

Original Research Article

## Qualitative Study Investigating Knowledge Regarding Human Papillomavirus and Evaluation of Risk Factors among Women Attending OPD of Yenepoya Teaching Hospital

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### ABSTRACT

**Background:** Human papillomavirus (HPV) mediated cervical cancer is one of the most common cancers among women all over the world. It is estimated that around 75% of sexually active women are infected by this virus. Being most of the genital HPV infections asymptomatic, making its early detection quite impossible. The objectives of this study were to evaluate the awareness of HPV infection and their health effects among women and to establish a causal relationship between HPV mediated cervical cancer and the risk factors associated in acquisition of HPV infection.

**Method:** In a hospital based study from December 2016 to May 2017, after obtaining Intuitional ethical clearance, total 70 women were enrolled who had given written consent for this study. A validated data collection tool was given to the subjects covering socio-demographic factors, knowledge regarding HPV infection and its health effects. Descriptive analysis was conducted on the information collected in this study using Microsoft Excel.

**Results:** In this study we have found that women have no knowledge about HPV infection, cervical cancer and associated risk factors. The mean age of participants was 44.8 years. However, literacy rate was found to be 71.4%. Most of the participants belong to the Hindu community.

**Conclusion:** Therefore, HPV testing should be accompanied by extensive health education to educate women. This study found a lack of awareness regarding such infection and hesitation in discussion.

**Keywords:** Human papillomavirus, Cervical Cancer, Knowledge, Awareness

### INTRODUCTION

Cervical cancer is the second most common form of cancer among women in the developing world and the leading cause of cancer mortality for women. While cancer mortality has declined in high-income countries with improved screening and treatment services, the incidence of cervical cancer is projected to increase in middle- and low- income countries as their populations grow and age. <sup>[1]</sup> The development of sensitive and cost-effective tests for high-risk types of the human papillomavirus (HPV), the primary causal agent of cervical cancer, suggests that HPV

testing in triage and primary screening may be a feasible and attractive adjunct to conventional cytological screening. <sup>[2]</sup>

Several randomized trials have demonstrated that high-risk human papillomavirus (hrHPV) testing shows higher sensitivity for detecting (pre)malignant cervical lesions and consequently improves screening for cervical cancer. <sup>[3]</sup> Apart from the efficacy of the screening test, the low participation rate is another aspect in population-based screening programs for cervical neoplasia that could be improved. <sup>[4]</sup>

Cytology screening (e.g., Pap test) is the standard method used for the control of cervical cancer in India; however organized screening programs are rare. Despite the availability of Pap testing even on an opportunistic basis in India, the incidence of invasive cervical cancer remains high, especially in rural India. The failure of cytological testing in rural India is likely due to a number of factors which include (a) poor infrastructure, (b) lack of trained health professionals and cyto-technicians, (c) absence of organized community based screening programs and (d) inadequate follow-up of abnormal smears. [5]

## MATERIALS AND METHODS

**Study design:** Descriptive in-depth interviews were undertaken at Obstetrics and Gynecology OPD of Yenepoya Medical College and Hospital. The study was conducted from December 2016 to May 2017. The relevant Human Research Ethics Committee has approved this study. For the recruitment of participants, convenient, random, purposive sampling was used.

**Participants:** A total of 70 women were recruited and all participants had HPV testing at the same time as their Pap smear for cytology or Biopsy for histopathology. All participants had provided their cytology/histopathology results whereas their HPV test results will be provided once the test is done by telephonic conversation or conveying information in person.

**Data collection:** We adapted an existing interview guide from a previous study. [6]

The patient information sheet was provided and study was described to the subjects and informed consent was obtained. All participants completed a short demographic questionnaire.

**Data analysis:** Using a framework, all of the transcripts were analyzed. Text was organized within the identified themes (i.e. knowledge of HPV infection, risk of acquiring HPV infection) of the developed framework without the use of any software, given the small number of interviews conducted. Descriptive analysis was

conducted on the information collected using Microsoft Excel.

## RESULTS

A total of 70 women were included for conducting this study after obtaining a written informed consent. As shown in Table 2 majority of participants were in the age group of 30-50 (71.42 %). Mean age of study participants is 43.71 years. Majority of the study participants were Hindus, 50 (71.43%) while 19 women were Muslims (27.14%) and only 1 was Christians (1.43%). Out of 70, 49 participants (70%) belonged to the low socioeconomic status and 21 (30%) belonged to the middle or high socioeconomic status. Most of the women had received education i.e. 41/70 (58.6%) and 29/70 (41.3%) enrolled women were uneducated.

Table 1: Socio-demographic details of Study Participants (n=70)

Socio-demographic factors	N (70)	%
1. Age groups(years)		
20-30	05	7.14
30-40	18	25.71
40-50	32	45.71
50-60	11	15.71
> 60	04	5.71
2. Religion		
Hindu	50	71.43
Muslim	19	27.14
Christian	01	1.43
3. Socioeconomic status		
Below poverty line	49	70
Above poverty line	21	30
4. Literacy		
Educated	41	58.6
Uneducated	29	41.43

## Risk factors associated with the HPV infection

Most of the enrolled participants visited OBG OPD with the most common clinical conditions like: abnormal bleeding with clots PV, white discharge PV, severe back pain, unhealthy cervix and few with proven case of cervical cancer.

Most of the participants i.e. 62 out of 70 (88.6%) had only 1 sexual partner throughout their life however 8 Muslim participant's husbands had more than 2 wives, therefore indirectly at the risk of acquiring HPV infection. Most of the participants from the study area (n=70) are not practicing any methods of contraception,

however only two had used contraceptive pills.

During menstruation, sanitary napkins were used by 21/70 (30%) subjects whereas majority of the subjects used cloths i.e. 49/70 (70%). Among all the sexually exposed women only 06 (8.6%) women were screened by Pap smear earlier also

however 64 participants (91.42%) had not even heard of this screening test. Among all enrolled participants only 14 (20%) participants had underlying clinical conditions like diabetics, hypertension or hypotension and hyperthyroidism as shown in Table 3.

**Table 2: Risk factors associated with the HPV infection:**

S.No	Sample	Risk factors											
		OC				SP		Pad/Cloth		RS (PAP)		IS/ SD	
		Y	N	1	≥2	P	C	Y	N	Y	N		
1	Tissue	-	45	38	07	04	41	02	43	09	36		
2	Cytobrush	02	23	24	01	17	8	04	21	05	20		

OC-Oral contraceptives, SP-Sexual partner, RS-Regular screening, IS/SD- Immune status/ Systemic disease, Y-Yes, N-No

**Table 2: Risk factors associated with the HPV infection (Continued):**

S.No	Sample	Risk factors										
		Parity		Nutrition	Hyg	I	Age (M)		Age (D)		Smoking	
		<2	≥2	Mix	G/P	Y/N	<20	≥20	<20	≥20	Y	N
1	Tissue	14	31	Y	G	N	39	06	23	22	03	42
2	Cytobrush	19	06	Y	G	N	08	17	03	22	-	25

Hyg- Hygiene, G- Good, P- Poor, I-Immunization, Age (M) - Age at marriage, Age (D) - Age at 1<sup>st</sup> delivery

Mean age of marriage was 20.24 years and most women, 47/70 (67.1%) got married at below 20 years of age and 23/70 (32.9%) above 20 years of age. By 15 years of age, 10 women were married (14.3%). Mean age at 1<sup>st</sup> delivery was 22.04 years. 44 (62.9%) women had delivered at the age of above 20 years where as 26 (37.1%) had delivered below the age of 20 years of age. 33 (47.1%) women had parity less than 2 whereas 37 (52.9%) women had parity above 2 among them 13 had deliveries 4 or more (18.6%).

67 (95.7%) out of 70 subjects gave no history of smoking cigarettes/beedi or consumption of alcohol, however 3 (4.3%) subjects had given history smoking cigarettes/beedi or consumption of alcohol.

All participants had reported mixed type of diet consumption.

The proper hygiene was reported by all participants during menstrual cycles and after making sexual contacts with their partners. None of the participant reported any kind of genital infections in their partners as well.

### Knowledge about cervical cancer, HPV and its health effects:

It has been found in this study that none of the study participants had heard of HPV and not at all aware of its health effects. Despite the HPV vaccine protecting against 90% of genital warts, none of the participants had vaccinated with HPV vaccine and even had no knowledge about this.

**Table 3: Interview Questions Asked to the Subjects Participated In This Study to Assess the Knowledge about HPV Infection and its Health Effects**

Major issue	Topic Question	Answers	
		I know about this	I have no idea
Awareness and knowledge of Cervical Cancer	What do you know about cervical cancer?	20 (28.6%)	50 (71.4%)
	What causes cervical cancer?	00	70 (100%)
	Who can have cervical cancer?	00	70 (100%)
	Do you think there is a possibility your daughter may have cervical cancer in the future? Why? Why not?	00	70 (100%)
	Do you know the risk factors of cervical cancer?	00	70 (100%)
	Have you ever had cervical Pap smear test done?	06 (8.6%)	64 (91.4%)
Awareness and knowledge of HPV and HPV vaccine	Have you heard about the human papillomavirus (HPV)?	00	70 (100%)
	Where did you hear about it?	00	70 (100%)
	Who could get HPV?	00	70 (100%)
	Have you heard about the HPV vaccine?	00	70 (100%)
	Have you ever had an HPV test before?	00	70 (100%)
	Yes	00	
	No	70 (100%)	

## DISCUSSION

HPV plays a central role in the development of cervical cancer and is considered to be a necessary although not always a sufficient cause. Persistent infection with high-risk HPV increases the risk of developing cervical neoplasia. [7] In addition to young age, a lifetime number of two or more sexual partners, a history of genital warts, and being unmarried were the strongest risk factors for cervical HPV infection among women aged 18–65 years attending routine cervical cancer screening across Spain. [8]

Cervical cancer screening plays a very crucial role in prevention of HPV mediated malignancy. In this study we found that the 91.42% participants were not at all aware of the PAP screening. However, in developed countries the scenario is opposite the developing countries where the screening rate can reach more than 82.4%. [9]

According to the Fatima Isa Modibbo et al., 2015, in a qualitative study on barriers to cervical cancer screening, it was found that most of the women were aware of cervical cancer, but only one third had ever been screened and only one participant had ever heard of the association between HPV and cervical cancer. They have also reported that their findings were similar to findings from other low-resource settings, which found that the knowledge of women about cervical cancer is 'elementary' at best and that there was a high prevalence of ignorance about causes, symptoms and treatment options for cervical cancer. [10]

This present study was carried out to evaluate the knowledge about HPV, cervical cancer and the risk factors associated with HPV infection. What we came to know after this study is that none of the participants had any idea regarding HPV infection and HPV mediated malignancy. However, 28.6% participants have heard about cervical cancer but had no idea about its causes and there were common knowledge gaps

concerning the risk factors of cervical cancer.

The risk factors that were most frequently cited included sexual partners, use of oral contraceptives, early marriage and early sexual debut, age at 1<sup>st</sup> delivery, number of parities, poor hygiene, poor nutrition, any underlying clinical condition, prior HPV immunization and smoking. Findings from the current study suggest that women predominantly associate HPV infection/ cervical cancer with early marriage, early child birth, high parity and no regular screening. High parity and early age at first pregnancy have been described in the literature [11] as risk factors for cervical cancer.

According to a study done by Katherine B. Roland et al., 2016, they found that there was no significant difference in study outcomes between the intervention and control groups. Among all women, knowledge of HPV significantly improved over time. At follow-up, fewer women reported that having a co-test is good, wise, will give you peace of mind, will tell you whether you need to worry if Pap is abnormal, is something your doctor thinks you should have, and will give you the best care available. [12]

Many studies from western countries have been done on knowledge of cervical cancer, HPV and its health effects but as such from India, there are very few studies available. One such community based study from southern India on rural women was conducted in 2014, [13] in that they have reported none of the participants had heard of HPV and unaware of its health effects. They concluded that total ignorance about HPV and its health effects among rural women may be due to the absence of organized cervical screening programmes in India. In present study we have also found similar results.

Unlike studies from western countries, with the increase of educational level, awareness has increased [13] but in present study education does not correlate with the knowledge of cervical cancer, HPV



and its health effects. However, earlier studies have shown important association between health behavior and educational level [14] and 70% of the study participants were belongs to the low socioeconomic status.

## CONCLUSION

From our study, we concluded that women need more information about cervical cancer and its risk factors. Lack of the related knowledge about cervical cancer may be one of the important factors for high incidence rate of cervical cancer therefore; HPV testing should be accompanied by extensive health education to educate women. This study found a lack of awareness regarding such infection and hesitation in discussion among participants.

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