriasis versicolor is a chronic superficial mycosis that caused by several species of *Malassezia* specially *Malassezia globosa*. The prevalence of disease is varying in the world with a rate of 5-50%. Disease is more prevalent in males than females. The aim of the present study was to review the clinical and epidemiological profile of pityriasis versicolor in Ahvaz.

Materials and methods: Sellotape method was used for sampling from 500 subjects suspected to pityriasis versicolor. The presence of clusters of yeasts, budding cells, and pseudophyae in methylene blue stained samples confirmed disease.

Results: In the present study, 30.6% of subjects were positive for pityriasis versicolor, 62.1% were males, and 37.9% were females. Hypopigmentation lesions were common type of disease followed by hypopigmentation and erythematous type.

Conclusion: In conclusion, 30.6% of studied population was positive for tinea versicolor which is a high prevalence for this disease.

Keywords: Pityriasis versicolor, Tinea versicolor, *Malassezia*, Hyperpigmentation lesions, Iran

Introduction

Pityriasis versicolor (Tinea versicolor) is a mild and chronic superficial mycotic infection. Disease involved under some exogenous and endogenous predisposing factors, which fungus can convert from yeast to a pathogenic mycelial form. Disease is usually presented as hypo or hyperpigmented scaling macules. The commonest sites of disease are the upper trunk and neck [1]. Pityriasis versicolor is

common in young adults of both sexes. Two important exogenous conditions are high temperature and humidity in hot season. It has a worldwide distribution with a high rate (20-50%) in tropical and subtropical regions [2,3]. Several factors, such as age, sex, climate, local environmental factors, malnutrition, and genetic factors influence course of disease [4,5].

Iran is located in subtropical region and several reports show that tinea versicolor is more prevalent in Iranian provinces [5-11], with a higher rate in north and south, which have warm and humid climate [8-11]. The frequency of pityriasis versicolor in Iran varies from 4.4-57.7% in different reports [5,6,8,12-17]. Afshari [15] reported the highest frequency of pityriasis versicolor (57.5%) in Janbazan dormitories in Tehran whereas lowest frequency (4.4%) reported by Asadi *et al.* [14] in Kashan. Disease is caused by several species of *Malassezia* (lipophilic yeasts), which are belong to normal flora of human body. *Malassezia globosa* described as the most common etiologic agent of pityriasis versicolor [2,18,19]. Other species, which cause disease, are *M. furfur*, *M. pachydermatis*, *M. sympodialis*, *M. obtusa*, *M. restricta* and *M. slooffiae* [2,18-21]. Recently Lee *et al.* [22] presented three new species of

Malassezia, *M. dermatis*, *M. equi* and *M. nana*. The intention of the present study was to review the clinical and epidemiological profile of pityriasis versicolor in Ahvaz, Iran.

Materials and methods

In the present study, 500 patients suspected to pityriasis versicolor attending to a private dermatology clinic in Ahvaz, Iran (2007) were sampled (Fig. 1). A questioner included, sex, age, disease duration, lesion type and involved area filled for each patient. Sellotape method was used for sampling from infected skin of patients [2]. All samples were stained with methylene blue stain and examined microscopically. Presence of short and curved pseudohyphae with clusters of yeasts and budding cells confirmed the disease (Fig. 2).



Fig. 1: Tinea versicolor on arm and forearm

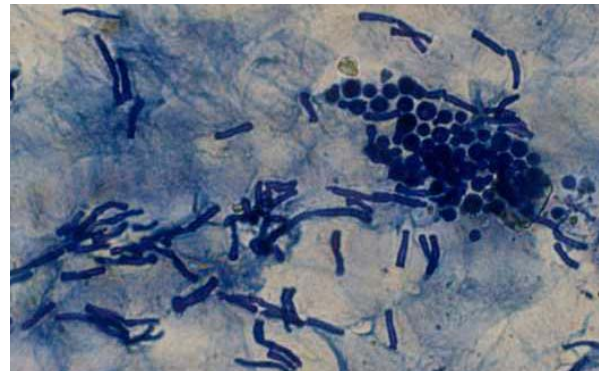


Fig. 2: Short and curved pseudohyphae with clusters of yeasts and budding cells of *Malassezia* (methylene blue staining, $\times 100$)

Results

In this study, 153 (30.6%) patients were positive for pityriasis versicolor including 95 (62.1%) males and 58 (37.9%) females with a male/female ratio of 1.64:1. The age of patients were ranged from 6 to 66 years. The highest prevalence of tinea versicolor was seen in patients with 17-28 years old (70.6%) (Fig. 3). In our study, 50% of

patients had hyperpigmentation followed by hypopigmentation (36.2%) and erythematous (13.8%). Mild lesions were detected in 55.9% of patients, whereas 27.1% and 17% presented moderate and severe lesions respectively. Figure 3 shows the duration of involvement. The disease duration in 41.1% of patients ranged 1-2 months followed by 3-4, 12-24 and <1 month (Fig. 4). The most

prominent location of infection on the body surfaces, was neck (34.6%) followed by

trunk (17%) and chest (16.3%) (Table 1).

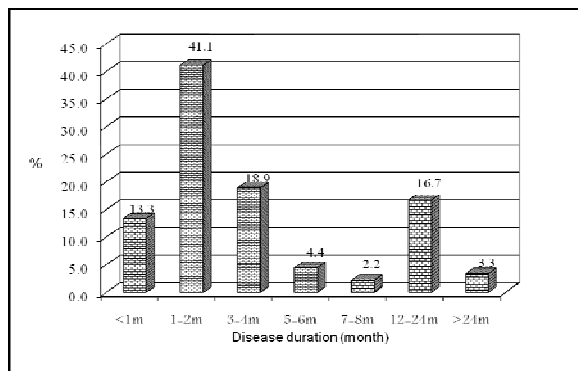
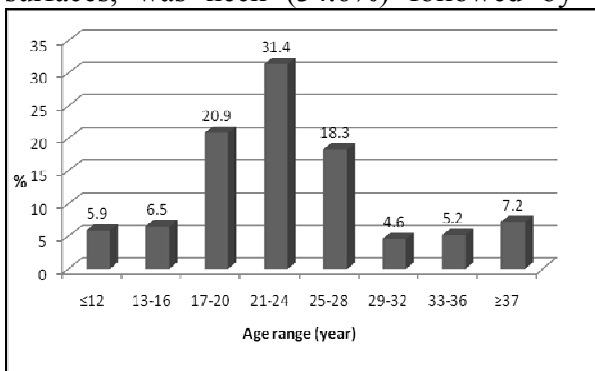


Fig. 3: Distribution of pityriasis versicolor according to age

Fig. 4: Distribution of pityriasis versicolor according to disease duration

Table 1: Distribution of location of tinea versicolor on the patient body

	Neck & arm	Head & face	Forearm & arm	Trunk	Chest	Neck	Neck & chest	Total
Male	10 (6.5%)	3 (2.0%)	7 (4.6%)	15 (9.8%)	12 (7.8%)	39 (25.5%)	9 (5.9%)	95 (62.1%)
Female	4 (2.6%)	5 (3.3%)	4 (2.6%)	11 (7.2%)	13 (8.5%)	14 (9.2%)	7 (4.6%)	58 (37.9%)
Total	14 (9.2%)	8 (5.2%)	11 (7.2%)	26 (17.0%)	25 (16.3%)	53 (34.6%)	16 (10.5%)	153 (100%)

Discussion

Pityriasis versicolor is a worldwide skin disease, however, its frequency and occurrence depends on various climatic and socio-economic state. The frequency and density of colonization of *Malassezia* species in healthy human skin are related to the subject age and to sebaceous gland activity in the studied area [23]. In this study, the highest prevalence of pityriasis versicolor was observed in 17-28 year age group (70.6%). The peak of tinea versicolor is coincided with age. This possibly is due to hormonal changes and increases in sebaceous gland activity. In our study, 5.9% of patients were under 12 years old. Susceptibility of children was more common than initially we expected. Tinea versicolor is a rare disease in children [24]. Tarazooie *et al.* [2] found only one patient

of pityriasis versicolor in age less than 10 year in Tehran.

Distribution of the patches of pityriasis versicolor in children is various, and hence there is a discussion whether this difference is due to clinical or microscopic appearance [25]. We found significant differences in prevalence of pityriasis versicolor between both sexes. 62.1% of patients were male and 37.9% were female. Therefore, the male/female ratio was 1.64:1. Many studies show dissimilar male to female ratios, however, they emerge to be almost equal in both sexes [26,27]. He *et al.* [4] believe that the role of sex in susceptibility to disease and its development is still unclear. In this study, the most affected areas were neck with 34.6%, which is followed by trunk (17%) and chest (16.3%). Distribution of the patches usually parallels the density of

sebaceous secretion distribution, [28,29] with higher incidences on chest, back, and face. Patches of the face are more prevalent in children than adults [30]. Aspiroz *et al.* [29] found *M. restricta* associated particularly with scalp skin, *M. sympodialis* with the back, while *M. globosa* was evenly distributed on scalp, forehead, and trunk.

Ahvaz is located in subtropical region with hot and humid conditions from April to October. Several reports showed that hot and humid conditions, and hygiene are susceptible factors for presenting pityriasis versicolor [4,7]. However Belec *et al.* [31] believe that good or poor hygiene of the clothing had no significant influence on the prevalence of pityriasis versicolor. The lesions of tinea versicolor can be hyperpigmented, hypopigmented, leukodermal, erythematous or dark brown. In our study, 50% of cases had hyperpigmentation followed by hypopigmentation (36.2%) and erythematous lesion (13.8%). In conclusion, 30.6% of studied population was positive for tinea versicolor which is a high prevalence for this disease. Therefore, we have to find a way to control this disease in our area.

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Address for correspondence:

Ali Zarei Mahmoudabadi, Department of Medical Mycoparasitology, School of Medicine, and Infectious and Tropical Diseases Research Center, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
 Tel: +98611 3330074; Fax: +98611 3332036
 Email: zarei40@hotmail.com