Original Article

Skin Diseases

Prevalence of Skin Diseases in Patients Presenting at the Out Patient Department of Isra University Hospital Hyderabad: A Clinical Survey

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ABSTRACT

Objective: The present study was conducted to investigate the prevalence of skin diseases in patients reporting at the Out Patient Department of Isra University Hospital Hyderabad.

Study Design: Cross sectional study

Place and Duration of Study: This study was carried out at Out Patient Department of Isra University Hospital Hyderabad from April 2006 – April 2014.

Patients and Methods: A total of 2067 patients (1096 males and 971 females) were examined initially. Patients were selected through non probability purposive sampling as per inclusion and exclusion criteria. Because of limited time and workforce, only six dermatoses of main interest were recorded. Patients were examined by consultant dermatologist. Written informed consent was taken from the willing participants. Ethical approval was taken from the institute. Data was analyzed on SPSS 21.0 (IBM, incorporation, USA). Categorical variables were analyzed using chi square. P-value of statistical significance was taken at ≤0.05.

Results: Acne vulgaris was found in girls and boys (11 to 35 years age range) with comedones being the earliest presentation. Prevalence of acne, melasma and ephelides was noted as 18%, 9.4% and 9% respectively. The prevalence of bacterial, fungal, and viral infections, scabies and head lice was observed as 9%, 9%, 3%, 9% and 8% respectively. The prevalence of eczema was 9%, atopic dermatitis 2%, seborhoiec dermatitis 2%, lichen planus 9%, vitiligo was 2%. Corns were noted in 0.6%, Alopecia areata in 0.1%, psoriasis in 0.1% and Keloids in 0.6% of the patients.

Conclusion: Acne vulgaris was the most common skin disease while melasma and scabies were common diseases. Less prevalence was observed for the atopic dermatitis, seborhoiec dermatitis, and lichen planus. Alopecia areata, psoriasis, vitiligo and Keloids were uncommon.

Key Words: Acne vulgaris, Scabies, Melasma, Atopic Dermatitis

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INTRODUCTION

Epidemiological studies on skin diseases in the general population, especially in children, teenagers and in adults are, on the whole, still limited. The reported incidence or prevalence of pediatric or adolescent dermatoses varies, depending on the ethnic background, generation change, socioeconomic status, environmental factors and study design.[1-5] Many previous epidemiological studies have the following restrictions:(i) Survey of patients in schools and community-based settings could not completely reflect the real situation in general population.[6] (ii) Self-administered questionnaire studies or survey conducted by non-dermatologists make the validity of the diagnosis problematic.[3,7]

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Dermatoses such as acne, Keloids, melasma and alopecia, although not life-threatening, may be particularly distressing for this age group. For some chronic and recalcitrant skin diseases such as atopic dermatitis, seborhoiec dermatitis, ichthyosis and psoriasis, the disease course and therapeutic decisions concerning long-term safety may worry the affected families. Treatment of recalcitrant cases of warts, scars, post inflammatory hyper or hypopigmentation and Keloids may pose a challenge for dermatologists in consideration of the young age of the patient. Among the infectious dermatoses in children and adults, treatment of warts, especially periungual warts, is usually challenging and associated with lot of pain and soreness.[2-4]

Although a worldwide increase in atopic dermatitis prevalence has been reported, the trend in Hyderabad over the last few decades has not yet been well delineated. The present study was designed to investigate the skin disease prevalence in the Out Patient Department of Isra University Hospital. The

present study will help in understating the common skin diseases and making local data available for better patient management.

MATERIALS AND METHODS

The present Cross sectional study was conducted at the Out Patient Department of Isra University Hospital Hyderabad from April 2006 – April 2014. A total of 2067 patients (1096 males and 971 females) were examined initially. Patients were selected through non probability purposive sampling as per inclusion and exclusion criteria. Because of limited time and workforce, only six dermatoses of main interest were recorded. Patients were examined by consultant dermatologist, including a careful examination of the scalp and body lesions. Presence of at least three to five comedones was required for diagnosis of acne. Ephelides were identified by their characteristic appearance on sun-exposed areas as groups of discrete, brown to yellowish, round or speckled macules in a diameter of 2–3 mm.[9] The diagnosis of AD must fulfill the following three criteria: (i) pruritus; (ii) chronic or relapsing history for at least 6 months; and (iii) typical morphology and distribution including acute eczematous change or chronic lichenification, prurigo and hyperpigmentation.[10] The diagnosis of warts, psoriasis and alopecia areata (AA) was made by clinical observation without histopathological examination. Keloid was defined as an overgrowth of dense fibrous tissue extending beyond the borders of the injury lasting for over 6 months. Data collected from patients were encoded, registered and verified on a relational database. Written informed consent was taken from the willing participants. Ethical approval was taken from the institute. Data was analyzed on SPSS 21.0 (IBM, incorporation, USA). Categorical variables were analyzed using chi square. Pearson's correlation was used for association of variables. P-value of statistical significance was taken at ≤0.05.

RESULTS

The overall prevalence of acne was 17.5% (95% confidence interval CI 16.5–18.9%), increasing with age from 0.2% at 6 years to 47.3% at 11 years. The clinical manifestation included comedones, papules and pustules, with comedones being the earliest manifest lesions noticed as young as at age 6, whereas inflammatory lesions were first seen in children from 7 years of age. No nodulocystic acne was found in our series. Comedones could be already identified in girls at age 6 (prevalence = 0.32%) and 1 year later in boys (prevalence = 0.30%). There were significantly more girls affected than boys in our population (1.9: 1) (P < 0.001), with positive correlation between the acne prevalence and the increasing age (Pearson's r = 0.930; P = 0.007).

The overall prevalence of headlice was estimated at 8% (95% CI 7.5–9.3%), increasing with the advanced age (Pearson's r = 0.975; P = 0.01). There was no gender difference (P = 0.35). The prevalence of seborhoiec dermatitis in the inspected patients were 2% (95% CI 1.1–2.1%), with slightly more females affected than males (1.2: 1) without statistical significance (P = 0.186). It was most frequently observed at ages 28–39. The disease prevalence did not correlate with age (Pearson's r = − 2.49; P = 0.63).

The overall prevalence of ephelides was estimated at 8.8% (95% CI 7.5–9.3%), increasing with the advanced age (Pearson's r = 0.975; P = 0.01). There was no gender difference (P = 0.35).

The prevalence of vitiligo in the inspected patients were 2% (95% CI 1.1–2.1%). The prevalence of viral infections approximated 3% (95% CI 1.9– 3%), with the highest infection rate in the age group 10–11 years, without gender difference. A clustered but not a dispersed pattern of spatial distribution of the viral infections cases was found and confirmed (variance/mean = 1.8 > 1, P < 0.0001). The average point prevalence of AD in the inspected patients were 2% (95% CI 1.1–2.1%), with slightly more males affected than females (1.4: 1) without statistical significance (P = 0.186). AD was most frequently observed at ages 8–9 (2.5%), which declined abruptly at the age of 11 years. The disease prevalence did not correlate with age (Pearson's r = − 2.49; P = 0.63). The overall prevalence of fungal skin infections were estimated at 9% (95% CI 7.5–9.6%), increasing with the advanced age (Pearson's r = 0.975; P = 0.01). There was no gender difference (P = 0.35). Only few cases with having a single hairless patch were identified (prevalence 0.1%, 95% CI 0.099–0.101%). None of these patients were found to have other associated skin diseases, such as vitiligo or AD. The overall prevalence of scabies were estimated at 9% (95% CI 7.5–9.6%), increasing with the advanced age (Pearson's r = 0.975; P = 0.01). There was no gender difference (P = 0.35). The overall prevalence of melasma was estimated at 9.4% (96% CI 7.5–9.6%), increasing with the advanced age (Pearson's r = 0.985; P = 0.01). There was no gender difference (P = 0.35). Only few cases with having a papules and patches of psoriasis were identified (prevalence 0.1%, 95% CI 0.099–0.101%). The overall prevalence of eczema were estimated at 9% (95% CI 7.5–9.6%), increasing with the advanced age (Pearson's r = 0.975; P = 0.01). There was no gender difference (P = 0.35). The overall prevalence of bacterial skin infections were estimated at 9% (95% CI 7.5–9.6%), increasing with the advanced age (Pearson's r = 0.975; P = 0.01). There was no gender difference (P = 0.35). Keloid was with overall prevalence of 0.6% (95% CI 0.598–0.602%), showing no age difference (Pearson's r = −0.262; P = 0.616). Except in one male who has Keloid at the site of acne lesion on front of

chest, two females who had Keloid on her left dorsal feet and right lobe of ear due to traumatic injury, all of the other Keloids were located at previous sites of vaccination. The overall prevalence of bacterial skin infections were estimated at 9% (95% CI 7.5–9.6%), increasing with the advanced age (Pearson's r = 0.975; P = 0.01). There was no gender difference (P = 0.35). Overall prevalence of corns was 0.6% (95% CI 0.598–0.602%), showing no age difference (Pearson's r = −0.262; P = 0.616).

DISCUSSION

Acne is estimated to affect 9·4% of the global population, making it the eighth most prevalent disease worldwide. 1but in our study prevalence rate of acne vulgaris in OPD patients is 18%. This condition is almost ubiquitous in adolescents; in one study performed in New Zealand[3] surveying high school students over the age of 16 years, 91% of males and 79% of females reported acne. While acne is commonly viewed as a disorder of adolescence, it may persist into adulthood and often may present for the first time in adulthood.[2] Adult acne is a common reason for patients to present for dermatological evaluation, and adults in fact make up a large portion of the patient population seen by dermatologists for acne. Epidemiology of office visits for acne in one American study demonstrated that adult patients with acne, mostly women, comprise the majority of visits (61.9%), with adolescents (peak age 15–17 years) presenting in 36.5% of visits.[4] The actual prevalence of acne in the adult population has not been well defined;[5] Acne vulgaris, a chronic disorder of the pilosebaceous units, is common in adolescents. Community-based studies in the UK, Australia, New Zealand, and Singapore have found prevalence rates ranging from 27% in early adolescence to 93% in late adolescence.[6, 8] Acne is also the most common skin disease in adults.[7] The proportions of acne vulgaris in hospital-based studies of skin disease in Africa have been reported to be 4.6% in Ghana,[4] 6.7% in Nigeria,[2, 9] and up to 17.5% in South Africa.[7] Melasma is prevalent in approximately 10% of American population. It is found in all racial groups and is more common in subjects with darker skin phototypes. A number of topical treatments and procedures have been used for melasma.[10]

The occurrence of freckles is influenced by both genetic and environmental factors such as lifestyle. The prevalence of freckles in a random sampling of Israeli-born males at age 17 was 13.2%, with the rates gradually decreasing from 24.8% in the highest risk group of melanoma formation (incidence rates 3.8–10.5 per 105) to 1.8% in the lowest risk group of melanoma development (incidence rates 0.0–0.7 per 105).[11] On the basis of these findings, factors other than solar irradiation must be considered in the evaluation of the association between ephelides and the development of skin cancer in Asian people.

Viral infections are extremely less common in OPD patients. Our study showed an increased prevalence in the older children without significant gender preference (P= 0.418). Although person-to-person transmission is highly suspected, the true risk factors remain largely unknown.

It is generally thought that the prevalence of AD has been increasing over the past decades, even allowing for changes in disease definition and an increase in community awareness of AD.[13] However, in a previous questionnaire study carried out in Taipei, Taiwan measuring the 1-year-period prevalence of AD from 1994 to 1995 as part of the International Study of Asthma and Allergies in Children (ISAAC), AD was identified in 2% of the total 16 206 school children (6–7 and 13–14 years old).[14] The current study indicated that the overall prevalence of AD among schoolchildren in Taiwan changed little over the past decade (2% in 1994 vs. 1.7% in 2004, P = 0.248). The low prevalence in Taiwan suggests that in addition to the Westernized lifestyle and different genetic backgrounds, some unknown factors may strongly influence the manifestation of AD. Although a generally decreased AD prevalence with increasing age was observed in some studies, 31 the highest AD prevalence in our schoolchildren was seen in the 8–9-year-olds.[14]

The worldwide incidence or prevalence of psoriasis varies considerably, with incidence higher in Caucasians but low in American Indians, West African and North American blacks, Japanese and Eskimos.[15] Psoriasis is a common, immune-mediated, inflammatory skin condition of unknown etiology that requires life-long treatment once the disease has progressed to an advanced stage.[15] Prevalence varies with geographical area and race/ethnicity, and in Europe and the USA approximately 1–3% of the population is affected.[16] but in our OPD patients incidence of psoriasis was less as compare to the western literature. In patients with psoriasis, co morbidities have been identified that occur more frequently than in the general population, which appear to be associated with the presence of psoriasis.[16] Prevalence of AA in the pediatric group was estimated to lie between 0.01% and 0.03%, with 60% of patients experiencing their first episodes before 20 years of age.[17] The low point prevalence in our OPD patients around 0.1%. Keloid occurs more commonly among dark-skinned people than among Caucasians,[18] and is a common disease encountered in the dermatology clinic in Taiwan but its treatment has been disappointing. The frequency of Keloid caused by BCG vaccination was reported to approximate 2–4% in the general population,[18] Our survey showed only 0.6% OPD patients aged 10–40 years have Keloids without gender variation (boy to girl = 1.24, P = 0.631).

CONCLUSION

Acne vulgaris was the most common skin disease while melasma and scabies were common diseases. Less prevalence was observed for the atopic dermatitis, seborhoiec dermatitis, and lichen planus. Alopecia areata, psoriasis, vitiligo and Keloids were uncommon. Further studies are recommended.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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