

Gender Differences in Sociodemographic Characteristics and Risk Factors among Condyloma Acuminata Patients in Dr. Moewardi General Hospital Surakarta

Adniana Nareswari, Primadhanty Bhadra, Mardiana, Halim Perdana Kusuma, Endra Yustin Ellistasari

*Dermatovenereology Department Medical Faculty of Sebelas Maret University/
Dr. Moewardi General Hospital, Surakarta, Indonesia*

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Abstract: Condyloma acuminata (CA) known as anogenital wart is the most frequent sexually transmitted infection (STI) worldwide. This highly infectious disease is caused by the human papilloma virus (HPV), whose its high recurrence rates contribute to direct medical costs, productivity loss and increased psychosocial impact. Thus, the prevention of this viral disease is more important than focusing on its treatment. This cross sectional retrospective study assessed the gender differences in sociodemographic characteristics and sexual risk factors of CA patients. There were 94 newly diagnosed CA patients, 47 males (50%) and 47 (50%) females during the period of January 2013- December 2017. The demographic data were taken from medical record and the additional data about the risk factors were from the questionnaires. Chi-square test was performed to compare between genders and $p < 0.05$ was considered statistically significant. There was significant difference between genders on all sociodemographic characteristics (age, occupation, education, marital status) and risk factors (HIV/AIDS infection, condom using, age at the first sexual intercourse, number of lifetime sexual partner, type of intercourse) among CA patients. Our study revealed that male CA patients were mostly single, employed and multipartner, while CA female patients were mostly married, housewives and singlepartners.

1 INTRODUCTION

Condyloma acuminata (CA) which is also known as anogenital wart is common among sexually active people. It is caused by the Human Papilloma Virus (HPV), a sexually transmitted virus. Two low-risk HPV genotypes, HPV 6 and 11 are believed to be the cause of 90% of all CA cases. (Stanley, 2012). The prevalence of CA is increasing by time in adult population. Data from Center for Disease Control and Prevention showed that in United States there are more than 19.7 million new cases of STI annually and 14.1 million of them are CA. (Center for Disease Control and Prevention, 2013)

Gender differences in norms for sexual behavior exist and factors associated with sexual relations may differ by sex. In studies by Failde JM et al (Failde,2008) and Teva I et al (teva,2009) it was found that generally, males tend to have more sexual partners than females and to use condoms less frequently than women during vaginal intercourse. In

other words, risky sexual behavior is more likely among males than among females at any given adolescent age. However, little research has been conducted on sociodemographic factors or the effect of addictive substances on sexual behavior, especially in relation to gender; therefore, it is important to take into account sexual risk factors, sociodemographic characteristics and gender when making and implementing intervention.

Condyloma acuminata is highly infectious and although it is a benign neoplasia and not life threatening but its high recurrence rates contribute to direct medical costs, productivity loss and increased psychosocial impact (Patel, 2013). Therefore, the prevention of this disease is important and should be concerned by investigating its epidemiological characteristics and sexual risk factors. Some studies have been performed about CA infection in Indonesian population, but the data about the pattern of sexual behaviors and risk factors among CA patients is still limited, especially studies that evaluated and compared between male and female

CA patients. Our study analyzed the gender differences in sociodemographic characteristics and sexual risk factors of CA patients in order to plan future health interventions.

2 METHODS

This cross sectional retrospective study used purposive random sampling technique, 94 patients who were newly diagnosed with condyloma acuminata were evaluated. They visited dermatovenereology outpatient clinic, dr. Moewardi General Hospital from January 2013 to December 2017. Sociodemographic data of the patients with CA included gender, age, educational status, occupation and marital status were taken from medical record while the sexual risk factors include HIV/AIDS infection, age at the first sexual intercourse, condom using, type of intercourse and number of lifetime sexual partner) were from questionnaires. This information was routinely asked to the patients on their first visit and recorded in medical files. The data

were analyzed using Predictive Analysis Software, version 22.0 (SPSS Inc, US). Chi-square test was performed to determine the association between gender and behavior as well as risk factors of CA patients. *P* value < 0.05 was considered to be statistically significant.

3 RESULTS

Forty seven males (50%) and 47 females (50%) with condyloma acuminata were statistically analyzed. There were significant difference between genders in age (*p* = 0.014), occupation (*p* = 0.001), education (*p* = 0.019) and marital status (*p* = 0.036) of CA patients. In our study, the most common age of CA patients was 21-30 years old. The male patients were mostly single and workers. Female patients who were affected by CA were mostly married and housewives. Both female and male patients with CA were mostly twenties years old and high school graduates. (Table 1)

Table 1. Gender differences in demographic and general information among patients with condyloma acuminata.

PARAMETERS	Number of subjects (%)		<i>p</i> Value
	Male (<i>n</i> = 47) <i>n</i> (%)	Female (<i>n</i> = 47) <i>n</i> (%)	
Age			
<20	1 (2.1)	8 (17.0)	.014*
21-30	21 (44.8)	22 (46.8)	
31-40	16 (34.0)	12 (25.5)	
41-50	3 (6.4)	5 (10.6)	
>50	6 (12.8)	0 (0)	
Occupation			.001*
Self employed	11 (23.4)	7 (14.9)	
University student	4 (8.5)	4 (8.5)	
Housewife/	3 (6.4)	19 (40.4)	
Unemployed	29 (61.7)	17 (36.2)	
Employed			
Education			.019*
Elementary school	0 (0)	3 (6.4)	
Junior school	8 (17.0)	15 (31.9)	
High school	34 (72.3)	20 (42.6)	
University	5 (10.6)	9 (19.1)	
Marriage status			
Single	24 (51.1)	12 (25.5)	.036*
Married	22 (46.8)	34 (72.3)	
Divorced	1 (2.1)	0 (0)	
Widow	0 (0)	1 (2.1)	

There were significant difference between genders in HIV infection status ($p=0.035$). Most patients did not have HIV infection. The age of their first sexual intercourse ($p=0.039$) were mostly in the age of 15-20 years old. There was also significant difference between genders in the number of lifetime sexual partner ($p=0.000$), most of male CA patients were multipartners with 2-4 sexual partners, while

female CA patients were singlepartner. The type of intercourse among male and female patients was significantly different ($p=0.000$), the male CA patients mostly liked oral intercourse, differ from female patients who preferred genital intercourse. (Table 2).

Table 2. Gender differences in sexual risk factors among patients with condyloma acuminata.

PARAMETERS	Number of subjects (%)		p Value
	Male (n = 47) n (%)	Female (n = 47) n (%)	
Condom Using			
Sometimes	15 (31.9)	5 (10.6)	.035*
Always	8 (17.0)	8 (17.0)	
Never	24 (51.1)	34 (72.3)	
HIV			
Yes	19 (40.4)	7 (14.9)	.006*
No	28 (59.6)	40 (85.1)	
Age at the first sexual intercourse			
<15			
15-20	3 (6.4)	0 (0.0)	.039*
21-25	32 (68.1)	27 (57.4)	
26-30	9 (19.1)	14 (29.8)	
>30	1 (2.1)	6 (12.8)	
	2 (4.3)	0 (0.0)	
Number of lifetime sexual partner			
1			
2-4	9 (19.1)	33 (70.2)	.000*
≥5	28 (59.6)	14 (29.8)	
	10 (21.3)	0 (0.0)	
Type of intercourse			
Genital	13 (27.7)	34 (72.3)	.000*
Anal	7 (14.9)	1 (2.1)	
Oral	20 (42.6)	11 (23.4)	
Anal oral genital	7 (14.9)	1 (2.1)	

4 CONCLUSIONS

The diagnosis of CA in our study was based on history taking, physical and supportive examinations. Application of 3-5% acetic acid which lead to whitened of the lesion (acetowhite) is used to detect HPV infection in genital mucous. Acetowhite test sensitivity is reliable detecting in HPV infection. There are many previous studies in condyloma acuminata however only a few of them which studied about gender differences among CA patients.

In this present study, there are significant difference between gender in group age of CA patients ($p= 0.014$). The highest incidence is in the age of 21-30 years old in both genders. This is similar

with the previous study by Patel et al who showed that incidence of CA peaked before 24 years old in females and between 25 and 29 years old among males (Patel, 2013). These correlate with the sexual reproductive age of the patients since CA is highly infectious sexually transmitted disease.

Many of male CA patients in our study are workers ($n=29$, 61.7%). This perhaps they earn a lot of money, have their own flexible time and they are also good at socializing. This is supported by a study by Aprilianingrum which reported that most female sex workers's client are self employed. This may demonstrate that there is a correlation between the high occurrence of CA in this community. (Aprilianingrum, 2007) In contrast, most of female CA patients in this study are housewives ($n=19$,

40.4%). This result similar with study among women in Kermansyah Province, Iran which showed that about 51,5% female CA patients are housewives. (Najafi, 2016)

Sexual behaviour was found to be strongest risk predictor for CA in both males and females. The age of the first sexual intercourse differs in various population according to the cultural and religious beliefs. For example, in Indian study the mean age of first sexual experience was 13 years old but in American study it was reported as 17 years old. (Insinga, 2003) (Shewl,2006). In our study, mostly of patients started their first intercourse at the age of 15-20 (males 68.1% vs females 57.4%). Given that most of our male patients were single, it indicates that many male CA patients started their sexual activity before marriage and even in early adolescence. Thus, this should be emphasized that sexual health education in our country should be started for junior and high school students and premarital couples.

Moreover, similar with study by Panchanadeswaran et al which reported that males were much likely than females to have more than 1 lifetime sexual partners and to have concurrent regular as well as casual partner (Panchanadeswaran,2006), 38 of 47 male patients in our present study are multipartners with more than 2 sexual partners in lifetime (80.9%) and only 9 of them (19.1%) are singlepartners. It was significantly different from females CA patients who mostly only has 1 sexual partner in lifetime ($n=33$, 70.2%) and none of them had sexual partner more than four. Study by Wen et al stated that greater numbers of lifetime sexual partners were independently associated with increased risk of genital CA in men only. Men with 10 or more lifetime partners were approximately twice as likely to acquire CA than man with no or one lifetime sexual partner. But there is no such association was found for women. (Gage,1998).

Many studies have reported the role of condom use in the prevention of HPV infection. In our study, most of CA patients confessed that they never use condom in their sexual activity (51.1% male vs 72.3% female). Some adolescents believe that condoms are unnatural, that they reduce pleasure or sensation and that their use indicates a general lack of respect for the female partner. The nonmonetary costs of condom use appear to be even higher among females than males. Some females feel that a partner's wish to use a condom suggest that they, the females, are not clean, that they are commercial sex workers or that they are in extra-relationship sexual activity. It seems that safe sex and the use of condom in preventing CA

should be considered and educated to all groups. (Gage, 1998).

In this present study there were 19 (40.4%) male CA patients and 7 (14.9%) of female CA patients who had HIV infection. Human Immunodeficiency Virus (HIV) is a predisposed factor for HPV infection, including CA. Many studies reported that the incidence of CA increasing in HIV/ AIDS patients. Systemic review by Baruna et al in Sub Saharan population showed a significantly high prevalence of CA in HIV/ AIDS patients. (Banura,2013).

International Institute for Allergy and Infectious Diseases in a study titled HPV FACT SHEET reported that CA can be transmitted by oral, vaginal and anal sex. However, oral and anal sex behaviors are the most common routes.¹⁵ Twenty of all male CA patients in this study were engaged to oral intercourse (42.6%) and 14 of them (29.8%) were male sex male patients who had anal intercourse.

5 CONCLUSIONS

Our study showed that CA are more involves younger patients in sexual active age, males who were singles, workers and multipartners and females who were married, housewives and singlepartners. Further studies with larger sample size are needed to achieve more information about various aspects of CA as well as sexual behaviors and risk factors, to help policy makers make informative decisions about adopting effective treatment and preventative practices. Early sex education starting from junior high school especially about STI and HIV is necessary. Condyloma acuminata sexual partners is suggested to get routine STI examination and also Voluntary Counselling and *Testing (VCT)* must be performed in CA patients

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