

Occurrence and Characteristics of Verruca Vulgaris Attending in a Tertiary Care Hospital

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Abstract

A cross sectional study involving sixty patients in a tertiary care hospital suffering from verruca vulgaris was performed to determine the prevalence and related distribution characteristics. The patient's data recorded in pre-designed structured questionnaire revealed that fifty percent of the patients belonged to group ? 15 years and the rest of the patients belonged to group >15 years of age. In both groups female was affected predominantly which were 53.3% and 63.3%. Majority of the patients were students and belonged to middle class. Both groups yielded negative personal history of previous trauma to skin and reported negative family history of development of wart. In group ? 15 years, the duration of illness found was on an average 10 months than group > 15 years, which was 8 months. Presence of multiple lesions indicated close relationship that is 50% and 53.6% involvement in group ? 15 years and group > 15 years respectively. Palm was the prime site of wart in group ≤ 15 years; on the other hand, finger was the prime site in group > 15 years. It is advocated that the study is informative in recognizing the magnitude of the disease problem and therefore necessitates appropriate treatment.

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Introduction

Verruca vulgaris known as common warts is formed by benign proliferations of the skin and mucous membrane. It is caused by infection with Human papilloma virus (HPV). Although there are 100 types of HPVs, but HPV-1,-2,-4,-27,-57 and -63 cause common warts. The causal agents usually do not produce acute signs or symptoms but induce a slow, focal expansion of epithelial cells. Papilloma viruses belong to a diverse group of small DNA viruses that induce warts in a variety of vertebrates including human. It is worthy to mention that some papilloma viruses are found to possess malignancy potential¹. Verruca vulgaris or common warts appear as scaly, rough, spiny papules or nodules on any cutaneous surface as singly or in group, usually on the hands, fingers, foot and sole². The lesions develop into firm papules, 1 to 10 mm size or rarely larger having hyperkeratotic, clefted surface with vegetations. Palmer lesions disrupt the normal lines of fingerprints³. They grow in size for weeks to months and usually present elevated rounded papules with a rough, grayish surface, which is so characteristic that it is designated by the word verucca⁴. Verruca Vulgaris can occur anywhere on the skin surface, but mainly at the sites of trauma: hands, fingers, knees. The

lesions apparently spread from hands by autoinoculation. In nail biters, warts may be seen on the lips and tongue, usually in the middle half and uncommonly in commissures. Filiform or digitated warts have relatively small bases, extending out with elongated cap. They tend to occur on the face and scalp and present as single or multiple spikes⁵.

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Methods

This is a cross sectional study, conducted in the department of Dermatology and Venereology, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh for duration of six months from September 2010 to February 2011. A total number of sixty patients suffering from verruca vulgaris were selected purposively. Among them thirty patients belonged to group ? 15 years and another thirty patients belonged to group > 15 years.

The exclusion criteria of patient selection were: patients / attendants unwilling to give informed consent to take part in the study; patients having history of cold, urticaria, abnormal cold intolerance, cryoglobulinemia, and cryofibrinogenemia and patient's having serious systemic illness.

Data Collection procedure:

Patient's data were recorded in pre-designed structured questionnaire. At the base line visit, a complete clinical history was taken and laboratory investigations Complete Blood Count, Urine routine examination and Fasting blood sugar & two hours after breakfast) were performed in necessary cases. Patients were asked about previous treatment history and history of any trauma before appearance of warts. Family history of having development of any warts was also taken. Before inclusion in the study, all the participants were elaborately informed about the natural history and prognosis of the disease. They were assured of maintaining strict privacy and secrecy of information at all occasions.

Data Processing and Analysis:

All data were checked and edited after collection. These were entered into computer and analyzed by using statistical software package (SPSS v. 15.0 for windows). The relationships between different variables of both groups were analyzed with the Chi-square test (2) and student's 't' test program. Statistical significance was set at $P < 0.05$ and confidence interval was set at 95% level. All probability values quoted were 2-tailed.

Results

It was found that within Group ? 15 years, the occurrence of Verruca Vulgaris male sex was 14 (46.7%) and in female was 16 (53.3%) and within Group > 15 years, in male sex was 11 (36.7%) and female was 19 (63.3%). The statistical analysis determination found the 2 value = 0.617. $df = 1$. $P = 0.432$. There was no statistically significant difference between respondents of both groups in term of sex (P value > 0.05) (Table-1).

Table1: Distribution of study groups by sex

Sex	Study groups				Total	
	≤ 15 years		> 15 years		n	%
	n	%	n	%		
Male	14	46.7	11	36.7	25	41.7
Female	16	53.3	19	63.3	35	58.3
Total	30	100.0	30	100.0	60	100.0

χ^2 value = 0.617. $df = 1$. $P = 0.432$. Not Significant (> 0.05)

Majority respondents of Group ? 15 years were students, 13 (43.3%), followed by businessman, 10 (33.3%). On the other hand the majority respondents of Group > 15 years were also students, 14 (46.7%), but followed by house wives, 07 (23.3%). There was no statistically significant difference between respondents of both groups in term of occupation. P value is equal to 0.198 (> 0.05) (Table-2).

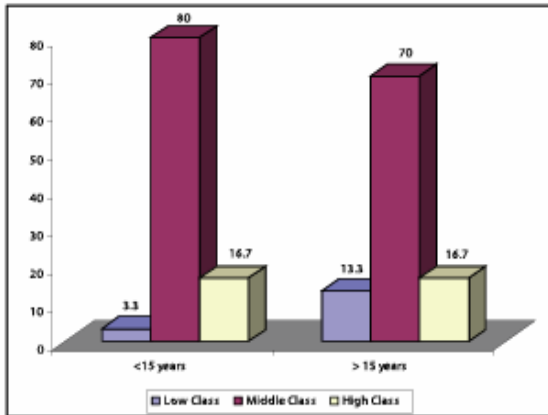
Table 2: Distribution of study groups by occupation

Occupation	Study groups				Total	
	≤15 years		>15years		n	%
	n	%	n	%		
Student	13	43.3	14	46.7	27	45.0
Service	01	3.3	02	6.7	3	5.0
House Wife	06	20.0	07	23.3	13	21.7
Business	10	33.3	04	13.3	14	23.3
Others	00	0.0	03	10.0	03	5.0
Total	30	100.0	30	100.0	60	100.0

χ^2 value = 6.019. $df = 4$. $P = 0.198$. Not Significant (> 0.05)

Among the respondents middle class people were predominant both in group ? 15 years and group > 15 years which was 24 (80%) and 21 (70%) respectively followed by higher social class which was similar for both groups, that is 05 (16.7%). No statistically significant difference was observed. P value is equal to 0.368 (> 0.05). χ^2 value = 2.000. df = 2. P = 0.368. Not Significant (> 0.05) (Fig. I)

Figure I: Distribution of study groups by socio-economic condition.



Maximum respondents of both groups gave negative personal history of trauma to skin before and about the negative family history of wart. Only 13.3% and 10% respondents of Group ? 15 years and Group > 15 years gave the positive personal history of trauma respectively. No statistical significant difference was observed between two groups (p value = 0.688). Only 6.7% and 10% respondents of group- ? and Group > 15 years gave the positive family history of wart. No statistical significant difference was observed between two groups (p value = 0.640) (Table-III).



Picture-1 : Showing multiple planter warts

Table3 Distribution of study groups by personal and family history.

History		Study groups				Total		Significance
		≤15 years		> 15 years		n	%	
		n	%	n	%			
Personal History of Trauma to Skin Before	Present	04	13.3	03	10.0	07	11.7	$\chi^2 = 0.162$ $P = 0.688$ NS
	Absent	26	86.7	27	90.0	53	88.3	
	Total	30	100.0	30	100.0	60	100.0	
Family History of Wart	Present	02	6.7	03	10.0	05	8.3	$\chi^2 = 0.218$ $P = 0.640$ NS
	Absent	28	93.3	27	90.0	55	91.7	
	Total	30	100.0	30	100.0	60	100.0	

Out of all respondents of Group ? 15 years, the duration of illness ranged from 2 months to 36 months, with an average of 10 months. In group > 15 years, the duration of illness ranged from 1 month to 24 months, with an average of 8.20 months. No significant difference was observed (p value = 0.316) (Table-4).

Table 4: Distribution of study groups by duration of illness

	Age group	N	mean	±sd	median	range	Significance
Duration of Illness (Months)	15 years	30	10.00	7.24	08	2 - 36	$t = 1.010$ $P = 0.316$ NS
	>15 years	30	8.20	6.54	06	1 - 24	
	TOTAL	60	9.10	6.90	06	1 - 36	

The distribution of number of lesions of both groups. Single lesion was 15 (50%) for Group ≤15 years & 14 (46.7%) for Group > 15 years. Multiple lesions were 15 (50%) & 16 (53.6%) for Group? 15 years & Group- > 15 years respectively. No significant difference was observed. (p value = 0.796) (Table-5).

Table 5: Distribution of study groups by number of lesion.

Number of lesion	Study groups				Total	
	≤ 15 ye ars		> 15 years			
	n	%	n	%	n	%
Single	15	50.0	14	46.7	29	48.3
Multiple	15	50.0	16	53.3	31	51.7
Total	30	100.0	30	100.0	60	100.0

² value = 0.067. df = 1. P = 0.796. Not Significant (> 0.05)

Palm was the prime site of wart in Group ≤ 15 years (40%), finger was the second prime region (26.6%), and foot was the third (20%) and then toe & scalp (6.7%). For Group > 15 years, finger was the prime site (46.7%), palm was the second prime (20.0%), toe was the third (16.7%), then foot (13.3%) & scalp (3.3%). No statistical significant difference was observed between two groups. P value = 0.226 (> 0.05) (Table-6).

Table 6: Distribution of study groups by site of lesion

Site of lesion	Study groups				Total	
	≤ 15 years		> 15 years			
	n	%	n	%	n	%
Finger	08	26.6	14	46.7	22	36.7
Palm	12	40.0	06	20.0	18	30.0
Foot	06	20.0	04	13.3	10	16.6
Toe	02	6.7	05	16.7	07	11.7
Scalp	02	6.7	01	3.3	03	5.0
Total	30	100.0	30	100.0	60	100.0

² value = 5.655. df = 4. P = 0.226. Not Significant (> 0.05)



Picture-2 : Showing multiple warts over foots and legs

Discussion

From this study it was evidenced that females were predominant in both groups (53.3% and 63.3% for group ≤ 15 years and group > 15 years respectively). This finding is not in agreement with the study of Kanwar et al⁸ in the department of Dermatology, Chandigarh, India who reported the clinico-epidemiological features of 320 patients suffering from warts. The result revealed males comprising 64.06% of patients. The majority number 202 (63.12%) were in the age group 11-30 years. Likewise our finding differs from the study of Sudhakar Rao et al⁹. The researchers demonstrated that out of 90 patients in their study, there were 67 males and 23 females, which constituted 74.44% and 25.55% respectively of the total cases under study. The male to female ratio found was 6.7: 2.3. Other studies revealed relatively more or less analogous result. Bourke et al¹⁰ in their study, observed warts in 225 patients, which included 117 males and 108 females. In a study on warts in 100 patients, which was conducted by Dhar et al there were 56 males (56%) and 44 (44%) females¹¹. Chandrasekhar Laxmisha et al, in their study, recorded warts in 144 patients which included 97 males and 47 females and this contributed 67.36% and 32.64% of the cases respectively¹². In all the studies mentioned above warts were commonly seen in males. On the contrary the present study warts were found in more in female patients. This could be attributed to the trend of a cosmetic interest in females, which contributed to the occurrence of the disease, easy access to physicians advice and reporting for the treatment. Another important contributing factor could be thought due to the prevailing condition that during the study period many of the females students understanding and realizing the infectivity of the disease led them visit the clinician. From this study it was demonstrated that positive family history present in both groups (6.7% & 10% for group ≤ 15 years & group > 15 years respectively) was similar to the study of Kanwar et al, where positive family history of warts obtained was in 34 (10.62 percent) cases⁸.

It was observed that the maximum number of respondents of Group ≤ 15 years belonged to students, 13 (43.3%), followed by businessman 10 (33.3%). Similarly the maximum respondents of Group >15 years were also students, 14 (46.7%), then house wife, 07 (23.3%). There was no statistically significant difference between respondents of both groups in term of occupation. The lowest occurrences of the disease found for both groups were service holder, which was 3.3% and 6.7% respectively. In the study of Sudhakar Rao et al students constituted a majority 45 (50%) of the patients, followed by servicemen 23(25.5%) and housewives constituted 16.6% (15) of the patients⁹. Champion et al have mentioned that warts showed an increased incidence during the school age years, which reached a peak between the age of 12 and 16 years¹³. Chandrashekhar Laxmisha et al in their study out of 144 patients having warts found that 43 cases (53%) were students¹². Thus the present study depicts similar result as found in the studies mentioned above that warts were commonly seen in students. The higher occurrences among the students in the present study and other studies could be attributable to the fact that the disease was more common in the second and early third decades of life, when the chances of the exposure to the infection was high. As mentioned earlier, it could also be due to the awareness about the infectivity in this group. Housewives probably get affected more frequently as compared to others, as the chances of trauma are more during their domestic works. Out of all respondents of Group-? 15 years, the duration of illness ranged from 2 months to 36 months, with an average of 10 months. While in group- >15 years, the duration of illness ranged earlier that is from 1 month to 24 months, with an average of 8.20 months. The shortest duration was 2 months, while the longest duration of 7 years was reported by Bushan Kumar et al¹⁴, which was more or less similar to the present study. In the study of Sudhakar Rao et al, the duration of warts is variable; 30 patients presented with 1-3 months of duration of the disease. The earliest presentation was at 1

month and the longest duration was 7 years⁹. Chandrashekhar Laxmisha et al, in their study on 81 children with warts, found duration of between 1-2 months in 29 cases (35.8%). In adults, the duration of the presentation was between 1-2 months in 25 cases (39.6%)¹². Thus, the results of the present study were in agreement with other studies mentioned above.

The sites of warts in Group ≤ 15 years recorded were in hand (40 %), finger (26.6%), foot (20%), toe (6.7%) & scalp (6.7%). On the other hand in Group > 15 years, the sites were in finger (46.7%), hand (20.0%), toe (16.7%), foot (13.3%) and scalp (3.3%). This result was similar to the study of Sudhakar Rao et al, who evidenced that among 90 patients the commonest site found was the dorsum of the hands (25), followed by the plantar surface (20), the dorsum of the feet (9), the forearm (11), the palms (9), the face(9), the neck (6), the legs (1), the thigh (1), the periungual sites (1)and the trunk (1)⁹. In another study Theng et al found 302 patients with warts. They found that most of the lesions were located on the hands (118), followed by lesions on the feet (116)¹⁵. Chandrasekhar et al. in their study on 144 patients found that the commonest site of involvement in adults and children was the hands¹².



Picture-3 : Showing multiple warts over hands

The study on the occurrence of verruca vulgaris associated with the related characteristics and established evidence of any base line information to the researchers for future study. It is advocated that the study is informative in recognizing the magnitude of the disease problem and therefore necessitates appropriate treatment.

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