

Selected aspects of quality of life and household cost of care among patients with genital warts attending selected STD clinics in the Western Province of Sri Lanka

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Abstract

Introduction: Genital warts being a common STI in the country, its impact on quality of life, and cost of care associated with it need to be studied within the current STI context in Sri Lanka.

Objective: To assess selected aspects of disease specific quality of life and its associated factors, response to treatment and household cost of care in-patient with genital warts attending selected STD clinics in the Western Province of Sri Lanka.


Method: Study consisted of descriptive study of 240 patients with genital warts and a longitudinal follow up component to assess response to treatment, disease specific quality of life and household costing associated with genital warts by an interviewer administered questionnaire. Disease specific quality of life among patient with genital warts was assessed with a questionnaire validated by an expert panel. It consisted of 21 items that assess physical, emotional and sexual dimensions separately.

Result: Study sample consisted of 151(62.9%) males and most (93.8%, n=225) of participants were Sinhalese. Majority of participants (79.9%, n=192) were from age group between 20 to 39 years. More of females (78.7%, n=70) in the sample were married than males (46.4% , n=70). Cauliflower type of genital warts were the most common type (56.2% , n=135) and prepuce and labia majora were the commonly involved sites. There was no statistically significant difference in response to treatment among different treatment. It showed that physical discomfort caused by genital warts and treatment in subsequent visits had not affected their daily activities. However, some of the items in emotional and sexual dimension were affected significantly to most of the participants. Being a male, unmarried, and an idea of having children in future showed statistically significant lower median scores for emotional dimension. They showed similar statistically significant lower scores for sexual dimension except for being unmarried. Median spending for a clinic day among males was Rs 175 and among females was Rs 441.56. Median total time spent by males for complete cure was 35 hours with IC range of 21 - 49 hours compared to 35 hours with IC range of 21 to 56 hours among females.

Conclusion: Patients with genital warts showed significant impairment of disease specific quality of life in relation to emotional and sexual dimensions. It was clear that treatment of genital warts is associated with considerable time loss and expenditure to patients.

Key words: Genital warts, Disease specific quality of life, Costing of care

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Full article

Introduction

Genital wart is the second most commonly reported STI in Sri Lanka.(1) Although genital warts are commonly perceived as a non-serious condition, treatment duration is often long with varying effectiveness. The gravity of patient's suffering, and the impact on quality of life, household cost associated with care are important issues that have not yet been assessed systematically in Sri Lanka. These issues have been discussed extensively in developed countries with the availability of prophylactic quadrivalent vaccine for HPV infection that can prevent 90% of genital warts (2).

Method

Study consisted of two phases. Descriptive cross sectional study was used to describe socio-demographic factors, behavioural and clinical characteristics, and baseline disease specific quality of life in 240 patients with genital warts attending central STD clinic-Colombo, STD clinic-Ragama, STD clinic-Kalubowila over a period of seven months. All consecutive patients were enrolled if they consented for the study. Further, prospective longitudinal follow up study was used to describe response to treatment and disease specific quality of life in different intervals following treatment and household cost of care for recruited patient with genital warts. Disease specific quality of life was measured with a tool (First version of the Cuestionario Especifico en Condilomas Acuminados CECA used in Europe (3)) validated by expert panel for face and content validity, and it was used to measure the physical, emotional and sexual dimensions among patient with genital warts. It assess the impact during last one week with a rated scale. In assessing disease specific quality of life better score indicates better quality of life. Results were analyzed using SPSS version 16 and when analyzing associated factors for disease specific quality of life, non parametric tests were applied.

Results

Study sample consisted of 151(62.9%) males and 89 (37.1%) females and most (93.8%, n=225) of participants were Sinhalese. Majority of participants (79.9%, n=192) were from age group between 20 to 39 years. Higher number of females (58.4%, n=52) were unemployed with no self income compared to 7% (n=10)of males. Important occupations identified among males were Tri forces and drivers including three wheeler drivers. (Table 1)

Variables	Level	Male	Female
Mean Age	yrs	31.50	32.03
SD		9.3	9.5
Range		18 -63	16 - 49
Marital status	Married	70(46.4%)	70(78.7%)
	Unmarried	79(52.3%)	8 (9.0%)
	Other*	2(1.4%)	11(13%)
Employment status	Unemployed	10(7.0%)	52(58.4%)
	Drivers	16(10.6%)	0
	Tri-forces	31(20.5%)	1(1.1%)
	Professional	15(9.9%)	1(1.1%)
	Business	16(10.5%)	20(8.3%)
	Others	63(41.7%)	15(16.85)

*other -separated/divorced/widow

Behavioural & Clinical Characteristics

Behavioural and clinical characteristics of the sample are as follows (Table 2)

Variables	Level	Male	Female
Sexual orientation	Heterosexual	110(72.8%)	89 (100%)
	Same sex	15(9.9%)	-
	Bisexual	26(17.2%)	-
	Total	151	89
First Sexual Exposure	Female NRP	93 (61.6%)	NA
	Male NRP	23 (15.2%)	15 (16.9%)
	FSW	11 (7.3%)	NA
	MP	24 (15.9%)	73 (82.0%)
	Client		1 (1.1%)
Total	151	89	
Lifetime sexual partners	1	18 (11.9%)	64 (71.9%)
	> 1	133 (88.1%)	25 (28.1%)
	Total	151	89
Morphological type	Cauliflower	85 (56.3%)	50 (56.2%)
	Papular	24 (15.9%)	7 (7.9%)
	Flat	5 (3.3%)	2 (2.2%)
	> one type	37(24.5%)	30 (33.7%)
Area Involved *	Prepuce	65 (43.0%)	NA
	Labia Majora	NA	51 (57.3%)
	Penile shaft	40 (26.2%)	
	Labiaminora	NA	37 (41.6%)
	Coronal sulcus	22 (14.2%)	

*One person can have more than one area involved
MP-Marital partner, NRP=Non regular partner

Response to Treatment

Almost 68% (n=102) of males and 53% (n=47) females got their genital warts cleared by three months. Most common mode of treatment was trichoroacetic acid (TCA) in both males and females followed by Liquid Nitrogen. Usage of Imiquimod was very low. Out of 240 patients final treatment outcome was available for 166 (69.2%) patients.(table 3)

Table 3: Distribution of outcome among participants based on treatment used

Treatment Used	Final Outcome		
	Cure	No Cure	Total
TCA	76(92.7%)	6(7.3%)	82(100%)
Liquid Nitrogen	29(87.9%)	4(12.1%)	33(100%)
Combinations	41(80.4%)	10 (19.6%)	51(100%)
Total	146	20	166

TCA-trichloroacetic acid

There was no statistically significant difference in response to treatment among different treatment groups (p=0.106)

Disease Specific Quality of Life

It showed that physical discomfort caused by genital warts and treatment in subsequent visits had not affected their daily activities. However, some of the items in emotional and sexual dimension were affected significantly to most of the participants. Table 4 describes baseline figures in Disease specific quality of life.

In one week, severity of emotional worry had decreased and this is more obvious at 1-month follow up.(Table 5 & 6)

Table 4: Percentage of study population rated each response in the items of the Disease Specific QOL dimensions at baseline

Description of physical, emotional and sexual dimension	Response					Total
	Always (1)	Almost Always (2)	Sometimes (3)	Rarely (4)	Never (5)	
P1 Discomfort	0(0%)	0(0%)	1(0.4%)	28 (11.7%)	211 (87.9%)	240(100%)
P2 Pain following treatment	0(0%)	0 (0%)	0(0%)	0 (0%)	240 (100%)	240 (100%)
E 1 Personal Hygiene	35(14.6%)	72(30.0%)	60 (25.0%)	12(5.0%)	61(25.4%)	240(100%)
E 2 Want disappear	61(25.4%)	147(61.3%)	22(9.2%)	5(2.1%)	5 (2.1%)	240 (100%)
E 3 Chronic infection	53(22.1%)	135(56.3%)	33 (13.8%)	8(3.3%)	11 (4.6%)	240(100%)
E 4 Will get worse	67(27.9%)	133(55.4%)	21(8.8%)	8(3.3%)	11 (4.6%)	240 (100%)
E 5 Feeling of guilt	70(29.2%)	63(26.3%)	12(5.0%)	3(1.3%)	92(38.3%)	240(100%)
E 6 Who infect me	41(17.1%)	105(43.8%)	18(7.5%)	9 (3.8%)	67(27.9%)	240(100%)
E 7 Infect my partner	84(35.0%)	85(35.4%)	13(5.4%)	5 (2.1%)	53(22.1%)	240(100%)
E 8 Mind anxious	52(21.7%)	106(44.2%)	60 (25.0%)	11 (4.6%)	11(4.6%)	240(100%)
E 9 Felt insecure	32(13.3%)	74(30.8%)	55 (22.9%)	16 (6.7%)	63 (26.3%)	240 (100%)
E10 Stress affected daily activities	16(6.7%)	35(14.6%)	21(8.8%)	26 (10.8%)	142 (59.2%)	240(100%)
E11 Problems in having children	30(12.5%)	61(25.8%)	21(8.8%)	14(5.8%)	114 (47.5%)	240(100%)
E12 Lacking treatment knowledge	15(6.3%)	89(37.1%)	34 (14.2%)	15(6.3%)	87(36.3%)	240(100%)
E13 Knowing other about GW	44(18.3%)	135(56.3%)	23(9.6%)	14(5.8%)	24(10.0%)	240(100%)
E14 Treatment for long time	27(11.3%)	90(37.5%)	29 (12.1%)	13(5.4%)	81(33.8%)	240(100%)
E15 Social relationship with partner affected	2(0.8%)	13(5.4%)	8(3.3%)	20(8.3%)	197 (82.1%)	240(100%)
S1 Sexual drive decreased	19(7.9%)	79(32.9%)	37 (15.4%)	11(4.6%)	95(39.2%)	240(100%)
S2 Avoid sexual relations	84(35.0%)	64(26.6%)	38 (15.8%)	5(2.1%)	49(20.4%)	240(100%)
S3 Worried during sex*	8(11.1%)	19(26.4%)	22 (30.6%)	4(5.6%)	19(26.4%)	72(100%)
S4 Sexual relations decreased*	7(9.7%)	31(43.1%)	16 (22.2%)	3(4.2%)	15(20.8%)	72(100%)
S5 Worried to have condoms+	1(7.1%)	2(14.3%)	7(50.0%)	2(14.3%)	2(14.3%)	14(100%)

P=Physical dimension, E-Emotional dimension, S-Sexual dimension
 For items of sexual dimension responses were Totally agree (1), Almost agree (2), Agree to a certain extent (3), Difficult to agree (4), Not agree at all (5) * Item applied only for 72 participants and + for 14 participants.

Table 5 : Percentage of study population rated each response in the items of the Disease Specific QOL dimensions at one week

Description of physical, emotional and sexual dimension		Response					Total
		Always (1)	Almost Always (2)	Sometimes (3)	Rarely (4)	Never (5)	
P1	Discomfort	0(0%)	0(0%)	4(1.9%)	16 (7.6%)	191 (90.5%)	211(100%)
P2	Pain following treatment	1(0.5%)	0 (0%)	13(6.2%)	37 (17.5%)	160 (75.8%)	211(100%)
E 1	Personal Hygiene	10(4.7%)	32(15.2%)	71(33.6%)	47(22.3%)	51(24.2%)	211(100%)
E 2	Want disappear	14(6.6%)	61(28.9%)	52(24.6%)	54(25.6%)	30 (14.2%)	211(100%)
E 3	Chronic infection	19(9.0%)	118(55.9%)	55(26.1%)	12(5.7%)	7(3.3%)	211(100%)
E 4	Will get worse	13(6.2%)	60(28.4%)	40(19.0%)	69(32.7%)	29 (13.7%)	211(100%)
E 5	Feeling of guilt	35(16.6%)	79(37.4%)	17(8.1%)	10(4.7%)	70(33.2%)	211(100%)
E 6	Who infect me	21(10.0%)	97(46.0%)	28(13.3%)	13(6.2%)	52(24.6%)	211(100%)
E 7	Infect my partner	41(19.4%)	85(40.3%)	33(15.6%)	8 (3.8%)	44(20.9%)	211(100%)
E 8	Mind anxious	12(5.7%)	41(19.4%)	72(34.1%)	55(26.1%)	31(14.7%)	211(100%)
E 9	Felt insecure	9(4.3%)	27(12.8%)	50(23.7%)	36(17.1%)	89(42.2%)	211(100%)
E10	Stress affected daily activities	2(0.9%)	11(5.2%)	26(12.3%)	34(16.1%)	138(65.4%)	211(100%)
E11	Problems in having children	7(3.3%)	33(15.6%)	41(19.4%)	24(11.4%)	106(50.2%)	211(100%)
E12	Lacking treatment knowledge	4(1.9%)	25(11.8%)	29(13.7%)	37(17.5%)	116(55.0%)	211(100%)
E13	Knowing other about GW	15(7.1%)	125(59.5%)	35(16.7%)	15(7.1%)	20(9.5%)	211(100%)
E14	Treatment for long time	12(5.7%)	54(25.6%)	39(18.5%)	25(11.8%)	81(38.4%)	211(100%)
E15	Social relationship with partner affected		5(2.4%)	6(2.8%)	20(9.5%)	180(85.3%)	211(100%)
S1	Sexual drive decreased	10(4.7%)	61(25.6%)	31(14.7%)	18(8.5%)	91(43.1%)	211(100%)
S2	Avoid sexual relations	111(52.6%)	40(19.0%)	21(10.0%)	7(3.3%)	32(15.2%)	211(100%)
S3	Worried during sex*	3(9.7%)	9(29.0%)	12(38.7%)	3(9.7%)	4(12.9%)	31(100%)
S4	Sexual relations decreased*	2(6.5%)	15(48.4%)	8(25.8%)	3(9.7%)	3(9.7%)	31(100%)
S5	Worried to have condoms+	1(9.0%)	6(54.5%)	1(9.0%)	0(0%)	3(27.3%)	11(100%)

P=Physical dimension, E-Emotional dimension, S-Sexual dimension

For items of sexual dimension responses were Totally agree (1), Almost agree (2), Agree to a certain extent (3), Difficult to agree (4), Not agree at all (5) * Item applied only for 31 participants and + for 11 participants.

Table 6 : Percentage of study population rated each response in the items of the Disease Specific QOL dimensions at one month

Description of physical, emotional and sexual dimension		Response					Total
		Always (1)	Almost Always (2)	Sometimes (3)	Rarely (4)	Never (5)	
P1	Discomfort	0(0%)	0(0%)	1(0.9%)	7(6.5%)	100(92.6%)	108(100%)
P2	Pain following treatment	0(0%)	0 (0%)	4(3.7%)	13(12.0%)	91(84.3%)	108(100%)
E 1	Personal Hygiene	6(5.6%)	11(10.2%)	32(29.6%)	19(17.6%)	40(37.0%)	108(100%)
E 2	Want disappear	5(4.6%)	16(14.8%)	27(25.0%)	32(29.6%)	28(25.9%)	108(100%)
E 3	Chronic infection	5(4.6%)	59(54.6%)	25(23.1%)	9(8.3%)	10(9.3%)	108(100%)
E 4	Will get worse	4(3.7%)	21(19.4%)	21(19.4%)	27(25.0%)	35(32.4%)	108(100%)
E 5	Feeling of guilt	9(8.3%)	42(38.9%)	13(12.0%)	3(2.8%)	41(38.0%)	108(100%)
E 6	Who infect me	7(6.5%)	34(31.5%)	19(17.6%)	8(7.4%)	40(37.0%)	108(100%)
E 7	Infect my partner	8(7.4%)	46(42.6%)	18(16.7%)	2(1.9%)	34(31.5%)	108(100%)
E 8	Mind anxious	2(1.9%)	13(12.0%)	31(28.7%)	31(28.7%)	31(28.7%)	108(100%)
E 9	Felt insecure	2(1.9%)	9(8.3%)	14(13.0%)	17(15.7%)	66(61.1%)	108(100%)
E10	Stress affected daily activities	0 (0%)	2(1.9%)	6(5.6%)	11(10.2%)	89(82.4%)	108(100%)
E11	Problems in having children	1(0.9%)	11(10.2%)	21(19.4%)	7(6.5%)	68(63.0%)	108(100%)
E12	Lacking treatment knowledge	1(0.9%)	3(2.8%)	10(9.3%)	18(16.7%)	76(70.4%)	108(100%)
E13	Knowing other about GW	7(6.5%)	57(52.8%)	18(16.7%)	11(10.2%)	15(13.9%)	108(100%)
E14	Treatment for long time	2(1.9%)	21(19.4%)	22(20.4%)	12(11.1%)	51(47.2%)	108(100%)
E15	Social relationship with partner affected	0	2(1.9%)	0	3(2.8%)	103(95.4%)	108(100%)
S1	Sexual drive decreased	5(4.6%)	23(21.3%)	21(19.4%)	6(5.6%)	53(49.1%)	108(100%)
S2	Avoid sexual relations	54(50.0%)	13(12.0%)	14(13.0%)	3(2.8%)	24(22.2%)	108(100%)
S3	Worried during sex*	1(4.8%)	6(28.6%)	8(38.1%)	1(4.8%)	5(23.8%)	21(100%)
S4	Sexual relations decreased*	0 (0%)	9(42.9%)	4(19.0%)	3(14.3%)	5(23.8%)	21(100%)
S5	Worried to have condoms+	0 (0%)	6(50.0%)	2(16.7%)	2(16.7%)	2(16.7%)	12(100%)

P=Physical dimension, E-Emotional dimension, S-Sexual dimension

For items of sexual dimension responses were Totally agree (1), Almost agree (2), Agree to a certain extent (3), Difficult to agree (4), Not agree at all (5) * Item applied only for 21 participants and + for 12 participants.

Males are more emotionally affected than females ($p = 0.03$), those who were unmarried more emotionally affected compared to married ($p = 0.012$) and those who had idea of having children in future were more affected compared to those who had no idea of having children ($p = 0.001$) at baseline. Similarly, males were more affected sexually than females ($p = 0.001$), and those who had idea of having children in future were sexually

affected more compared to those who had no idea of having children ($p = 0.017$) at baseline. Number of genital warts, surface area involved by genital warts have not contributed to statistically significant lower median scores of emotional or sexual dimensions. Similarly educational level, disclosure status, knowledge on genital warts have not contributed for statistically significant lower median scores of emotional or sexual dimensions. (Table 7)

Table 7 : Factors affecting Emotional and Sexual Dimension of Disease Specific Quality of Life

Factor	Level	Group vs. group	Emotional Dimension of Disease Specific Quality of Life			Sexual Dimension of Disease Specific Quality of Life		
			Number	Median	Sig*	Number	Median	Sig*
Sex	Baseline	Male	151	2.8667	$p = 0.03$	151	2.5000	$p = 0.001$
		Female	89	3.0667		89	3.0000	
	1 Week	Male	143	3.4667	$p = 0.464$	143	2.7500	$p = 0.087$
		Female	69	3.4667		69	2.7500	
	1 Month	Male	66	3.7333	$p = 0.661$	66	3.0000	$p = 0.053$
		Female	42	3.9000		42	3.0000	
Education level (at baseline)	Grade ≤ 11	142	2.9667	$p = 0.825$	142	3.0000	$p = 0.185$	
	Grade 12 or above	98	2.9333		98	2.5000		
Marital status	Currently married	140	3.000	$p = 0.012$	140	3.0000	$p = 0.140$	
	Currently unmarried	100	2.8667		100	2.5000		
Area involved By Genital warts	$< 50 \text{ mm}^2$	104	2.9333	$p = 0.296$	104	3.0000	$p = 0.288$	
	$50 - 200 \text{ mm}^2$	101	3.0000		101	2.5000		
	$> 200 \text{ mm}^2$	34	3.1333		34	2.5000		
Number of Genital warts	1-2	40	3.0333	$p = 0.296$	40	3.0000	$p = 0.461$	
	3-5	66	2.9000		66	3.0000		
	6-10	64	2.9000		64	2.5000		
	More than 10	70	3.0333		70	2.5000		
Disclosure status	No	158	2.9333	$p = 0.926$	158	2.5000	$p = 0.815$	
	Yes	82	3.0000		82	3.0000		
Hope to have children	Yes	147	2.8667	$p = 0.001$	147	2.5000	$p = 0.017$	
	No	85	3.0000		85	3.0000		
Knowledge on Genital warts	Poor	49	3.0000	$p = 0.277$	49	2.5000	$p = 0.974$	
	Good	185	2.9333		185	3.0000		

*Significance

Household Cost

Median spending for a clinic day among males was 175Rs. (range 0- 3,000Rs) and among females was 441.56Rs. (range 0-1,900). Among those who had complete cure (60.9%, $n=84$) had episode cost of less than 1000 Rs. and this was seen in both males and females. Nearly 11% ($n=15$) had episode cost >5000 Rs

by the time of cure. Total time spent for cure was available for 146 participants. Seventy three percent ($n=73$) of males spent less than 42 hours for complete cure whereas nearly 67% ($n=31$) of females less than 42 hours for cure. Median total time spent by males for complete cure was 35 hours (IQR=21-49 hours) compared to 35 hours (IQR=21-56 hours) among females.

Table 8. Distribution of study subject in relation to total cost, episode cost, total time spent per visit and total time spend for cure)

Variable	Level	Male	%	Female	%	Total	%
Total cost in rupees per visit	≤ 100	52	37.1	26	38.2	78	37.5
	101- 250	35	25.0	10	14.7	45	21.6
	251-500	19	13.6	10	14.7	29	13.9
	501-750	9	6.4	8	11.8	17	8.2
	751-1000	5	3.5	4	5.9	9	4.3
	>1000	20	14.3	10	14.7	30	14.4
	Total	140	-	68	-	208	100
	Defaulted	5	-	12	-	17	-
Episode Cost in rupees for cure	Missing data	5	-	8	-	13	-
	≤1000	60	61.8	24	58.5	84	60.9
	1001-2000	16	16.5	4	9.8	20	14.5
	2001-3000	5	5.2	5	12.2	10	7.2
	3001-4000	4	4.1	2	4.9	6	4.3
	4001-5000	2	2.1	1	2.4	3	2.2
	>5000	10	10.3	5	12.2	15	10.9
	Total	97	-	41	-	138	100
Total time spent per visit in hours	Missing data	3	-	5	-	8	-
	≤ 2	26	18.6	8	11.8	34	16.3
	2-4	81	57.9	34	50.0	115	55.3
	4-6	19	13.5	18	26.5	37	17.8
	6-8	7	5.0	6	8.8	13	6.2
	8-10	2	1.4	1	1.5	3	1.4
	>10	5	3.6	1	1.5	6	2.9
	Total	140	100	68	100	208	100

Discussion

The study showed more males with Genital warts compared to females. This has been observed in the STD clinic data over last 10 years in Sri Lanka.(1) Similar distribution was observed in the United Kingdom in patient with first episode of Genital warts.(4) Possibility of higher health seeking behaviour among men could be another reason. However, this study was a clinic based study, and it could not comment on population level data.

Age at first sex among males is decreasing according to the available literature.(6) In the present study mean age of first sex among males was lower (20.56 yrs) than that of females (21.13 yrs). It is interesting to note

that 82% of females with genital warts had their first sexual contact with marital partner.

However, only 15.9% of males had first sex with their marital partner. This has been observed in many literature and usually their first contact with a sex worker.(6) In present study 7.3% of males had first sex with a sex worker while nearly 77% had first sexual contact with a non regular partner. Number of sexual partners among males were high compared to females. This study showed nearly 72% of females had only one life time partner while that figure for males was nearly 12%. It reflect that for STI control in Sri Lanka, more interventions need to be focused on males.

Generally the incubation period of genital warts is 3-8 months following sexual contact, but sometimes it could go up to 3 years. (7, 8) Out of 89 female 60 had sexual contact only with marital partner during last three years, and it indicates that among females with genital warts most likely source of infection is their marital partner. It is interesting to know that commercial sex workers were not the

main source of infection for males with genital warts.

Out of available follow up data 146 out of 166 (nearly 88%) had complete response within 3 months. Median number of visits for complete cure was 5. This study findings on response with different treatment options showed no statistically significant superiority of available treatment options and it has been proven in previous studies as well.

Genital warts are generally considered as a mild condition. However, they can cause local irritation, discomfort or bleeding.(8, 9) This study showed that physical problems that caused by genital warts do not affect the daily life of patients. Further, even after treatment it showed that physical dimension has not significantly affected day today life.

This study showed that some of the items in the emotional dimension have caused severe problems for more than 50% of the participants. They have answered those components disturbed their life "Always" or "Almost always". It is clear that following components affected their emotions more than 75% of the participants as "Always" or "Almost always" at baseline.

Emotional item 2 - I was afraid that the lesions won't disappear

Emotional item 3 - I was anxious to know whether I am going to recover from the virus for good

Emotional item 4 - I worried about whether the warts will get worse

Emotional item13- I worried about people finding out about my illness

However, in one week, severity of emotional worry had decreased and this is more obvious at 1 month follow up. These issues need to be considered in counseling in patients with genital warts.

It is clear that more than 50% of the participants responded as "Totally agree" or "Almost agree" for the item of avoidance of sexual relations at baseline. Only 30% of them had sexual contacts during last week and 40% felt that their sexual drive has decreased. When it comes to one week and one month

72% and 62% of participants had avoided sexual exposures due to genital warts respectively. It is interesting to know that how it change with recovery form genital warts. However, this study would not be able to answer it as once they cleared the lesions they would not attend for follow up.

It was seen that males had statistically significant lower emotional dimension and sexual dimension scores compared to females at base line. This study showed that more females had only one lifetime sexual partner compared to more partners among males. Likelihood of infection from an unfaithful relationship may be the contributing factor for males to have worse emotional and sexual dimension scores compared to females.

However, even in subsequent visits males showed that lower emotional scores compared to females although it was not statistically significant. Ongoing counseling sessions, response to treatment may contribute to improvement of the scores of emotional dimension of QOL.

Current marital status was a significant factor that contribute to lower emotional scores. It was seen that median scores of emotional dimension was lower among "currently unmarried" group compared to currently married group. This difference was statistically significant. In the emotional dimension, doubts of transmission of infection to future partners, transmission of infection to children in the future have contributed for lower scores among those who "currently unmarried".

Further, there was an statistically significant lower median scores in emotional and sexual dimension among those who wish to have children as compared to those who have completed their families at baseline. Doubts on infection transmission to future partners and children have contributed for lower scores among those who wish to have children in the future.

Quadrivalent HPV vaccine would be the ideal choice to expanded programme of immunization (EPI) as it is known to prevent

70% of cervical cancer and 90% of genital warts. Further, Quadrivalent HPV vaccine could be considered for the future partner as they continued to have concerns on possibility of transmitting the infection to partners. The present study shows that patients with genital warts spend considerable amount of money and time when attending clinics for care. Making availability of patient applied medications would result in saving money and time. Patients with genital warts need to be counseled in detail by medical officers at first and subsequent visits to improve their disease specific quality of life. They need to specifically pay attention in counseling on the risk of transmission of infection to future partners and children, natural history of genital warts, predicted response to treatment

Conclusions

Patients with genital warts showed significant impairment of disease specific quality of life in relation to emotional and sexual dimensions, and being a male, currently being unmarried, having not completed family life had statistically significant association with lower disease specific quality of life. It was clear that treatment of genital warts is associated with considerable time loss and expenditure to patients.

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