

Knowledge and Attitude of Adolescent Girls and Their Mothers Regarding Cervical Cancer: A Community-Based Cross-Sectional Study

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ABSTRACT

Background: Cervical cancer is the second most commonly diagnosed cancer in India. The mother's awareness about the symptoms and risk factors has a large impact on the daughter's knowledge and attitude. Mother and adolescent daughter duos were selected as the sample as they are the target population at risk for suffering from carcinoma cervix. Mothers are the prime information providers and in an excellent position to aware their adolescent daughters about cervical cancer. **Objectives:** The aim of this study is to determine knowledge and attitude of adolescent girls and their mothers regarding cervical cancer and to find the association between the education of the mothers and their knowledge about risk factors. **Materials and Methods:** A community-based cross-sectional study was conducted among 100 duos of adolescent daughters along with their mothers residing in Balmiki Basti (Delhi), using a predesigned, pretested, semi-structured interview schedule. The collected data were analyzed using SPSS-22 version. **Results:** Only 61% of mothers and 52% of daughters have heard about cervical cancer. Inter-menstrual bleeding was the most common symptom recognized by the mother (50%) and daughter (44%) duos followed by postmenopausal bleeding (47% of mothers and 33% of daughters). Most common risk factors recognized by mothers and their daughters were promiscuity and tobacco and smoking. About 81% of mothers and 68% of daughters have a positive attitude toward internal examination by a gynecologist at least once in 3 years. Human papillomavirus infection was recognized as a risk factor by 13 among which 8 were educated till graduation ($P < 0.05$). **Conclusions:** Study revealed a low-level knowledge about cervical cancer among adolescent daughters and their mothers. Therefore, there is an urgent need to empower the women by educating them on this issue. Furthermore, there is a need to encourage the mothers to communicate the right information to their adolescent daughters.

KEYWORDS: Adolescent, attitude, cervical cancer, knowledge

INTRODUCTION

Cancer is the second leading cause of deaths following cardiovascular diseases worldwide.^[1] Cervical cancer has been the fourth leading cause of cancer in women with 527,600 cases worldwide in 2012 and the fourth most important cause of cancer deaths among women in the world. In India, it is the second most commonly diagnosed cancer and third major cause of cancer mortality in women only after breast and lung carcinomas.^[1] Several risk factors for

cervical cancer have been identified such as human papillomavirus (HPV) infections, multiparity, early beginning of sexual activity, multiple sexual partners, smoking, and poor genital hygiene.^[2-4] Hurdles such as

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lack of knowledge, self-neglecting attitude, and poor infrastructure blocks the prevention, early diagnosis, and treatment.

The mother's awareness about the symptoms, risk factors and perception about the screening has a large impact on the daughter's knowledge, attitude, and safety, and hence, it is important to assess the awareness of both mothers and their adolescent daughters as a duo. The present study was conducted with an objective to assess the knowledge and attitude of adolescent girls and their mothers regarding cervical cancer to ensure its prevention in the population and to find the association between the education of the mothers and their knowledge about risk factors.

MATERIALS AND METHODS

Ethical considerations

Ethical clearance was obtained from the Institutional Ethical Committee prior to the start of the study. Informed written consent was taken from all the study participants. No pressure/coercion was exerted on the participants for participation in the study. Furthermore, the participants who agreed to participate were subjected to an intervention in the form of health education package. Confidentiality of information was assured to all the participants.

Study design

The study was a community-based, cross-sectional observational study and the aim is to assess the knowledge and attitude of adolescent girls and their mothers regarding cervical cancer and to find the association between the education of the mothers and their knowledge about risk factors.

Study setting

Duo of adolescent girls (10–19 years) along with their mothers were selected from a community linked to Basti Vikas Kendra, Balmiki Basti which is a health centre associated with Department of Community Medicine, MAMC, New Delhi, India.

Study period

Data collection was done from April 2017 to June 2017.

Sampling technique

The sampling was done using simple random technique using random number table.

Sample size

Previous studies on awareness of HPV as a risk factor for cervical cancer have estimated an awareness level of 62.5%.^[5] Taking the level of confidence 95% ($\alpha = 0.1$) and nonresponse rate of 10%, total sample size was calculated to 99 study participants. Rounding off to the nearest value, 100 mother and daughter duos were interviewed for this study.

Data collection procedures and instruments used

All the adolescent girls in the study area were enlisted and table of random numbers was used to select 100 mother and daughter duo to be included in the study. Females currently having or had suffered from cervical cancer in the past were excluded from the study. Those with a family history of cervical cancer were also excluded from the study. A predesigned, pretested semi-structured schedule was used to collect the information from mother and daughter duo regarding their sociodemographic detail, knowledge about cervical cancer and its symptoms, risk factors, cervical cancer screening, and attitude toward the disease.

Analysis and statistical tools

All the data were entered into Excel sheet and analyzed using SPSS version 22 (Chicago, IL, USA). Means and standard deviations were calculated for continuous variables (like the age of the study participants) whereas proportions and frequencies were calculated for categorical variables. The Chi-squared test was used to compare qualitative variables and proportions, with the level of significance set up at $P < 0.05$.

RESULTS

The questionnaire was administered to 100 mother and daughter duos, the mean age of mothers was 36.4 ± 8.6 years and for daughters mean age was found to be 15.2 ± 3 . Majority of the mothers were educated until primary and middle school (37%) followed by high school and higher secondary (30%). Sixty-seven percent of the daughters were in high school and higher secondary. Majority of the mothers were unemployed (79%). Ninety-two percent of the mother and daughter duos belonged to Hindu religion [Table 1].

Among 100 mother and daughter duos, 61% of mothers and 52% of daughters have heard about cervical cancer. Table 2 shows knowledge of study participants about symptoms and risk factors for cervical cancer. Inter-menstrual bleeding was the most common symptom recognized by the mother (50%) and daughter (44%) duos. Postmenopausal bleeding was recognized by 47% of mothers and 33% of daughters. Menorrhagia was also one of the most common symptoms known to both mothers (44%) and daughters (43%) followed by dyspareunia by 43% of mothers and 33% of daughters.

Most common risk factor recognized by mothers was promiscuity (71%) followed by tobacco and smoking (70%) which were also the most common risk factors known to daughters also tobacco and smoking (67%) and promiscuity (46%). Human papillomavirus infection and genital herpes were

the least common risk factors known to both the mothers (13% and 12%, respectively) and daughters (12% and 15%, respectively).

Table 3 shows the attitude of mothers and daughters toward cervical cancer. Only (47%) mothers and (41%) daughters heard of screening for cervical cancer. Eighty-one percent of mothers and 68% of daughters have a positive attitude toward internal examination by a gynecologist at least once in 3 years. Eighty-four percent of mothers and 73% daughters have an opinion that one should not have the first child by the age of 20 years. Majority of mothers (73%) and daughters (49%) believed

that inter-menstrual bleeding is not normal. Furthermore, positive attitude was seen in mothers (68%) and daughters (45%) that one should not have more children to increase family strength.

Among 100 mothers included in the study, Human papillomavirus infection was recognized as a risk factor by 13 among which, 8 were educated till graduation, and the difference was found to be statistically significant ($P < 0.05$) which indicates that education improves the knowledge regarding risk factors which will also improve awareness of daughters regarding cervical cancer. Similarly, knowledge about the risk factors such as multiple sexual partners, H/O sexually transmitted disease, and genital herpes was more in women with graduation and above education ($P < 0.05$) [Table 4].

Table 1: Sociodemographic profile of study participants

Socioeconomic profile	Mothers (n=100)	Daughters (n=100)
Age		
Mean age	36.4±8.6 years	15.2±3.4
Education		
Illiterate	10	1
Primary and middle school	37	21
High school, higher secondary	30	67
Graduation and above	23	11
Occupation		
Unemployed	79	100
Unskilled or semiskilled	17	0
Skilled	4	0
Religion		
Hindu	92	
Muslim	4	
Sikh	4	

DISCUSSION

The present study shows a low level of knowledge regarding cervical cancer. Only 61% of mothers had heard about cervical cancer. Similar low incidence (65.5%) of knowledge among women was seen in a study on women in Bhopal in 2015.^[6] Close results were also found in studies in studies in Korea^[7] (63% urban and 60% rural) and Nepal (65.7%).^[8] Among adolescent daughters in the present study, only 52% heard about cervical cancer. In another study conducted on adolescent girls in Hong Kong done in 2014 by Lee *et al.* 95.9% had heard of cervical cancer.^[9] This disparity can be explained by better education in a developed country like Hong Kong.

Table 2: Knowledge of study participants about symptoms and risk factors of cervical cancer

	Mothers (n=100)			Daughters (n=100)		
	Yes	No	Don't know	Yes	No	Don't know
Have you heard about cervical cancer	61	37	2	52	39	9
Symptoms						
Inter-menstrual bleeding	50	30	20	44	31	25
Foul smelling vaginal discharge	40	41	19	43	27	30
Postmenopausal bleeding	47	35	18	33	34	33
Menorrhagia	44	37	19	43	30	27
Bleeding after intercourse	30	33	37	32	20	48
Dyspareunia	43	32	25	33	23	44
Weight loss	42	19	39	32	29	39
Fatigue	40	31	29	30	29	41
Risk factors						
Human papilloma virus infection	13	8	79	12	16	72
Promiscuity	71	11	18	46	5	49
Early age of the onset of sexual activity	55	17	28	29	22	49
Tobacco and smoking	70	15	15	67	12	21
History of sexually transmitted disease	28	8	64	39	8	53
Genital herpes	12	5	83	15	13	72
Prolonged use of OCP	24	17	59	25	13	62
Multiparity	38	22	40	35	13	52

OCP: Oral contraceptive pill

Table 3: Attitude of study participants towards cervical cancer

Attitude	Mothers (n=100)			Daughters (n=100)		
	Yes	No	Don't know	Yes	No	Don't know
Heard of screening for cervical cancer	47	39	14	41	39	20
Is inter-menstrual bleeding normal	14	73	13	23	49	28
Should bear first child by the age of 20 years	9	84	7	8	73	19
Should have 5 or more children to increase family strength	26	68	6	28	45	26
Does promiscuity predisposes to cervical cancer	71	11	18	46	5	49
Should undergo internal examination by a gynecologist at least once in three years	81	5	14	68	3	29
Is cervical cancer contagious	41	29	30	39	30	31

Table 4: Association of educational status of mothers with their knowledge of risk factors of cervical cancer

	Illiterate	Primary	Higher	Graduation	Total	P
Human papilloma virus						
Yes	3	0	2	8	13	0.002
No	0	3	2	3	8	
Don't know	7	34	26	12	79	
Multiple sexual partners						
Yes	4	9	15	18	46	0.006
No	1	7	5	2	15	
Don't know	5	21	10	3	39	
Early age of the onset of sexual activity						
Yes	6	13	22	14	55	0.28
No	0	10	2	5	17	
Don't know	4	14	6	4	28	
Tobacco and smoking						
Yes	9	25	23	18	75	0.708
No	1	8	4	2	15	
Don't know	0	4	3	3	10	
History of STD						
Yes	1	6	9	12	28	0.008
No	1	2	1	4	8	
Don't know	8	29	20	7	64	
Genital herpes						
Yes	0	0	3	9	12	0.001
No	1	1	0	3	5	
Don't know	9	36	27	11	83	
Prolonged use of OCP's						
Yes	2	5	7	10	24	0.089
No	0	7	5	5	17	
Don't know	8	25	18	8	59	
Multiparity						
Yes	3	9	15	11	38	0.123
No	1	9	5	7	22	
Don't know	6	19	10	5	40	

STD: Sexually transmitted disease, OCPs: Oral contraceptive pills

The study participants knowledge about symptoms of cervical cancer was also lacking. Only half or less of the participants were able to identify the symptoms of carcinoma cervix. Inter-menstrual bleeding was most commonly recognized symptom (by 50% of mothers and 44% of daughters). This correlates with another study done in Tamil Nadu in 2015, in which inter-menstrual bleeding was recognized as a symptom by 38% of

women.^[10] This was followed by other symptoms such as postmenopausal bleeding (47% of mothers and 33% of daughters) and menorrhagia (43% of mothers and 44% of daughters). This corresponds to a study in India by Dhivya and Balakrishnan in which menorrhagia was identified as a symptom by 58.5% of participants.^[11]

Knowledge about risk factors for cervical cancer was found to be poor. Only 13% of mothers and 12% of

daughters were aware of the most important risk factor, i.e., human papilloma virus. Similar low awareness was found in a study done in Mangalore in 2014 in which 4.8% of participants knew that cervical cancer is caused by viral infection.^[12] Promiscuity and intake of tobacco and smoking were most widely identified risk factors (71% of mothers and 46% of daughters and 70% of mothers and 67% of daughters, respectively). This correlates with another study in Uganda in which 78.4% and 64.8% of participants identified promiscuity and smoking respectively as risk factors for cervical cancer.^[13]

The present study also assessed the attitude of study participants toward cervical cancer. Inter-menstrual bleeding was considered abnormal by 73% of mothers and 49% of daughters. This correlates with another study in Bhopal which 95.5% of participants considered it abnormal. They also believed that a woman should not bear her first child by 20 years of age (84% of mothers and 73% of daughters). This correlates with a study done in Bhopal which 77% of participants agreed to it.^[6] 68% of mothers and 45% of daughters agreed that a woman should not bear 5 or more children to increase family strength which is lower than a study done in Bhopal, in which 94.5% woman agreed to it.^[6]

The present study shows that knowledge about the risk factors of cervical cancer like HPV infection, multiple sexual partners, history of the sexually transmitted disease and Genital Herpes was maximum in women who were educated till graduation with $P < 0.05$. In a developing country like ours where the majority of the population belongs to rural areas, mothers are the main source of information for daughters. Educating mothers will empower the future generations with correct information which will help in control and prevention of cervical cancer.

CONCLUSIONS

The study revealed a low-level knowledge about cervical cancer among mothers and their adolescent daughters. Therefore, there is an urgent need to empower the women by educating them on this issue. Furthermore, there is a need to encourage the mothers to communicate the right information to their adolescent daughters. Most of the risk factors for this malignancy such as poor genital hygiene, initiation of sexual activity at an early age, multiple sexual partners, multiparity, and smoking are preventable. Moreover, cancer itself is easily preventable since the site of this pathology, i.e., uterine cervix is amenable to screening.

Information regarding the understanding of the mother's awareness and attitude regarding cervical cancer can be used to plan the prevention programs and development

of strategies for control of cervical cancer. Special programmes should be conducted for increasing awareness regarding risk factors, symptoms and prevention of cervical cancer in schools for adolescent girls.

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Conflicts of interest

There are no conflicts of interest.

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