

Clinical and epidemiological patterns of ano-genital warts among male patients in Erbil city, Iraq

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ABSTRACT

Background and objectives: Ano-genital warts consist of epidermal and dermal papules or nodules on the perineum, genitalia, crural folds, and anus. Up to the researchers' knowledge, no study concerning the genital warts in Erbil city was published, which was a motivation to study this problem, regarding the epidemiological and clinical patterns of this disease in Erbil city.

Patients and methods: This is a cross-sectional study; the data collected conveniently from male patients that have clinical features of genital warts attending two private dermatology clinics in Erbil city from 15th June 2009 through 15th June 2011.

Results: In this study, 45 male adults were included; their ages ranged from 20 to 49 years, with mean \pm SD of 29.8 ± 6.017 . The highest rate of genital wart was among age group of 25-29 years (35.6%). Other statistics are; (71.1%) of study sample were married; (40%) were alcoholics; (88.9%) were not using condom in their sexual contact, (66.7%) had more than one sexual partner, (53.3%) of the cases were illiterate or have primary school education and no one of the cases was homosexual. Sixty percent of the lesions were papular in shape, (53.3%) were affecting more than one site of external genitalia, (91%) of the patients had multiple warts, (11.1%) had past history of one of STIs (sexually transmitted infection), (15.6%) of the cases were associated with other sexually transmitted infections and all the cases were contracted through sexual contact.

Conclusion: The study concluded that the genital warts are low or infrequent in Erbil city when compared to other areas. The existence of traditional inhibition imposed by the religion and the society on the sexual behavior may be a factor in the low rate of the disease in this community.

Keywords: Clinical, epidemiological, ano-genital warts.

الخلاصة

الأهداف: الفالول الجنسي يتكون من حبوب من بشرة أو أدمة الجلد ينتشر في المناطق التناسلية للإنسان. حسب معرفة الباحثين لا يوجد بحث منشور حول هذا المرض في مدينة أربيل، مما شجعهم لأجراء هذا البحث لتسليط الضوء على هذا المرض من خلال هذا البحث.

المرضى والطرق: تم جمع المعلومات من عينة مقطعية من المرضى المصابين بالفالول الجنسي المراجعين للعيادة الخاصة لإثنين من أطباء الجلدية في مدينة أربيل.

النتائج: شارك في هذا البحث 45 شخص بالغ ذكر، تراوحت أعمارهم من 20 - 49 سنة وبمعدل الأعمار و الانحراف المعياري $29,8 \pm 6,017$. أكثر المصابين كانوا من أعمار 25 - 29 سنة (35,6%)، 71,1% كانوا متزوجين، 40% من متناولي المشروبات الكحولية، 88,9% لا يستعملون الواقي الذكري أثناء الجماع، 66,7% لديهم أكثر من شريك جنسي و 53,3% كانوا إما أميين أو من الحاصلين على الشهادة الابتدائية. كان شكل الفالول في 91% من المرضى حبيبيًا، وكان 53,3% من الفالول في أكثر من موقع واحد، 91% لديه أكثر من فالول واحد، 11,1% كان لديه تاريخ مرضي في السابق حول إصابته بأحد الأمراض

الجنسية الانتقالية، ٦,١٥% كانوا مصابين بمرض آخر من الأمراض الجنسية الانتقالية وكل المصابين أصيبوا عن طريق التماس الجنسي.

الإستنتاج: أن نسبة المصابين بهذا المرض قليلة في مجتمع الدراسة، مقارنة بباقي المجتمعات، وقد يكون ذلك بسبب العادات والتقاليد الاجتماعية والدينية التي تحد من حرية وتجاوز العلاقات الجنسية.

Ano-genital warts (condylomata acuminata) consist of epidermal and dermal papules or nodules on the perineum, genitalia, crural folds, and anus. They vary in size and can form large, cauliflower like masses, especially in the moist environment of the perineum. Discrete sessile warts (1- 3 mm) may occur on the penile shaft. Lesions that resemble common warts also occur in this region but are unusual⁽¹⁻³⁾. The diagnosis of viral wart is usually made by the clinical appearance but can also be confirmed by histological examinations⁽⁴⁾.

HPV-6 (human papilloma virus) and HPV-11 are the main causes of ano-genital warts⁽⁵⁾. Genital warts have a high infectivity and it's assumed that any sexual contact with a patient has genital warts is also likely to be infected. The thinner mucosal surface is presumably more susceptible to inoculation of virus than is thicker keratinized skin; in addition, lesions were noted to be commonest in sites subject to greatest coital friction in both sexes⁽⁶⁾. There are also epidemiological parallels between ano-genital warts and other sexually transmitted diseases⁽⁶⁾. Patients with genital warts frequently have other genital infections. These are mainly minor conditions such as candidiasis, trichomoniasis and non-specific genital infection with occasional major venereal infections (syphilis or gonorrhoea)^(7,8), although in some series based in venereology departments, the incidence of these associated infections has been as high as 10%–20%^(6,9). Ano-genital warts are common, with an estimated 1.3 million new cases per year in the USA. They are often asymptomatic, but may cause discomfort, discharge or bleeding. The typical ano-genital wart is soft, pink, elongated and sometimes filiform or pedunculated. The lesions are usually multiple especially on moist surfaces⁽⁶⁾. The commonest sites, the area of frenulum, corona and glans in men, correspond to the likely sites of greatest coital friction⁽⁶⁾. Most other lesions are flat, though more conspicuous than plane warts elsewhere, and some of these, generally on non-

mucosal surfaces such as the penile shaft, pubic skin, perianal skin and groins^(6,10).

The prevalence of HPV worldwide is approximately 10%⁽¹¹⁾, it is estimated to be the most commonly occurring sexually transmitted disease (STI) in the United States⁽¹²⁾. Annually, one million cases are reported in USA, with a prevalence rate of approximately 30%⁽¹³⁾. Over the past 50 years, there has been a steady increase in the incidence of ano-genital warts⁽¹⁴⁾. A study in the UK in 1994 estimated the incidence in young adults aged 16–24 to be 500 per 100 000, with an overall population incidence of 300 per 100 000⁽¹⁵⁾. In England in 2008, there were 80531 new (157/100 000 population) and 68 259 recurrent (133/100 000 population) episodes, giving a total of 148 790 episodes of genital warts (289/100 000 population)⁽¹⁶⁾. A study in Rochester, Minnesota, in 1980s recorded an annual incidence of 106.5 per 100 000, or about 0.1%⁽¹⁷⁾.

Up to the researchers' knowledge, no study concerning the genital warts in Erbil city was published, which motivated them to highlight on such problem to find out the epidemiological and clinical pattern of this disease in the city.

PATIENTS AND METHODS

This is a cross-sectional study; a convenient sampling method was used for data collection from male patients that have clinical features of genital warts attending two private dermatology clinics in Erbil city from 15th June 2009 through 15th June 2011. A special questionnaire that was including socio-demographic as well as clinical and laboratory findings was designed. The first and second author have interviewed the patients individually by themselves and filled the questionnaire accordingly taking verbal consent from the patients. All the patients were advised that their partners to be examined by a gynecologist or female dermatologist to rule out their infection. Statistical package of social

sciences (SPSS) program version 18 was used for data entry and data analysis.

RESULTS

Tables 1-9 show the various parameters of the study sample;

Table 1 shows the age distribution of all studied patients.

Table 2 shows social statuses and habits of all patients.

Table 3 highlights the education level of the study population.

Table 4 shows the occupations of included patients.

Table 1. Age distribution of study sample.

Age group	Frequency (%)	Cumulative Percent
20-24	9 (20.0)	20.0
25-29	16 (35.6)	55.6
30-34	11 (24.4)	80.0
35-39	5 (11.1)	91.1
40-44	3 (6.7)	97.8
45-49	1 (2.2)	100.0
Total	45	

Table 2. Social status and habits of the study sample.

Variables		Frequency (%)	Cumulative Percent
Marital status	Married	32 (71.1)	71.1
	Single	13 (28.9)	100
Alcohol drinking	No	27 (60)	60
	Yes	18 (40)	100
Type of partner	Marital	13 (28.9)	28.9
	Extramarital	32 (71.1)	100
Use of condom	No	40 (88.9)	88.9
	Yes	5 (11.1)	100
No. of sexual partner	One	15 (33.3)	33.3
	≥ One	30 (66.7)	100

Table 3. Educational level of study sample.

Educational status	Frequency (%)	Cumulative Percent
Illiterate	5 (11.1)	11.1
Primary school	19 (42.2)	53.3
Secondary school	10 (22.2)	75.6
Preparatory (Two years institutions)	5 (11.1)	86.7
College	5 (11.1)	97.8
Higher education	1 (2.2)	100.0
Total	45	

Table 5 shows that 40 (88.9%) of the cases were not using condoms during their sexual contact, and those who were using condoms were 5 (11.1%); two of them were of primary education, and the others of secondary, preparatory and college level education.

Table 6 shows that the highest rate (60%) of the skin lesions was papular in shape, while the lowest rate (2.2%) of the lesions was flat in shape.

Table 7 shows that (46.7%) of the lesions affecting one site, and (53.3%) affecting more than one site of external genital areas.

Table 8 shows that (91%) of the cases have multiple warts, while (9%) have single wart.

Table 9 shows that (15.6%) of the cases were associated with other sexually transmitted infections (STI), including: gonorrhoea, trichomonas vaginalis, hepatitis B, and scabies (6.6%, 4.4%, 2.2%, 2.2%) respectively.

Table 4. Frequency distribution of the disease by occupation.

Occupation categories	Frequency (%)
Drivers	5 (11.1)
Self employee professional	7 (15.6)
Self employee workers non-professional	13 (28.9)
Unemployed	20 (44.4)
Grand Total	45

Table 5. Educational level of study sample who use condom.

Educational status	Use of condom		Total
	No No. (%)	Yes No. (%)	
Illiterate	7 (17.5)	0 (0)	7 (15.6)
Primary school	17 (42.5)	2 (40)	19 (42.2)
Secondary school	8 (20)	1 (20)	9 (20)
Preparatory (two years institutions)	4 (10)	1 (20)	5 (11.1)
College	3 (7.5)	1 (20)	4 (8.9)
Higher education	1 (2.5)	0 (0)	1 (2.2)
Total	40 (88.9)	5 (11.1)	45

Table 6. Morphology of the genital warts.

Types	Frequency (%)	Cumulative Percent
Flat	1 (2.2)	2.2
Cauliflower-like	5 (11.1)	13.3
Papule	27 (60.0)	73.3
Mixed	12 (26.7)	100.0
Total	45	

Table 7. Anatomical distribution of genital warts.

	Types	Frequency (%)
Single	Penis shaft	17 (37.8)
	Scrotum	1(2.2)
	Anus	2 (4.4)
	Supra pubic region	1(2.2)
	Total	21 (46.7)
Multiple	1 & 2	1 (2.2)
	1 & 3	10 (22.2)
	1 & 4	1 (2.2)
	1 & 5	9 (20.0)
	5 & 3	1 (2.2)
	1, 2 & 5	1 (2.2)
	1, 2, 3 & 5	1 (2.2)
	Total	24 (53.3)

1: Penis shaft, 2: Glance penis, 3: Scrotum, 4: Anus and 5: Supra-pubic.

Table 8. Modes of presentation of cases.

Variables		Frequency (%)	Cumulative Percent
Number of warts	Single	4 (8.9)	8.9
	Multiple	41 (91.1)	100
Genital growth or tumor	No	1 (2.2)	2.2
	Yes	44 (97.8)	100
Pruritis	No	41 (91.1)	68.9
	Yes	4 (8.9)	100
Pain	No	42 (93.3)	86.7
	Yes	3 (6.7)	100
Urethral discharge	No	42 (93.3)	93.3
	Yes	3 (6.7)	100
Lower abdominal pain	No	42 (93.3)	93.3
	Yes	3 (6.7)	100
Painful sexual intercourse	No	40 (88.9)	88.9
	Yes	5 (11.1)	100
Past history of STIs	No	40 (88.9)	88.9
	Yes	5 (11.1)	100
Presence of warts in other parts of the body	No	45 (100)	100
	Yes	0 (0.0)	100

Table 9. Frequency of association of the genital warts with other sexually transmitted disease.

Name of diseases	Frequency (%)
Gonorrhea	3 (6.6)
Trichomonas vaginalis	2 (4.4)
Hepatitis B	1 (2.2)
Scabies	1 (2.2)
Total	7 (15.6)

DISCUSSION

Up to the researchers' knowledge this study is the first of its kind conducted in Erbil city, on one of the most common sexually transmitted infection, genital warts, which is caused by HPV.

Recording of 45 cases of genital wart during the study period of more than 2 years in private clinics of two dermatoveneriologists implies that the disease rate is much lower than that found in other countries^(13,14,18). A study conducted in Baghdad,⁽¹⁹⁾ showed that only 0.46% of dermatological cases attending two major hospitals at dermatology consultation units have genital warts. Although the study sample is not representing the whole Erbil governorate, but there is still another indicator supporting observation of the low rate of the disease which is the annual official statistics of recorded cases of male genital warts in Erbil governorate for the year 2005 which was 10 cases in a community of 1,345,000 population⁽²⁰⁾. This low rate of the disease may be attributed to (1) the cultural and religious basis of this community which limits the sexual habits of individuals, in form of sexual contact between married persons only, which is one of the distinct ways in primary prevention of STIs⁽²¹⁾; The source of infection seems to be from prostitute women. (2) Another factor that may explain this low rate of the disease is male circumcision among the studied population of which majority of them are Muslims, as uncircumcised men are at a greater risk for infection and persistence for genital warts⁽²²⁾.

The current study revealed that the commonest age group affected by this disease was 25-29 years old, which is in concordance with that reported in Baghdad⁽¹⁹⁾, USA⁽¹⁸⁾, and Australia⁽²³⁾ and this may be due to the fact that, sexual activity is at its highest level at this period of life⁽²¹⁾.

The disease frequency in current study is declining after the age of 35 years, reaching to zero after the age of 50 years, which is consistent

with that recorded in Baghdad⁽¹⁹⁾, unlike with that recorded in USA⁽¹⁸⁾ in which there is a considerable number of cases above this age reaching up to 65 years or more. This can be explained on the basis that sexual activity is age limited in our community and also the cultural background and belief may have deterrent effect on so many activities including sexual actions especially in such ages; the person is more likely to avoid unfaithful sexual contacts, and also the older person will be a symbol to his family and society.

Although, (71%) of the study sample were married it didn't prevent the transmission of the disease. The majority of cases (70%) had history of extramarital sexual contacts; others may have denied it because of the sensitivity of the question. Extramarital sexual contact had shown to be a risk factor for contracting the disease, as it is the risk factor for other STIs, and the educational program role remains crucial for informing the community about that.

When an STI appears; usually there is a third X person who is regarded as a source of the infection. The number of lifetime sexual partners is the single most established risk factor for genital HPV infection^(24,25). This may explain the high number (66%) of those who had more than one sexual partner in this study, as was found by others^(22,26-29).

Alcoholism was present among a considerable number of study sample (40%), as seen in one study⁽²³⁾. This may be more than expected in Islamic population, this factor i.e. alcoholism, have an effect in encouraging the person for sexual promiscuity.

The occupation of study sample showed that non professional employees and drivers have a high frequency of infection, which is consistent with studies in other areas⁽²³⁾, as the persons engaged in occupations involving frequent travel are among the high risk group for contraction of sexually transmitted diseases⁽²¹⁾.

Being more than half of the patients with low educational level reflects the role of educational level either in avoiding unfaithful sexual contact, or in increase the awareness of the person about the STIs and the ways of prevention.

The current study revealed that the majority of cases (88.9%) are not using condoms during

sexual contacts, it includes even those with high educational level which reflects either their poor knowledge about the importance of condoms in preventing STIs, or their trust to their X sexual partner that she is free from any STI or she is faithful to him, since more than two third of study sample had history of relation with more than one sexual partner, and another reason may be the unavailability of condoms. Although condoms do not completely prevent HPV transmission, but consistent condom use has been demonstrated to reduce the risk of acquiring HPV by 70%⁽³⁰⁾. In addition, condoms have been shown to reduce the risk of HPV-associated disease, including genital warts, cervical intraepithelial neoplasia and invasive cervical cancer⁽³¹⁾ as well as promote the regression of HPV-associated cervical disease and flat penile lesions and the clearance of HPV infection^(30,31).

In the current study, the shaft of penis was the commonest involved site, while in most other studies, the commonest site is glans penis, frenulum and preputial sites^(6,10). This may be explained on the basis of the effect of circumcision in Islamic cultures which reduces the wetness and moisture that develop on glans penis and preputial region which are regarded as enhancers for the growth of the wart⁽²¹⁾. All the cases were free from viral warts in the other sites of the body (hands, face, feet...etc), which strengthens the idea that all the cases were contracted from sexual contact. Although 2 (4.4%) of the cases had warts at peri anal region, but they didn't declare any history of homosexuality.

Patients with genital warts are usually seeking medical care very late, a finding that is similar to other study in USA⁽⁷⁾, it might be explained by the fact that discomforts, like pain, irritation or itching in genital area (symptoms that make the patients seeking medical care) are generally mild and are not taken seriously by the patient to seek early for medical care.

The low rate of past history of STIs (11.1%) may be due to low level of knowledge of the patient about recognition of STIs, or the STIs are not so common in this population.

Association of 15.6% of the cases with other STIs is comparable with those recorded in other studies⁽⁶⁻⁹⁾, this raises the importance of screening of any case of genital warts for other STIs, and

fortunately no case of HIV was diagnosed in this study, and the finding of only one case of hepatitis B (2.2%) of the study population doesn't necessary indicate its contraction by sexual contact, as a study in Erbil showed 1% of the population is Hbsag is +ve⁽³²⁾.

It is important to mention that the researchers found difficulty in comparing the results of this study with others in local areas and regional countries due to the lack of published studies, which also reflects the difficulty of touching such problems, for poor resources for data collection, so it may be one of the limitations of the study, but at the same time it reflects its strength to be one of the very few studies conducted in this field locally and among neighboring countries.

CONCLUSION

The study concluded that the genital warts are low or infrequent in Erbil city, when compared to other areas in the world. This low rate may be attributed to the difficulty to have multiple sex partners, and the conservative morale standards and attitude of this society towards sex free feature, with existence of traditional inhibition imposed by the religion and the society on the sexual behavior. The results of this study can be considered as a database for further studies in the future.

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