

# Evaluation of Psychopathology and Quality of Life in Patients with Anogenital Wart Compared to Control Group

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## What's Known

- Anogenital warts are one of the most common venereal diseases.
- The psychological distress of genital warts often dominates the medical consequences.

## What's New

- Mental health, general health, and social functioning are significantly lower in anogenital warts patients.
- Anogenital warts patients are significantly more depressed and anxious than the control group. Quality of life is not significantly lower in anogenital warts patients.

## Abstract

Anogenital warts (AGW) are one of the most common venereal diseases. Psychosocial complications and quality of life (QoL) of AGW patients have been considered only in recent years. Herein, the QoL and psychopathology in patients with AGW are evaluated. In total, 37 AGW patients and 37 healthy controls were recruited in the present cross-sectional study. All participants were provided with the symptom checklist 90-R (SCL-90-R) and short-form (SF-36) questionnaires. All analyses were performed using the SPSS software, version 16.0.1 for Windows. QoL was not significantly different between the study groups ( $P=0.12$ ). The data showed that mental health, general health, and social functioning were significantly decreased in AGW patients ( $P<0.05$ ). In addition, AGW patients were significantly more depressed and anxious than the control group ( $P=0.01$  and  $P=0.04$ , respectively). AGW has adverse effects on psychological and QoL elements of the infected individuals. Psychological factors should be carefully considered when treating a patient with the HPV virus; hence, referral to a psychiatrist seems mandatory in these cases.

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## Introduction

Human papilloma virus (HPV) infection is the most common sexually transmitted disease.<sup>1</sup> The annual incidence of sexually transmitted HPV in the USA is about 14.1 million cases and it is estimated that 1% of sexually active people suffer from this infection during their lifespan.<sup>1</sup> The psychological distress of genital wart often dominates the medical consequences. Patients may suffer from low self-confidence, depression, sexual anxiety, and decreased libido.<sup>2</sup> Lack of a definite treatment for HPV, recurrent nature of genital warts, and adverse perspective of notifying the partner are among the psychological challenges of HPV patients.

Several investigations have been performed on the quality of life (QoL) in genital wart patients. Steben et al. showed that genital wart is associated with social stigma and thus has negative effects on the Canadian people, particularly the younger population.<sup>3</sup> This finding is supported by Drolet et al. who claimed that AGW has a significant effect on patients QoL. They also showed that

the adverse effects of AGW are mostly due to its effects on daily functioning, self-image, sexual functioning, inducing anxiety and depression, pain, and possible transmissions.<sup>4</sup> Furthermore, it is suggested that HPV victims are still exposed to decreased QoL one year after the warts are cleaned.<sup>5</sup>

AGW places a considerable burden on patients because of its incidence, treatment expenses, and chronic nature of the disease. Although AGW is highly challenging the QoL of the patients, the data about the impact of the disease on QoL is insufficient. The ways in which AGW effects people are inadequately understood<sup>6</sup> and only a few studies with a control group are available to assess its impact.

As the Iranian community is becoming more westernized, the incidence of AGW has grown in recent years. To date, it is estimated that it has affected 1 million people in Iran.<sup>7</sup> The Iranian population has substantial social, cultural, and religious differences from other communities. AGW is considered as a socially taboo subject in Iran, and thus there exist very few reports on this health issue. Subsequently, the present study aimed to evaluate the impact of AGW on QoL and psychopathology in Iranian patients.

## Participants and Methods

The present cross-sectional study was performed on 37 consecutive patients with AGW who admitted to Imam Reza Hospital affiliated with Mashhad University of Medical Sciences (Mashhad, Iran) in 2014. All patients were sexually active. In total, 37 healthy controls were selected among patients who referred to the dermatology clinic, did not have AGW or other genital skin conditions, and matched according to age, gender, and marital status. All participants were sexually active and aged between 18 to 64 years. Patients with a history of psychopathological conditions or the presence of any serious underlying disease were excluded from the study. To evaluate the psychological symptoms and QoL, all patients were provided with SCL-90-R and SF-36 and asked to complete the questionnaires.

Written informed consent was obtained from the participants. The study was approved by the Ethical Committee of Mashhad University of Medical Sciences (Mashhad, Iran).

### *Symptom Checklist-90-R (SCL-90-R)*

The SCL-90-R is a reliable and validated self-administered questionnaire used to evaluate psychological symptoms. This questionnaire consists of 90 items that apply 5-point scale

from 0 (not at all) to 4 (extremely). The 90 items are divided into 9 subscales, namely somatization (SOM), obsessive-compulsive (O-C), interpersonal sensitivity (I-S), depression (DEP), anxiety (ANX), hostility (HOS), phobic anxiety (PHOB), paranoid ideation (PAR), and psychoticism (PSY). The global severity index (GSI) estimates SCL-90 results and measures the severity of psychiatric ailments. The Persian version of the test has been used in several studies in Iran.<sup>8</sup> It appears to have good validity and reliability with the Cronbach's alpha of more than 0.7 for all subscales.<sup>9</sup>

### *Short-Form (SF-36)*

The SF-36 is a generic, self-administered, multi-item questionnaire that measures QoL and widely used in health services research. It consists of 8 scales; physical functioning (PF), role limitations due to physical problems (RP), bodily pain (BP), general health (GH), vitality (V), social functioning (SF), role limitations due to emotional problems (RE), and mental health (MH). Each scale ranges between 0 (worst health) and 100 (best health). Higher scores indicate a better QoL. The validity and reliability of the Persian version of the SF-36 questionnaire (except for vitality) were confirmed by Montazeri et al.<sup>10</sup>

### *Statistical Analysis*

Independent samples *t* test, Mann-Whitney U test, and Chi-square test were used to determine the significant differences. P values less than 0.05 were considered as statistically significant. All analyses were performed using the SPSS software, version 16.0.1 for Windows.

## Results

In the present cross-sectional study, 37 AGW patients and 37 healthy controls were recruited. The mean age of the case and control groups was 36.89±5.86 and 34.60±7.60, respectively (P=0.09). Twenty-five patients had genital warts and 11 patients had anogenital warts. Sixteen patients were previously treated for genital wart. Detailed demographic data of both groups are presented in table 1.

Using the SF-36 questionnaire, the effect of AGW on patients' quality of life was evaluated. Based on the results, the QoL was not different between the two groups (P=0.12). The mental health of the case group was severely decreased compared to the control group (P=0.00). In addition, AGW significantly affected the general health status and social functioning of the case group (P=0.01 and P=0.04, respectively).

However, physical functioning of the case group was significantly higher than the control group ( $P=0.01$ ). Other items, including role limitations due to physical and emotional problems and bodily pain did not show any notable differences (table 2). The role of gender on the QoL of patients was also investigated. Although women had lower QoL than men, the difference was not significant ( $P=0.07$ ).

The Mann-Whitney test was used to compare the results of the SCL-90-R questionnaire between the two groups. It showed that the anxiety (ANX) and depression (DEP) scores were significantly higher in AGW patients ( $P=0.01$  and  $P=0.02$ , respectively). In addition, the difference of PSY between groups was slightly significant ( $P=0.05$ ). However, we found no significant difference in other items. Finally, no significant correlation between the location of the wart (genital or anogenital) and the QoL and psychological symptoms ( $P=0.41$ ) was observed.

## Discussion

Although many aspects of AGW have been investigated so far, only a few studies have

**Table 1:** Demographic data of patients with anogenital wart (AGW) compared to healthy controls

	Case	Control	P value
Age	36.89±5.86	34.60±7.60	0.09
Gender			
Male	12 (32.4%)	16 (43.2%)	0.34
Female	25 (67.6%)	21 (56.8%)	
Marital status			
Married	35 (94.6%)	33 (89.2%)	0.67
Divorced	2 (5.4%)	4 (10.8%)	
Wart location			
Genital	36 (69.5%)		
Anogenital	11 (30.5%)		
History of previous treatment			
Yes	16 (45%)		
No	21 (55%)		

**Table 2:** SF-36 results in anogenital wart patients and controls

	Case	Control	P value
Physical functioning	93.24±14.30	86.62±18.93	0.01
Social functioning	74.32±17.41	82.43±17.04	0.04
Role limitations (physical problems)	76.35±30.59	78.37±32.89	0.36
Role limitations (emotional problems)	71.17±37.81	66.66±36.85	0.52
Pain	87.22±19.93	82.56±18.49	0.11
Mental health	58.27±16.45	71.02±14.34	0.00
General health perception	55.27±16.50	65.13±19.23	0.01
Vitality	55.54±15.21	63.91±15.86	0.02

Data presented as mean±SD

addressed the effect of this condition on QoL. Besides, many of these investigations did not compare the results with healthy controls. In Iran, there is no evidence about the impact of AGW on QoL and psychological parameters of patients.

The mean age of the case group in the present study was  $36.00\pm 5.86$ , which is a source of uncertainty. Other investigations have revealed the impact of age on the adverse effect of AGW. Steben et al. reported a higher rate of negative mental issues and social stigma in younger population with AGW.<sup>3</sup> Woodhall et al. also separated the patients who were aged under 30 and excluded the older patients to reduce the risk of bias.<sup>11</sup>

We found that patients with AGW had less mental well-being than the control group. There was a notable deterioration in patients SF and GH. A possible explanation for this could be due to the fact that these patients isolate themselves from the society because of the sense of shame and guilt. Interestingly, we found that the PF of AGW patients is significantly increased compared to healthy controls. It is likely that these patients try to overcome their condition by increasing daily activity. In addition, they might have more checkups and care about their physical health because of not feeling healthy enough. This may also be due to the fact that SF-36 is a generic questionnaire and cannot point out the differences between the patients and healthy controls precisely.

Comparing the impact of genital warts on QoL with other studies is challenging since the Iranian population has significant cultural, religious, and ethnic differences with other countries. However, the negative effects of AGW on QoL have been shown in various studies. Similar to our findings, Tan et al. found that PF is improved compared to the control group. MH and GH were significantly lower in AGW patients.<sup>12</sup> Likewise, Koupidis et al. found that AGW patient had higher PF, BP, and RP scores compared to the general population. They also found lower MH and V in

AGW patients, which is in accordance with our results.<sup>13</sup>

The SCL-90-R questionnaire showed that anxiety and depression are significantly higher in AGW patients. We also found an almost significant association between psychoticism and genital wart. These results are in line with previous studies. It is shown that patients with AGW are at a higher risk of anxiety because of the impaired social<sup>1</sup> and sexual relationships.<sup>2</sup> It is believed that the psychological adverse effects of the disease are the most challenging part of the treatment.<sup>2</sup> These patients also feel angry and afraid due to the link between HPV and cervical cancer. They also feel depressed, guilty, and worry about the future.<sup>1</sup> Thus, patient and physician communication and educating patients about the disease plays a crucial role in the management of AGW.

More female than male patients participated in our study. This may indicate that women are more concerned about their sexual health status and the condition has extra adverse effects on their QoL. In this regard, it has been shown that AGW has a greater impact on women QoL compared to men.<sup>14</sup>

The present study has some limitations due to several factors. A potential risk of bias exists due to the recruitment method since patients who suffer more of the adverse effects are usually referred to educational clinics. We also did not follow-up patients during the course of the disease. Therefore, our data on QoL in AGW patients should be interpreted with caution since QoL could be affected through the disease course. Although we did not consider the duration and episode of the disease, it is quite clear that possible recurrences and transmission would involve the patient for a considerable period of time. These assumptions are also supported in the previous study.<sup>7</sup> Conversely, Drolet et al. showed that QoL is significantly decreased in AGW patients and there is no difference between the first and recurrent episodes.<sup>4</sup> The Persian version of the SF-36 questionnaire was previously shown to be valid and reliable. However, based on significant cultural differences with other populations, some patients may refuse to answer certain questions. To reduce this effect, Steben et al. suggested to separate the "I do not know/prefer not to answer" choice into 2 different options.<sup>3</sup>

## Conclusion

The present study is the first of its kind that assesses the role of AGW in patients QoL and psychopathologies in the Iranian population.

Our study showed that AGW is associated with lower social functioning, mental and general health. The results also show that anxiety and depression are common psychopathological findings in AGW patients. Taken together, our results suggest that the psychological factors should be carefully considered when treating a patient with HPV infection; hence, referral to a psychiatrist seems mandatory in such cases. Furthermore, we recommend improved communication between the patient and doctor.

**Conflict of Interest:** None declared.

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