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A Clinico-Epidemiological Study of Adolescent Dermatomes

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ABSTRACT

Males (255) outnumbered females (245) in the study. The most common dermatoses were infections. Among these, Fungal infections were the most common, among which dermatophytosis were more commonly prevalent followed by pityriasis Versicolor. Among the parasitic infestations, Scabies was prevalent. Pediculosis was less frequent. Viral infections were the third most common among the infections, in which Verrucae and Molluscum Contagious were predominant. Bacterial infections were the least common. The increased incidence of the above infections can be attributed to poor personal hygiene, overcrowding, increased outdoor activities, high temperatures and humidity of the geographical area and lack of health awareness among the community. The other most common dermatomes among the study group was acne vulgaris similar to almost all the previous studies. Next common group of dermatoses was dermatitis. Other common inflammatory diseases seen were seborrheic dermatitis and polymorphic light eruptions. Increased secretion of sebum at the onset of puberty can be attributed to the high incidence of seborrheic dermatitis and increased exposure to the external environment, especially during the peak hours of the day may be contributory in the increased incidence of polymorphic light eruptions. Among the pigmentary disorders, vitiligo was the most common condition. The next most common pigmentary disorder observed was post-inflammatory hyper pigmentation. This may be a consequence of either infective lesions or inflammatory lesions or acne lesions, all of which are the most commonly seen dermatoses in this study. Lichen planus was the most common papulosquamous disorder followed by psoriasis and pityriasis rosea. There was an increased incidence of Telogen effluvium (2.2%), probably emphasizing the role of stress and malnutrition among the adolescents. Keloids and insect bite reactions were the other commonly seen adolescent dermatomes. Infections, papulosquamous disorders and keloids were more commonly seen among male patients. Appendageal disorders and urticaria were equally distributed between males and females.

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Key Words

Pityriasis versicolor, pediculosis, bacterial infections, dermatoses, dermatitis, adolescents

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INTRODUCTION

The term Adolescence was derived from the Latin term adolescere, which means"to grow up'. It is the transition phase from childhood to adulthood. Adolescence is a time of immense biological, psychological and social changes[1]. The effects of these changes on skin are profound. Various dermatoses can affect their current and future adult health.An essential aspect of this particular age is the emerging sexuality and intimacy, which may be influenced dramatically by body image, self-esteem as well as peers. The World Health Organization(WHO)[2] defined adolescence as the period of age ranging between 10 and 19 years old. Adolescents constitute approximately one-fifth of the Indian people. Skin diseases are increasingly reported among the adolescent population all over the world. According to the Global Burden of Disease study conducted in 2013, dermatological affections are the second consultation motives for teenagers after ophthalmological affections. Different dermatoses have a remarkable impact on adolescent's health-related quality of life[3-5]. Dermatoses represent a significant public health burden, particularly in developing countries. Only a few studies were documented regarding the effect of skin diseases on health-related quality of life that too, in adults. Lack of research on adolescent population has raised interest in carrying out the present study[6-12]. The importance of this study lies in need for an epidemiological survey of dermatoses among adolescents, which will help in planning different preventive measures and establishing Adolescent Friendly Health Clinics. Furthermore, the study will increase awareness and helps in managing the upcoming risk factors, thus contributing to improvement in the productivity and quality of life. This study aims at studying the pattern and magnitude of various dermatoses among adolescents attending OP.

MATERIALS AND METHODS

Source of Data: All the patients aged between 10 and 19 years attending the outpatient department of Dermatology, Venerology and leprosy.

Inclusion Criteria: All consenting patients aged between 10 and 19 years with clinical evidence of skin disease were included.

Study Design: Hospital based cross sectional study.

Method of Data Collection: A detailed history of patient's disease was taken and after getting an informed consent, a meticulous general and mucocutaneous examination was done. Any predisposing factors like drug intake, topical application of cosmetics and medicines, etc. were noted.Investigations like KOH mount, Tzanck smear, gram' stain, Wood's lamp examination, biopsy were done as and when needed.

Data Analysis and Interpretation: Data was entered into Microsoft Excel (Windows 7., Version 2010) and an analysis was done using the Statistical Package for Social Sciences (SPSS) for Windows software (version 22.0., SPSS Inc,). Descriptive statistics such as mean and standard deviation (SD)for continuous variables, frequencies and percentages were calculated for categorical Variables were determined. Association between Variables was analyzed by using Chi-Square test for categorical Variables. Bar charts were used for visual representation of the analyzed data. Level of significance was set at 0.05.

RESULTS AND DISCUSSION

In this study, distribution subjects among various age groups was 10-13years were 145(29%), 14-16 years were 141(28.2%) and 17-19 years were 214(42.8%). Age group 17-19 years constituting more no. of subjects 214(42.8%). The study includes 500 patients between ages 10-19 years. Of them, incidence of dermatome is higher among 17-19 years age group (42.8%), followed by 10-13 years age group (29%), followed by 14-16 years age group (28.2%). In the present study, males constituted 5l% and females 49% of the study population. Males outnumbered females. education to the patients, parents, and attendees in preventing the resurgence of chronic and chronic relapsing tinea infections. A note on the use of over the counter topical medications containing antifungal, steroid combinations in worsening the disease course to be addressed. Application of topical antifungal 2cms outside the affected area and on to the lesional skin,twice a day application, continuation of antifungal treatment 2 weeks beyond clearance is advised.(RULE OF 2). Patient advice must include twice a day bath, personal and family hygiene, avoidance of tight-fitting clothes, avoidance of jeans, proper washing and drying of clothes. The viral infections constituted 6.8% of total dermatoses of our study. The early diagnosis of leprosy is essential in the prevention of deformities, whose consequences are still more catastrophic when treating children under 15 years. Lack of education, social backwardness, lack of sanitation, overcrowding, excess pollution, lack of health care facilities in the rural area contribute to the increased incidence of infectious disorders and various dermatoses in India. The next most common condition was acne, which was seen in 19.4% of the study population. Our study group included patients in the adolescent age., A higher incidence of acne was noticed among them. Topical Corticosteroid (TC) misuse in adolescents with facial dermatoses is quite common. Most of this use is unwarranted. Use as a fairness cream and anti-

Table 1: Distribution of Various Dermatomes in the Study Population

Dermatoses	N(500)	100%
Infections	110	22%
Bacterial Infections	19	3.8%
Impetigo	03	0.6%
Ecthyma	01	0.2%
Folliculitis	03	0.6%
Periporitis	01	0.2%
Furunculosis	06	1.2%
Lupus vulgaris	01	0.2%
Hansens disease	04	0.8%
Fungal Infections	57	11.4%
Pityriasis Versicolor	9	1.8%
Tinea capitis	3	0.6%
Tinea Corporis	23	4.6%
Tinea cruris	18	3.6%
Tinea Incognito	4	0.8%
VIRAL INFECTIONS	**34**	**6.8%**
•Herpes Labialis	03	0.6%
•Molluscum Contagiosum	04	0.8%
•Varicella	08	1.6%
•Verruca Vulgaris	19	3.8%
PARASITIC INFESTATONS	**46**	**9.2%**
•Pediculosis capitis	07	1.4%
•Scabies	39	7.8%
DERMATITIS/ECZEMATOUS DIEASES	**55**	**11.0%**
•Contact dermatitis	06	1.2%
•Pompholyx	03	0.6%
•Seborrheic dermatitis	11	2.2%
•Atopic dermatitis	09	1.8%
•Pityriasis alba	07	1.4%
•Pityriasis capitis	06	1.2%
•Juvenile plantar dermatoses	03	0.6%
•Lichen simplex chronicus	01	0.2%
•Nummular Eczema	02	0.4%
•Perioral dermatitis	02	0.4
•Polymorphic light eruption	02	0.4%
PIGMENTOSES	**36**	**7.2%**
•Vitiligo	09	1.8%
•Freckles	01	0.2%
•Periorbital melanosis	3	0.6%
•Pigmented purpuric dermatoses	02	0.4%
•Contact leukoderma	02	0.4%
•Facial Melanosis	06	1.2%
•Lentigens	02	0.4%
•Post-inflammatory hyperpigmentation	08	1.6%
•Post inflammatory hypopigmentation	02	0.4%
•Nevus depigmentosus	01	0.2%
PAPULOSQUAMOUS DISORDERS	**21**	**4.2%**
•Psoriasis	04	0.8%
•Lichen planus	09	1.8%
•Pityriasis rubra pilaris	02	0.4%
•Pityriasis lichenoides chronica	02	0.4%
•Pityriasis rosea	03	0.6%
•Lichen Striatus	01	0.2%
ACNE	**97**	**19.4%**
•Acne Vulgaris	75	15%
•Acne vulgaris with PIH	15	03%
•Truncal Acne	07	1.4%
CONGENITAL DISORDERs		
(nevoid and developmental disorders)	11	2.2%
•Lymphangioma circumscriptum	01	0.2%
•Congenital nonbullous ichthyosiform erythroderma	01	0.2%
•Dyskeratosis congenita	01	0.2%
•Ichthyosis Vulgaris	01	0.2%
•Beckers nevus	02	0.4%
•Congenital melanocytic nevus	01	0.2%
•Nevus of OTA	02	0.4%
•Nevus sebaceous	01	0.2%
•Papillon Lefevre syndrome	01	0.2%
CONNECTIVE TISSUE DISORDERS	**09**	**1.8%**
•Localised morphea	01	0.2%
•Generalized morphea	01	0.2%
•Hypertrophic Scar	01	0.2%
•Keloid	05	1%
•SLE with lupus nephritis	01	0.2%
Disorders of Sweat and Sebaceous Glands	12	2.4%
•Aquagenic syringeal acrokeratoderma	01	0.2%
•BromHidrosis	01	0.2%
•Hyperhidrosis	04	0.8%
•Milia	02	0.4%
•Miliaria Rubra	03	0.6%

•Syringoma	01	0.2%
GENITAL INFECTIONS	**05**	**1%**
•Condylomata lata	01	0.2%
•Genital warts	04	0.8%
HAIR DISORDERS	**33**	**6.6%**
•Acne keloidalis nuchae	02	0.4%
•Alopecia areata	12	2.4%
•Androgenic Alopecia	03	0.6%
•Canities	02	0.4%
•Discoid lupus erythematous	01	0.2%
•Female pattern hair loss	01	0.2%
•Pilomatricoma	01	0.2%
•Pseudo pelade of Brocq	01	0.2%
•Telogen effluvium	10	2.0%
INSECT BITE REACTION	**10**	**2%**
•Paederus dermatitis	05	1%
•Papular Urticaria	05	1%
NAIL DISORDERS	07	1.4%
•20 Nail dystrophy	01	0.2%
•Acute Paronychia	01	0.2%
•Ingrown Toe Nail	02	0.4%
•Onychomycosis	03	0.6%
URTICARIA	**13**	**2.6%**
•Acute Urticaria	07	1.4%
•Angioedema	01	0.2%
•Urticarial vasculitis	01	0.2%
•Chronic Urticaria	04	0.8%
OTHERS	**22**	**4.4%**
•Acanthosis Nigricans	03	0.6%
•Adenoma sebaceum	01	0.2%
•Aphthous Ulcers	01	0.2%
•Blaschkoid dermatitis	02	0.4%
•Drug Reactions	02	0.4%
•Keratolysis Exfoliativa	04	0.8%
•Palmoplantar Keratoderma	01	0.2%
•Phrynoderma	01	0.2%
•Prurigo Simplex	04	0.8%
•Pyogenic granuloma	01	0.2%
•Striae distensae	02	0.4%
AESTHETIC PROCEDURES	**13**	**2.6%**
•Hirsutism-LASER hair reduction	05	1%
•LASER for scar reduction	04	0.8%
•LASER for tattoo removal	03	0.6%
•Post Burn scar with Contracture	01	0.2%

blemish cream is the most common indication in this cohort. Acne/exacerbation of acne was the most common adverse effect of steroid abuse. Steroid damaged facies, dyschromia face, acne form eruptions are the various sequella of steroid abuse on face. All the healthcare providers need to be warned about the complications of misuse of the potent topical corticosteroids, especially over the face. Legislation/ stronger implementation of existing laws is required to limit public access and advertising of potent TC. Eczema is another common condition that persists with remissions and exacerbations with a strong familial tendency. Emotional factors play an important role in adolescents. Regular use of anti-fungal shampoo for the scalp and affected areas of the body help in the treatment and prevention of seborrheic dermatitis. Topical steroids are given for shorter duration only during acute flares. Systemic anti fungals reserved for recalcitrant cases. Prevention is by avoiding the triggers that tend to aggravate your eczema. Common environmental irritants include soaps, bubble baths, shampoos, solvents, wool, nylon, grass and sand. Regular use of moisturizers can help in preventing eczema. Exogenous eczema constitute 2.6% which included contact dermatitis (1.2%) perioral dermatitis (0.4%) and photo dermatitis constitute 1% of total dermatome. The incidence of papulosquamous disorders in our study was 4.2%. Lichen planus (1.8%) was the most common papulosquamous disorder followed by psoriasis (1.2%) and pityriasis rosea (0.6%). The incidence of pigmentary disorders was 7.2%. Vitiligo was seen in 1.8% of patients and post-inflammatory hyper pigmentation in 1.6%. Pigmentary disorders (post inflammatory hyper and hypo pigmentation) can be prevented by minimizing sun exposure, regular use of physical and chemical sun screens, decreased handling and early treatment of inflammatory lesions. The incidence of appendageal disorders in our study was 10.4%. Alopecia area at was the most common appendageal disorder (2.4%) followed by Telogen Effluvium (2.2%) and hyperhidrosis (0.8%). Up to 50% of AA patients have spontaneous regrowth of their hair within a year without treatment, thus making watchful waiting a reasonable option for young. Patients with limited disease. In patients progressing to alopecia totalis and universal is it is Urticaria was present in 2.6% of the patients. Drug-induced cutaneous rash was seen in 0.4% of the current study group. Adolescents coming for various aesthetic procedures constituted 2.6% in

the present study. LASER treatments gain popularity and adding to the glamour portrayal among adolescents. Boys and girls between ages 17-19 showed equal inclination for the LASER treatments. LASER hair reduction, LASER tattoo removal and scar revision had been sought. preponderance with acne among the adolescent population. This is explained by the increased use of comedo genic makeup, cosmetics by the girls as a routine and as influenced by the peers owing to their glamour portrayal. Nevoid disorders, geno dermatome and appendageal disorders were almost equally distributed among both the sexes.

CONCLUSION

Considering the sex distribution of various dermatoses, infections, papulosquamous disorders, keloids were more common in males and acne vulgaris, dermatitis, pigmentary disorders and insect bite reactions were more common in females. The present study provides the characteristic clinical pattern and prevalence of various skin diseases of the adolescent population. It emphasizes the importance of knowing the commonly occurring dermatological conditions affecting adolescent age group and providing proper care to the patients accordingly in the form of early diagnosis and treatment, good health education and increasing health awareness regarding prevention of these diseases and emphasizing the importance of maintaining personal hygiene and cleanliness. Data can be useful in planning of health care programs for adolescents.

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