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Quality of Life in Patients with Non-Genital Warts: A Cross-Sectional Study using Dermatology Life Quality Index (DLQI) Questionnaire

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Abstract

Introduction: Warts are one of the commonest causes for the dermatology outpatient department visits. These are caused by the Human Papilloma Viruses (HPV). Sometime warts can cause significant embarrassment and consequently impair the quality of life.

Materials and Methods: All consenting patients with non-genital warts presenting to the clinic from September 2020 to February 2021 were enrolled in this observational study. Clinical evaluation for non-genital warts, sites involved and patient demographics was recorded. All participants were asked to complete the Nepali Dermatology Life Quality Index (DLQI) questionnaire.

Results: Out of total 80 patients, 55 (68.8%) were males. The mean age of the study population was 23.86±7.42 years, mean duration was 21.98±26.69 months and the mean DLQI score was 8.0±5.15. The embarrassment or self-consciousness was the most prominent psychological aspect in the patients with the warts, followed closely by the difficulty in carrying out daily household activities. All items measured in DLQI were more impaired in women than in men. Clothing habits and sexual functions were affected based on the site of involvement with the warts. Shorter duration of disease had higher negative impact in the quality of life.

Conclusion: Patients with warts had moderate impact in their quality of life. Females seem to be affected more due to their warts. Shorter duration of disease had higher negative impact in cases of warts.

Key words: Dermatology Life Quality Index; Human Papilloma Virus; Quality of life; Warts

Introduction

Non-genital warts (verrucae) are small skin-colored bumps that can arise in any surface of the skin. Warts are one of the commonest causes for the dermatology OPD visits. The commonest sites are the extremities. These are caused by the Human Papilloma Viruses (HPV) of which there are more than 100 strains.[1] The prevalence of the warts varies greatly, in various studies the prevalence in school children ranged from 2 -20%,[2] and in college students 1.4%.[3] In Nepal two community-based studies found the point prevalence of 0.7% and 1.3%.[4,5] Although a benign disease and usually asymptomatic, it sometime causes a significant embarrassment and consequently the impaired quality of life.[6-8]

Materials and Methods

We conducted a prospective observational study after approval from IRC with reference number 10/2021 with

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1 year duration of study. As this was an observational study, convenience sampling was done and the sample size included all the patients who visited us with non-genital warts from September 2020 to February 2021. All patients of 16 years or more, fulfilling inclusion criteria presenting to skin out-patient department with the diagnosis of warts were included in our study. After an informed written consent, Quality of Life (QoL) assessment was performed using self-administered Nepali translated version of DLQI questionnaire. We plan to find the demographic data of the non-genital warts and its impact in Nepalese patients, using a Nepali version of generic Dermatology Life Quality Index (DLQI) questionnaire. The DLQI-Nepali questionnaire was translated by Dr. Sudha Agrawal and was downloaded from https://www.cardiff.ac.uk/medicine/resources/quality-of-life-questionnaires/dermatology-life-quality-index for the purpose of this study. Another similar studies of effects of dermatoses on QoL had used similar Nepali version of DLQI.[9,10] The DLQI, since its introduction by Finlay et al.[11] in 1994, has been used in a wide variety of dermatological conditions to assess the impairment in quality of life and also to assess the outcome of therapy.[12]

DLQI questionnaire consists of 10 questions with four possible answers for each. These questions are based on the following aspects of living; 1. Symptoms, 2. Embarrassment or self-consciousness, 3. Shopping or household activities, 4. Clothes, 5. Social and leisure, 6. Sports, 7. Work or study, 8. Relationships, 9. Sexual difficulties, 10. Treatment. Each question is scored as "very much" (score 3), "a lot" (score 2), "a little" (score 1), and "not at all" (score 0), keeping in mind the problems faced by the patient over the last one week, due to the disease. The scoring can range from 0 to 30, with higher scoring indicating higher impairment in QoL. The impairment in quality of life can be represented as the percentage loss. Interpretation is further simplified by banding the numeric score to qualitative scoring.

The patients' data was recorded in a separate form. Patients giving history of any psychiatric co-morbidity were excluded. Forms with more than one unanswered question were excluded. The diagnosis of warts was made clinically, involvement of more than one anatomic site was indicated as multiple site involvement.

The data thus obtained were compiled and entered in Excel sheet and was transported to Statistical Package for Social Sciences (SPSS) worksheet. The analysis was performed for the frequency and percentages. The mean DLQI score was compared between different groups using Mann-Whitney U test and Kruskal-Wallis H test. The Spearman's correlation was used to correlate the continuous and ordinal variables with the DLQI score. Alpha value was set at 5%. All analyses were performed by SPSS version 25.

Results

Total 80 patients were included in this study, in which 55 (68.8%) were males. The mean age of the study population was 23.86±7.42 years, and mean duration was 21.98±26.69 months and the mean DLQI score was 8.0±5.15. Clinical and demographical findings are summarized in table 2.

SD- Standard Deviation; DLQI- Dermatology Life Quality Index

The embarrassment or self-consciousness was the most prominent psychological aspect in the patients with the warts, followed closely by the difficulty in carrying out daily household activities, figure 1.

All items measured in DLQI were more impaired in women than in men, but the item related to Symptoms were significantly more severe in women compared to men (P=.04), figure 2.

Unmarried patients had higher negative impact in most of the items of DLQI, but the Symptoms were severer in unmarried patients (P=.023), figure 3.

Unemployed people said they had more problems with their warts than those with employment, figure 4.

Education level of the patients did not have significant difference in their feelings towards their warts, figure 5.

Clothing habits/style and sexual function were significantly affected by the site of involvement by the warts figure 6.

The duration of the warts had negative correlation with the total DLQI score in the patients. Shorter duration of disease had higher negative impact in the QoL, table 3.

Table 1: DLQI score interpretation and banding

0 -1	No effect on patient's life
2 – 5	Small effect on patient's life
6 – 10	Moderate effect on patient's life
11 – 20	Very large effect on patient's life
21 - 30	Extremely large effect on patient's life

Table 2: Demographics of the study population along with their mean DLQI scores and Mann-Whitney U test or Kruskal-Wallis H test

Characteristics		Number (%)	Mean±SD	P-value
Sex	Male	55 (68.8)	7.38±4.61	.131
	Female	25 (31.2)	9.36±6.06	
Marital status	Married	21 (26.3)	6.76±4.51	.285
	Unmarried	59 (73.7)	8.44±5.33	
Occupation	Employed	23 (28.7)	7.13±4.02	.498
	Unemployed	57 (71.3)	8.35±5.54	
Education	High school	49 (61.3)	8.45±5.67	.479
	College	31 (38.7)	7.29±4.21	
Sites involved	Face	18 (22.4)	9.83±4.70	.295
	Hands	24 (30.0)	7.42±4.96	
	Feet	19 (23.8)	6.74±4.94	
	Multiple	19 (23.8)	8.26±5.85	
Previous treatment	Yes	32 (40.0)	8.59±5.52	.500
	No	48 (60.0)	7.60±4.92	
Family history	Yes	14 (17.5)	6.57±3.34	.309
	No	66 (82.5)	8.30±5.43	
DLQI score	Total	Range (0-20)	8.0±5.15	
	Male		7.38±4.61	.131
	Female		9.36±6.06	
Age (years)		Range (16-55)	23.86±7.42	
Duration (months)		Range (1-120)	21.98±26.69	
Number of warts		Range (1-50)	6.64±7.66	

Table 3: Correlation of the Total DLQI score with numerical variables

Variable	Spearman's rho	P-Value
Age	-.130	.25
Duration	-.278	.013
Number of warts	.116	.305

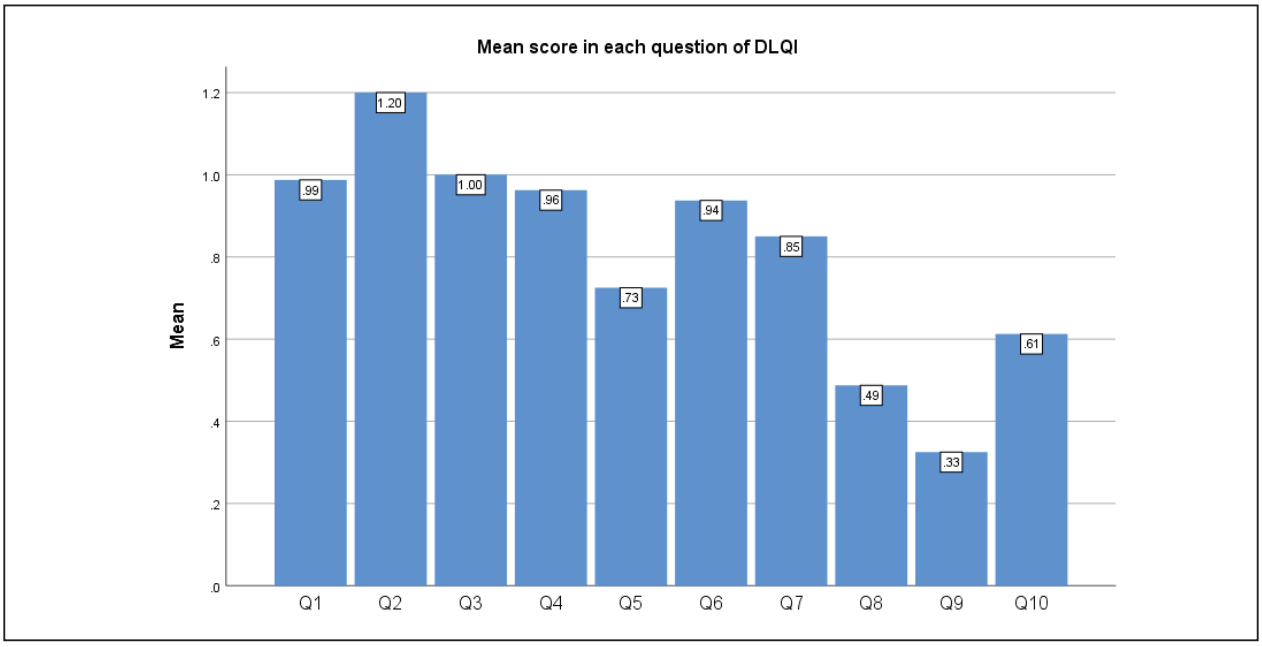


Figure 1: Means of the score in each of the 10 questions of DLQI. Q= Question

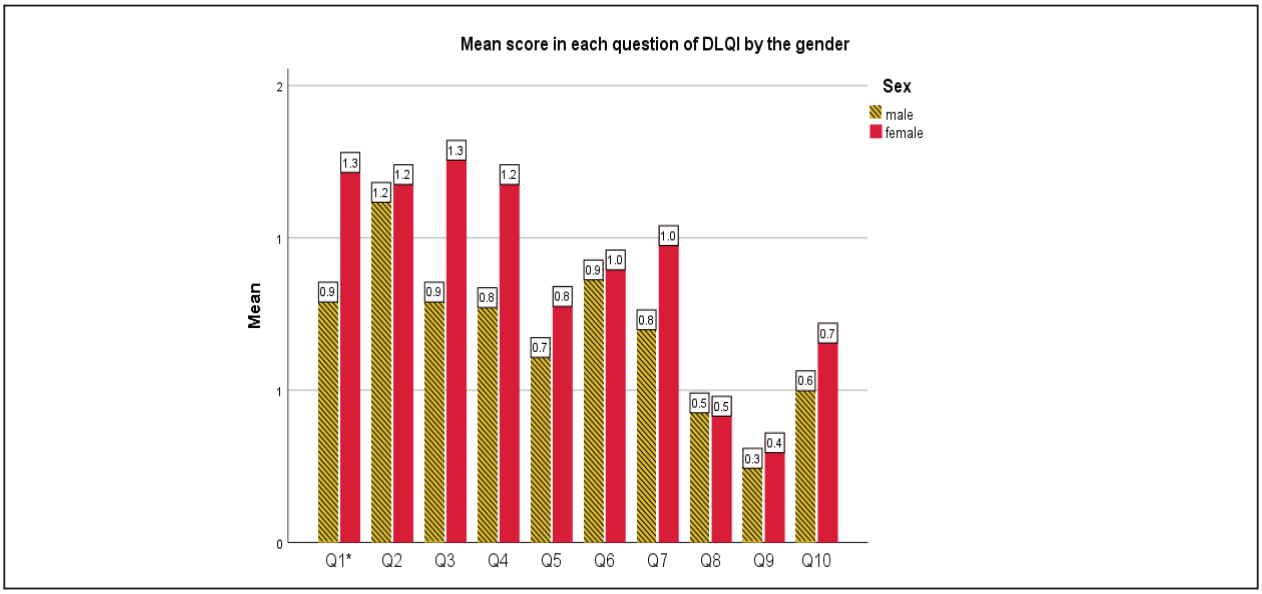


Figure 2: Sex-wise mean score in each item *P-Value=.04

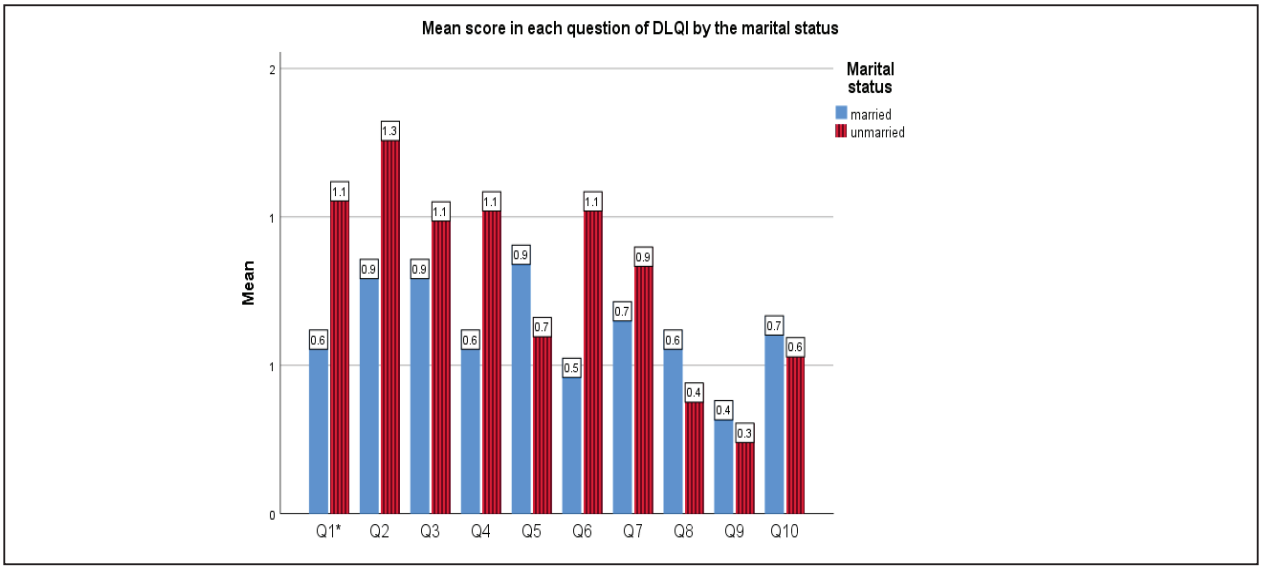


Figure 3: Mean scores based on marital status. *P-Value=0.023

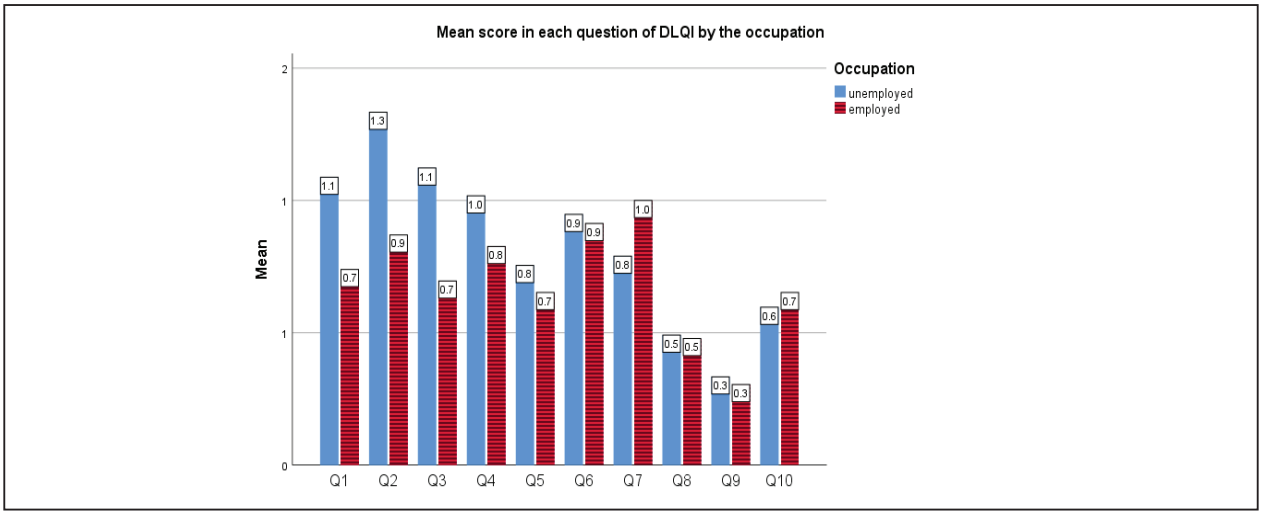


Figure 4. Mean scores given by employed and unemployed patients

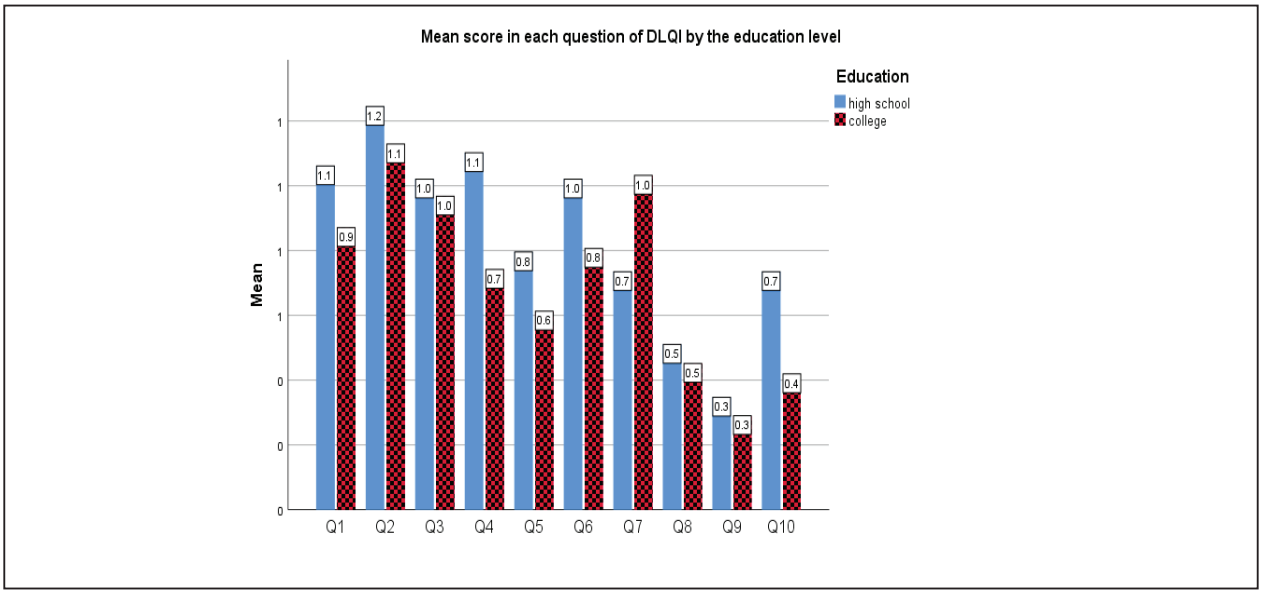
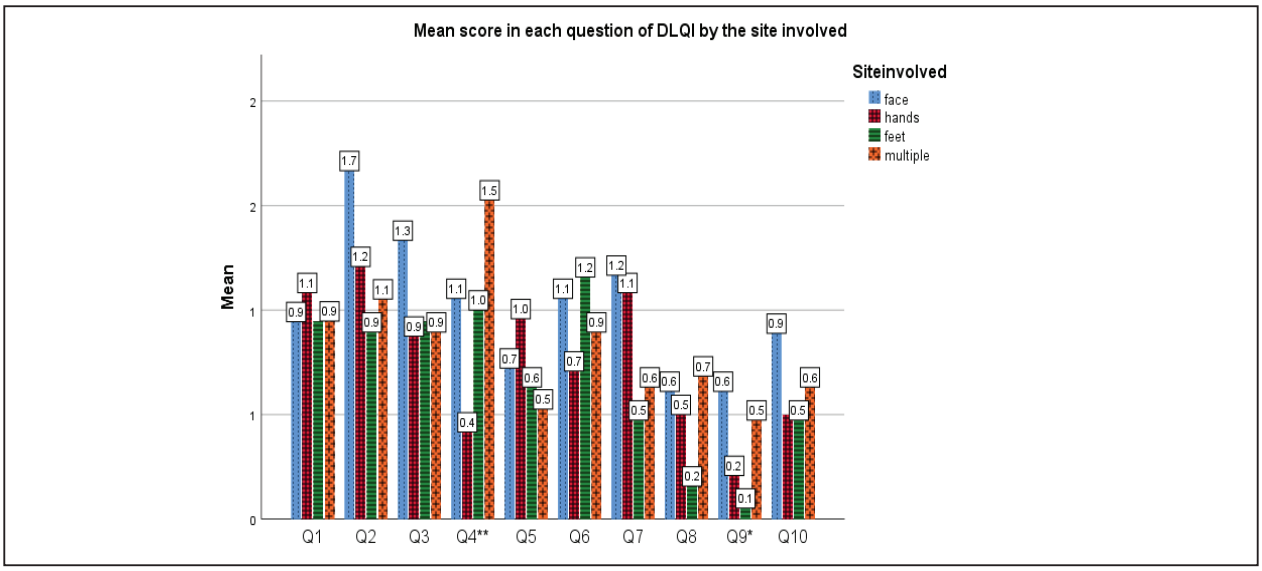


Figure 5: Mean scores of each item based on education level of the patients



*P-Value=.04, **P-Value=.007

Figure 6. A Kruskal-Wallis H test showed that there was statistically significant difference in the clothing habits and sexual function based on the site of involvement by the warts.

Discussion

Warts are caused by the human papilloma virus. Though they are benign in nature, they may cause psychological and aesthetic impairment along with occasional physical symptoms.[1]

In this study patients had moderate impact in their QoL due to wart. The mean DLQI of 8 in our study was similar to that seen in Indian study,[7] (mean DLQI 8.73) but lower than that of the study from Egypt,[6] (DLQI 13) but in both the studies this effect was found to be larger than that of the genital warts. The mean DLQI in our study was higher in females as compared to males similar to Indian study.[7] In item-wise analysis as well women had severer impairment in all the items. In our study, majority of patients were male which includes 68% of the total patients, and majority (30%) had involvement of hands. This finding was similar to a Chinese study,[3] which also showed cutaneous wart commonly in males with hands being involved in almost 29% of patients.

Mean number of warts in our study was 6.64 which was comparable to a study from Egypt with mean number of 6.5 of extra genital warts.[6] Most patients in our study were embarrassed and self-conscious due to the warts in their body, whereas similar other study

showed that most patients were frustrated due to the persistence or recurrence of the warts, though the instrument used in that study was different than ours.[8] In our study, education level did not have significant difference in their feelings towards their warts which was in contrary to a study from Singapore which showed poor QoL in educated patients.[8]

Our finding of higher DLQI and severer disease in unmarried patients was similar to a finding from Singapore which showed poorer QoL in unmarried patients.[8] Unemployed people said they had more problems with their warts than those with employment. Employment status was also regarded as one of the independent risk factors for the increased severity in QoL of patients in skin diseases.[13] Clothing habits/ style and sexual function were significantly affected by the site of involvement by the warts. Involvement of multiple sites probably had higher negative impact in clothing habits and facial warts had negative impact on sexual function. The duration of the warts had negative correlation with the total DLQI score in the patients. Shorter duration of disease had higher negative impact in the QoL of patients. In contrary, the study conducted in India[7] found increasing impairment of QoL with increasing duration of disease. Similarly, same study found the increasing number of warts had increasing QoL imparment, which was not seen in our study.

Limitations

The DLQI instrument may not fully capture the multiple aspects of life pertaining to wart. The verruca specific questionnaire might be able to measure the emotional and psychological impairment more accurately.

Conclusion

Our patients had moderate impact in their QoL due to wart. The mean DLQI in our study was higher in females. Most patients in our study were embarrassed and self-conscious due to the warts in their body. Shorter duration of disease had higher negative impact in the QoL of patients.

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