

Original Research Article

An unprecedented prevalence of palmoplantar warts among nursing students

M. Vijaya Bharathi*, Neetha L., S. Murugan, S. Rajagopal, J. Nivin Simon

Department of DVL, Sree Mookambika Institute of Medical Sciences, Kanyakumari district, Tamil Nadu, India

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***Correspondence:**

Dr. M Vijaya Bharathi,

E-mail: drvbharathi@gmail.com

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ABSTRACT

Background: Skin diseases are common contributors to disease morbidity worldwide, particularly among adolescents. Although skin diseases are rarely lethal, they can have a significant impact in terms of treatment cost, absence from school, and psychological distress. *Verruca vulgaris* (cutaneous warts) is a common skin problem in adolescents that commonly affects the hands and feet. The aim of the study was to determine the prevalence of warts among nursing students.

Methods: Three hundred and twenty eight undergraduate degree students of nursing college were examined for skin conditions after an unprecedented sporadic visitors from the nursing college with palmo-plantar warts. The study was conducted at Sree Mookambika Institute of Medical Sciences, Kulasekharam, Kanyakumari district during the period of 20 March 2019 to 25 March 2019.

Results: Among the 328 students, 102 students (31%) remained healthy dermatologically. Seborrheic dermatitis was found among 145 students (4.4%), pediculosis was found in 40 students (12%). 34 students were having palmoplantar warts (10.4%). Among these, nearly 30 were having palmar warts and only 4 were having plantar and palmar warts. 83 first year students were not having any warts in their hands or foot, whereas 11 among 2nd year, 16 among 3rd year students and 7 among 4th year students were having viral warts. Prevalence was more among 2nd and 3rd year students.

Conclusions: Screening of hostel students should also include for the presence of viral skin disease like herpes simplex, Herpes zoster and HPV infections and they should be treated then and there to break the chain of transmission.

Keywords: Palmoplantar, HPV, Herpes zoster

INTRODUCTION

Skin diseases are common among worldwide. Certain skin diseases are more common in adolescents which have greater impact and morbidity. *Verruca vulgaris* (cutaneous warts) is a common skin problem that commonly affects the hands and feet. The term, 'warts' was coined by Melnick in 1962 to denote a group of infections which were caused by DNA viruses that comprised the papilloma, polyoma and the vacuolating viruses. Cutaneous wart is caused by Human Papilloma Virus

(HPV) virus, the most prevalent types of which are HPV2/27/57 and HPV1.^{1,2} On the skin, HPV infection may manifest as common warts, flat warts and filiform warts; depending on the site, there may be palmar and plantar warts, anogenital warts, oral warts and conjunctival warts. They occur with equal frequency in both sexes. They appear as verrucous papules varying from less than 1 mm to over 1 cm in diameter. They may form larger lesions by confluence of adjacent lesions. While most patients remain asymptomatic some experience discomfort.³ The virus enters a compromised skin surface through direct contact

and attacks the granulosum and keratin layers of the epidermis. Inoculation depends on the degree of skin integrity as well as individual susceptibility.⁴ Warts spread by direct or indirect contact. It can also be transmitted through autoinoculation.⁵ Epidemiological data suggest that cutaneous warts are common in children but tend to vary in age distribution according to types. Warts are unusual in infancy and early childhood. The incidence increases during the school years to reach a peak in adolescence declines gradually thereafter.

Conditions like dermatophytosis and scabies are common among hostel students.⁶ Palmo-plantar warts are not that common among these population. When such lesions are present among health care personnel, it will have bad impacts upon the patients also. An unprecedented frequency of palmar warts among nursing students to our op evoked our interest for this study. There have been a few published studies that have focused on this subject. In particular, there is little information about the epidemiology of warts among healthcare personnels. The aims of this study were to determine the prevalence of warts among nursing students. In this study, we aimed to determine the prevalence, clinical profile, and prognosis of cutaneous warts among nursing students, a typical young adult and adolescent population. We also aimed to identify potential factors influencing the occurrence and resolution of warts.

METHODS

Three hundred and twenty-eight undergraduate degree students of nursing college were examined for skin conditions after an unprecedented sporadic visitors from the nursing college with palmo-plantar warts. The study was conducted at Sree Mookambika Institute of Medical Sciences, Kulasekharam, Kanyakumari district during the period of 20 March 2019 to 25 March 2019.

Inclusion criteria

Patients who presented with all morphological types of warts.

Exclusion criteria

Patients with genital warts and immunocompromised patients were excluded from the study.

A detailed history regarding the age, sex, duration of the disease and family history of the patients was obtained. A complete dermatological examination was done, taking care to note the morphology and the distribution of the warts. Statistical tool used is statistical package for social sciences (SPSS) 20.00 version.

RESULTS

Among these 328 students, only twelve were men (3.6%) students and the remaining were women students.

Table 1: Distribution of study population according to sex.

Sex	Number	%
Male	12	3.66
Female	316	96.34
Total	328	100.00

Table 2: Distribution of study population according to year of study.

Year	No of Students	%	Infected students	%
I	83	25.3	0	0
II	81	24.7	11	13.58
III	85	25.91	16	18.82
IV	79	24.09	7	8.86

Table 3: Occurrence in the family.

Family History	Number	%
Yes	9	2.74
No	319	97.26
Total	328	100.00

Table 4: Duration of disease.

Duration of Disease	Number	%
<6 months	16	44.44
6 - 12 months	11	30.56
> 12 months	9	25.00
Total	36	100.00

Table 5: Types of wart.

Type of Wart	Nos	%
Palmar Warts	30	88.24
Palmoplantar	4	11.76
Total	34	100.00

Table 6: Other dermatological complaints.

Dermatological complaints	Number	%
Seborrhic dermatitis	145	44.21
Pediculosis	40	12.20
fungal infections	37	11.28
Acne	30	9.15
Contact dermatitis	8	2.44
Hyperhidrosis	2	0.61
Others	5	1.52
Scabies	4	1.22

102 students among (31%) these nursing students remained healthy dermatologically. Seborrhoeic dermatitis was found among 145 students (44.21%), pediculosis was found in 40 students (12.20%). Other

conditions like fungal infection, acne vulgaris, polymorphous light eruption, hyperhidrosis and contact dermatitis were some skin conditions present among these students.

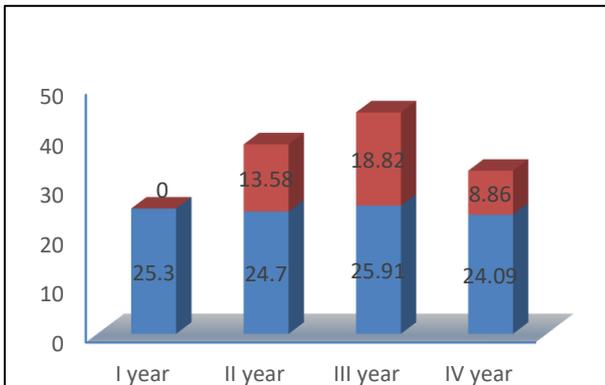


Figure 1: Distribution of study population according to year of study.

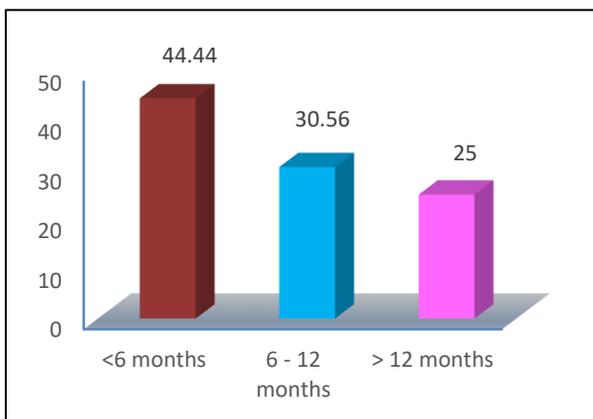


Figure 2: Duration of disease.

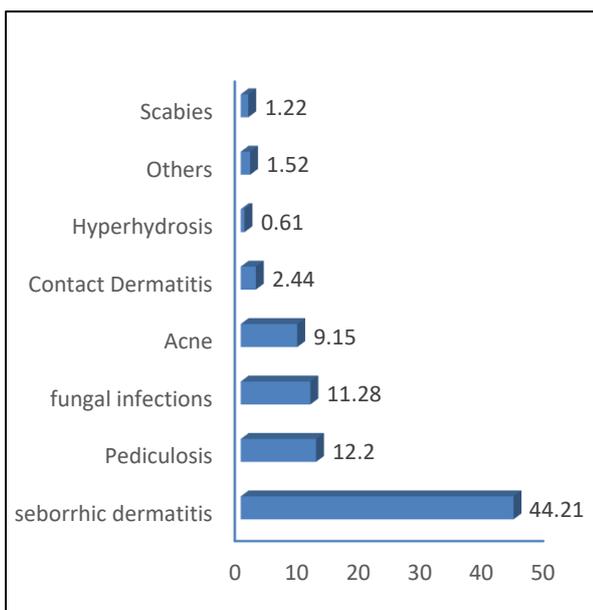


Figure 3: Other Dermatological findings.

34 students were having palmoplantar warts (10.4%). Among these, nearly 30 were having palmar warts and only 4 were having plantar and palmar warts. 83 first year students were not having any warts in their hands or foot, whereas 11 among 2nd year, 16 among 3rd year students and 7 among 4th year students were having viral warts. Prevalence was more among 2nd and 3rd year students. All first year students were free from warts. Some students had recurrence of palmar warts even after the ablation. The duration of warts is variable. A greater number of students attended the OPD at an early stage of the disease. The earliest presentation was at 1 month and the longest duration was 3 years.

DISCUSSION

Infections like scabies, dermatophytes are not uncommon among hostellers, whereas 10.4% viral warts among the nursing students is quite unusual when compared with other studies.⁷ In a study conducted by Eshan B Henshaw et al in Nigeria showed prevalence of 0.9% among teenage adolescents from eight secondary schools.⁸ The only study conducted by Liu J et al in a college showed the prevalence of warts as 1.4% in college students. No other studies were done for the prevalence of warts among paramedical college students.

Majority of were having palmar warts. Incidence of this palmar wart is totally nil among the freshers. Maximum Incidence of this HPV infection is seen among 2nd year and 3rd year students. It is less among the final year students. It is obvious that these students were free when they got enter into this collage and got these infections during the curriculum. Shruti S. Ghadgepatil et al in their study found maximum infection with warts occurred in 2nd decade and the most common occupation group in their study was that of the students (32%).⁹ Shaking hands, touching, sharing of fomites like soap and towel could be the reasons. Moreover it could have been transmitted through the common spoon used in mess for serving food themselves and handling and sharing of bucket handles, door handles, and knobs in bathroom are the source of infection. This can be compared with a study by Lane W. Johnson who concluded that Plantar warts occur most commonly in adolescents and are more prevalent among users of public locker rooms.¹⁰

Damage to the stratum corneum serves as an entry point of HPV. In a study by Vaishnavi, concluded that regions most prone to contact and susceptible to trauma are the most common sites of inoculation i.e. fingers, scalp and face.¹¹

Warts in immunocompetent persons are harmless and usually resolve spontaneously as a result of natural immunity within months or years.^{12,13} The rate of resolution is highly variable and probably depends on several factors, including host immunity, age, HPV type, and site of infection.

Majority of them were treated with electric cauterization, cryotherapy and some with chemical cauterization. All of them advised not to share common spoon, buckets and toilet slippers.

All of them were engaged in patient care in a hospital environment. They are likely to handle immuno compromised individuals while giving wash to patients. This sort of viral infection should not be a cause for the spread to inpatients of the hospital, so it has to be given high priority for the detection and ablation.

CONCLUSION

Screening of hostel students should also include for the presence of viral skin disease like herpes simplex, Herpes zoster and HPV infections in colleges particularly in medical institutions as we did in our dermatology department and they should be treated then and there to break the chain of transmission among themselves and also to the inmates of hospital wards. Finding out the prevalence will be helpful in titrating HPV prophylaxis for populations that demonstrate high rates of warts may be of benefit in controlling the spread of lesions.

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Conflict of interest: None declared

Ethical approval: The study was approved by the institutional ethics committee

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