

# Epidemiological and clinical patterns of viral warts presenting to dermatology OPD of Hayatabad Medical Complex, Peshawar

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## Abstract

**Background** The viral warts are an acquired skin infection caused by Human Papilloma Virus (HPV). Different national and international studies show that warts are very prevalent globally among adults and school children.

**Objective** The current study was aimed to determine the epidemiological and clinical features of viral warts in patients presenting to Dermatology unit of Hayatabad Medical Complex, Peshawar.

**Methods** This six months study was conducted in Dermatology unit of Hayatabad Medical Complex (HMC) in collaboration with Pathology Department of Khyber Teaching Hospital (KTH) from July 2018 to December 2018. A total of 219 patients presenting with viral warts were diagnosed clinically and their age, gender, duration of warts, site of involvement, morphological type of warts with their presenting symptoms were recorded on a preformed Performa. Patients having genital warts were screened for HIV and other sexually transmitted diseases.

**Results** Among 219 patients presenting with viral warts, 138 were males and 81 were females. Regarding age, 169 were adults and 50 were children. The most commonly affected age group was 11-20 years. In 219 patients, 199 had non-genital warts and 20 patients had genital warts. Among non-genital warts, common warts was the most common morphological type seen and the most commonly involved site was upper limb followed by lower limbs.

**Conclusion** Viral warts are not only of cosmetic concern for the patient but they are also contagious. They are more prevalent in young adults mainly involving extremities. Common warts and plantar warts are common morphological types.

## Key words

Human Papilloma virus, common warts, planter warts.

## Introduction

The viral warts are an acquired skin infection caused by Human Papilloma Virus (HPV).<sup>1</sup> The term 'warts' was introduced by Melnick in 1962.<sup>2</sup> HPV is a DNA virus that can infect both

keratinizing and non-keratinizing stratified squamous epithelium causing increased cell proliferation.<sup>1,3</sup> Approximately 189-200 genotypes of HPV have been described.<sup>4</sup> HPV can cause both benign and malignant skin and mucosal lesions.<sup>5</sup>

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Different national and international studies show that warts are very prevalent among school children. They are the third more common skin

disease infecting 2-20% school going children.<sup>6</sup> Majority of people are carriers of HPV without any symptoms and signs.<sup>7</sup> Among those infected with HPV 3-5% manifests infection in the form of warts.<sup>5</sup> Although HPV infection rate is high, every year only 2% of patients come for treatment of viral warts.<sup>7</sup>

Warts are of different morphological types, i.e. common warts, planter, plain, filiform, mosaic, periungual, mucosal and pigmented warts.<sup>3</sup> They can also be classified as genital and non-genital warts. Most of these warts clear by themselves in 1-2 years.<sup>3</sup> In this spontaneous clearance both innate and cell mediated immunity are involved.<sup>8</sup> In some immune-competent patients failure to clear these warts spontaneously is due to paucity of Langerhans cells and T lymphocytes in epidermal layer. Intact skin barrier protects against HPV and trauma and maceration facilitates its transmission.<sup>3</sup>

Different strain of HPV are involved among which the most common are HPV2/27/57, HPV1 and HPV3.<sup>9</sup> Pigmented warts are caused by HPV4/60/65.<sup>10</sup> HPV infects 30-50% of people who are sexually active making it the most prevalent viral STD.<sup>5</sup> About 5-27% of HIV positive patients also get genital warts.<sup>5</sup>

## Methods

This descriptive study was conducted in Dermatology unit of Hayatabad Medical Complex (HMC) in collaboration with Pathology Department of Khyber Teaching Hospital (KTH) from July 2018 to December 2018. In this six months study 219 patients presenting with viral warts were included. Permission was issued by hospital ethical committee for conducting the study. Patients were diagnosed clinically and their age, gender, duration of warts, site of involvement, morphological type of warts with their

presenting symptoms were recorded on a preformed Performa. Patients having genital warts were screened for HIV and other sexually transmitted diseases. Those with disseminated warts had their random blood sugar level checked. Data was analyzed by using IBM SPSS version 23. Mean was calculated for quantitative variable e.g. age, duration of warts. Frequency and percentages were calculated for qualitative variables e.g. gender, morphological type of warts, site of involvement and symptoms.

## Results

219 patients were included in this study. Out of 219 patients, 138(68%) were males and 81 (37%) were females. This shows male to female ratio of 1.6:1. Among adults, 109 (64.4%) were males and 60 (36%) were females. Among children, 29 (58%) were males and 21 (42%) were females (**Table 1**).

Regarding age, among 219 patients, 169 (77%) were adults and 50 (23%) were children. Age distribution for viral warts was that there were 32 (15%) patients in age group of 1-10 years, 86 (39.2%) in age group of 11-20 years, 48 (22%) in 21-30 years, 28 (13%) in 31-40 years age group, 13 (6%) in 41-50 years age range and 12

**Table 1** Gender wise distribution of viral warts caused by Human Papilloma Virus.

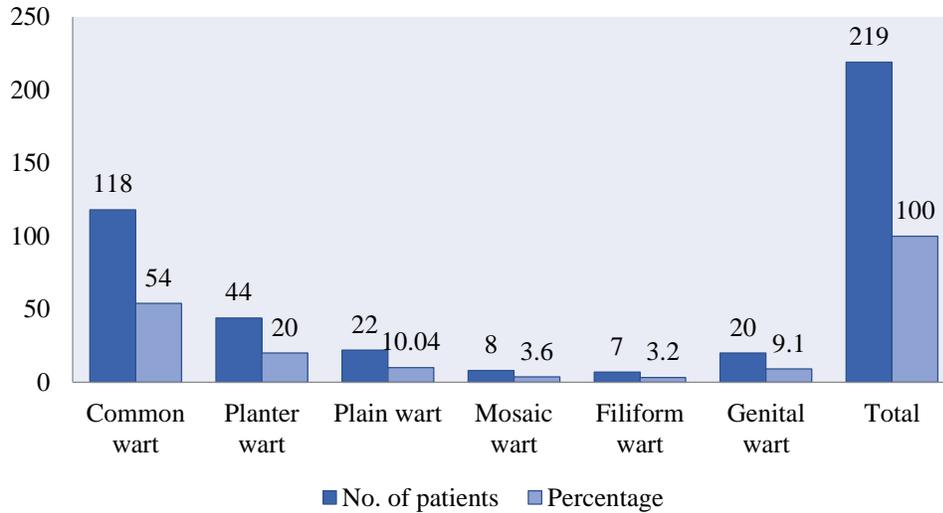
Gender	No. of patients	Percentage
Male	138	63
Female	81	37
Total	219	100

**Table 2** Age distribution of viral warts caused by Human Papilloma Virus.

Age (years)	No. of patients	Percentage
1-10	32	15
11-20	86	39.2
21-30	48	22
31-40	28	13
41-50	13	6
>50	12	5.4
Total	219	100

**Table 3** Symptoms of warts caused by Human Papilloma Virus.

Type of warts	Symptoms	No. of patients
Common + other types	Cosmesis	154 (70.3%)
Planter	Pain on walking	40 (18%)
Palmoplanter	Bleeding after fiction	5 (2.3%)
Genital 20 cases found among 169 adults	Fear of spread	20 (100%)
	Vaginal discharge	8 (40%)
	Itching	6 (30%)
	Burning micturition	4 (20%)



(5.4%) above 50 years as shown in **Table 2**.

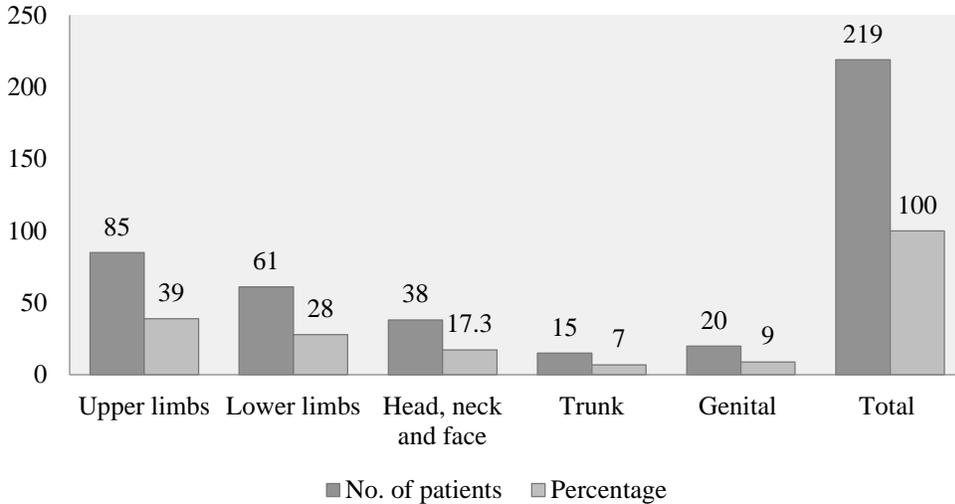
Among different morphological types of warts, common warts were the most prevalent in both adults and children. In 219 total patients, 118 (54%) had common warts, 44 (20%) had planter warts followed by plain warts found in 22 (10.04%) cases. Mosaic warts were seen in 8 (3.6%), filiform warts in 7 (3.2%) and genital warts in 20 (9.1%) of patients as shown in **Figure 1**.

In 169 adults patients, 94 (56%) had common warts, 37 (22%) had planter warts, 8 (4.7%) had mosaic warts. Plain warts were found in 7 (4.1%) patients, 3 (2%) had filiform warts and 20 (12%) were having genital warts as shown in **Table 3**.

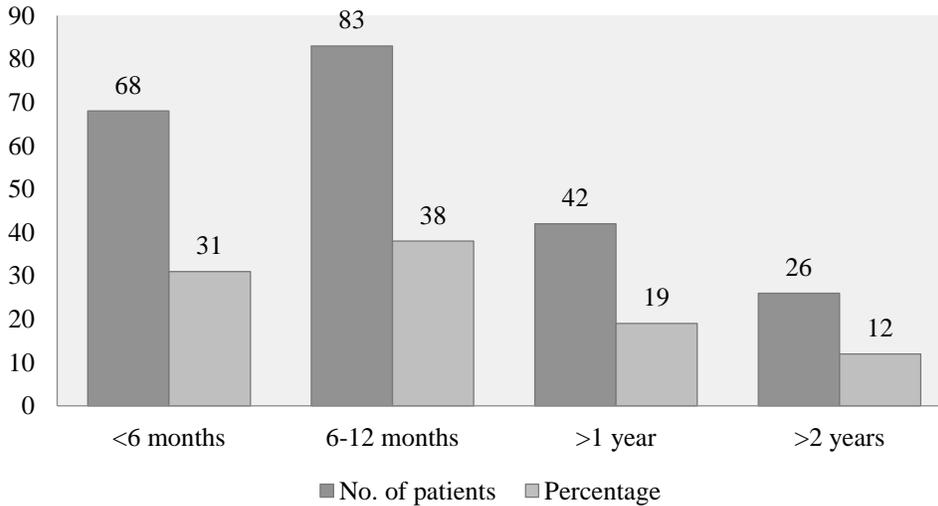
Among children, in total 50 cases 24 (48%) had common warts, 15 (30%) had plain warts, 7

(14%) had planter warts and 4 (8%) were having filiform warts. None of children presented with genital warts shown in **Figure 2**.

In majority of patients warts were asymptomatic and the main reason for presentation was cosmesis or unsightly appearance. It was there in 154 (70.3%) cases. Patients with genital warts complained of pain, itching and fear of spread of infection present in all 20 (100%) cases. In 20 cases of genital warts, 8 (40%) had history of vaginal discharge, 6 (30%) having itching, 4 (20%) having burning micturition. Among 20 patients with genital warts, 12 (60%) were females and 8 (40%) were males with male to female ratio of 1:1.5 when they were tested for other sexually transmitted diseases, none of them were having HIV or VDRL positive. Among females with genital warts, 2 of them were having concomitant genital molluscum contagiosum. All were married and 4 (20%) of



**Figure 2** Site of involvement by warts caused by Human Papilloma Virus.



**Figure 3** Duration of viral warts

them were having history of exposure to multiple sexual partners.

Those with planter warts presented with pain on walking seen in 40 (18%) cases. 5 (2.3%) patients complained of bleeding from warts after friction.

Most common site of involvement by warts in our study was upper limb which was involved in 85 (39%) cases followed by lower limb in 61 (28%). Head, face and neck was involved in 38 (17.3%) cases. 15 (7%) were present on trunk

and 20 (9%) on genital area shown in **Figure 2**.

In 169 adults, 65 (38.4%) had warts on upper limb, 51 (30.1%) had lower limb involvement. Head, neck and face was involved in 23 (14%) cases, trunk in 10 (6%) and genital warts in 20 (12%) cases.

In children, most common site of involvement was upper limb with 20 (40%) having warts on hands and fingers. Head, neck and face was second most common site with 15 (30%) involvement. 10 (20%) had warts on lower limb

and 5 (10%) on trunk. None of children had genital warts.

In 83 (38%) cases duration of warts at presentation was 6-12 months. 68 (31%) presented with duration of less than six months. 42 (19%) presented after more than one year and 26 (12%) after more than two years duration of warts. Mean duration observed was 11 months while patients presented with larger duration had multiple warts shown in **Figure 3**.

Family history of warts was present in 65 (30%) cases. Planter were more commonly associated with exposure to close contact having planter warts.

Patients with multiple and disseminated warts were tested for HIV and random blood sugar screening. None of patients found HIV positive while 14 (6.3%) with multiple disseminated warts have deranged random blood sugar levels.

## **Discussion**

In our study, among 219 patients 138 (63%) were males and 81 (37%) were females with male to female ratio of 1.6:1. This finding in our study is similar to that of Sudhakar Rao et al<sup>2</sup> showing 74.4% males and 26% females and study of Ghadgepatil<sup>11</sup> with male to female ratio of 1.9:1.

These findings show that viral warts are twice as common in males as compared to females. This can be explained due to increase exposures of males to outdoor activities causing trauma and breaks in stratum corneum providing entry points to HPV. Also our culture is such that females do not visit hospitals for such issues and males have easy accessibility to hospitals. Increased awareness about infective nature of warts as well as cosmetic concern may be the reason for increased ratio of male patients

presenting with viral warts.

Regarding age distribution of warts we observed in our study that 86 (39.2% patients belong to age group of 11-20 years followed by 48 (22%) in age group of 21-30 years. It shows that viral warts are more common in second and third decade of life. Similar observations were recorded by Berth Jones and Hutchinson<sup>12</sup> in their study showing peak incidence in 11-25 years age group. This observation could be explained as there are more chances of contact in schools and colleges facilitating transmission of HPV. As these age groups are more prone to trauma secondary to more physical activities and participation in sports enhancing infection.

In our study common warts was the most prevalent clinical type observed in 118 (54%) patients followed by planter warts seen in 44 (20%) cases. Plain warts were found in 22 (10.04%) cases. Results of Sudhakar Rao et al<sup>2</sup> are similar to our findings and they documented common warts in 66.6% cases followed by planter warts in 20.22% and plain warts in 7.7%. Ghadgepatil<sup>11</sup> also found similar results regarding prevalence of different morphological types.

Laxmisha<sup>5</sup> observed in their study that among children common warts is most prevalent type seen in 60 cases among 81 of total cases. In our study among 50 children, 24 (48%) had common warts being the most prevalent type.

In our study 154 (70.3%) patients were asymptomatic and the main reason for their presentation was cosmetic concern. Those with palmoplantar warts pain due to friction observed in 40 (18%) cases. Very few patients had bleeding from warts following trauma of friction observed in 5 (2.3%) cases.

In this study of Ghadgepatil<sup>11</sup> cosmesis was the

main reason of presentation observed in 92% followed by pain in 50% cases. The study of Gopal<sup>3</sup> shows unsightly appearance as main complaint in 84%, pain in 16% and pruritus in 9%. Pain is especially predominant in palmoplantar warts as extremities are involved in physical activities.

In case of genital warts, symptoms of pain, pruritis, fear of spread of infection and cosmesis were predominant. We found 20 (12%) cases of genital warts among 169 adult patients showing 12% involvement of adults. In these 20 cases, 12 (60%) were females and 8 (40%) were males with male to female ratio 1:1.5. When they were tested for other sexually transmitted diseases and HIV, none of them were having HIV or VDRL positive. Among 12 female patients with genital warts, 2 had concomitant genital molluscum contagiosum. All 20 cases of genital warts were married and 4 (20%) had history of extramarital relation. As far as symptoms are concerned among 20 patients 8 (40%) had history of vaginal discharge, 6 (30%) having itching, 4 (20%) complaining of burning micturation and all of them having fear of spread of infection.

In the study of Laxmisha,<sup>5</sup> among 63 adults 15 (23.8%) had genital warts with male to female ratio of 2:1. Among them, 4 patients were found to be HIV positive and 12 (80%) were homosexual. 6 (40%) had pain, 4 (27%) had vaginal discharge. The reason for difference in our figures and that of Laxmisha<sup>5</sup> was as that study was conducted in Hindu community and difference of religion, social values and culture showing high percentage of genital warts, HIV positive cases and multiple sexual partners.

In our study the most common site of involvement were extremities. We observed that 85(39%) patients had warts on upper limbs followed by 61 (28%) having viral warts on lower limbs. Head, face and neck were involved

in 38 (17.3%) cases. Trunkal warts were seen in 15 (7%) and genital warts in 20 (9%) cases. Sudhakar Rao et al<sup>2</sup> and Ghadgepatil<sup>11</sup> recorded similar observations regarding body site involvement. This could be due to increased exposure of extremities and limbs to physical activities and friction.

In our study face was third in involvement by viral warts. This finding was different from study of Raza and Khan,<sup>13</sup> where they recorded face as most common site of involvement.

In our study 83 (38%) presented within 6-12 month duration followed by 68 (31%) presenting in less than 6 months. Gopal<sup>3</sup> found that 45.5% presented within 6-12 months of time. Kushwaha et al<sup>14</sup> found that shortest time of presentation was within 1 month and delayed up to 3 years. We observed that the longer duration of warts at presentation was associated with multiple warts. Also the longer the duration of warts the less are chances of spontaneous clearance.

## **Conclusion**

Viral warts are a common skin and mucosal infection. Warts are not only of cosmetic concern for the patient but they are also contiguous. They are more prevalent in young adults mainly involving extremities. Common warts and plamoplantar warts are common morphological types.

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