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Knowledge Attitude and Practice Study Regarding Awareness of Cervical Cancer and HPV Vaccination in Bihar

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ABSTRACT
Cervical cancer has a major impact on the lives of Indian women. Though the incidence of cervical cancer is decreasing in the developed countries and even in cities of India, the situation among the rural population is still gloomy. Barriers to cervical cancer control in our country include a lack of awareness and familiarity with the concept of prevention and treatment among the general population and health care workers. InBihar itis a neglected disease. Inappropriate health seeking behavior of patients may increase the disease duration, severity and transmissibility. Simultaneously, lack of knowledge and perceived stigma may also increase the length of delay in receiving treatment. This ultimately effects the cervix cancer control.

Methods and objective –A questionnaire based cross sectional study was performed among 501 respondents aged> 18 years to evaluate their KAP regarding cervical cancer screening and HPV vaccination For the KAP indicators, each correct answer received a score of 1, while unsure and incorrect responses received a score of 0. Descriptive statistics and logistic regression were used for the analysis. Data analysis was performed using Statistical Package for the Social Sciences (SPSS) version 16.0To assess levels of knowledge, attitude about their practice regarding cervical cancer and HPV vaccination. In Bihar (India). Design: site-specific survey Place: Mahavir Cancer Sansthan, Patna. Sample: respondents >18 years and over (n = 501).
Respondents Awareness assessment was done through questionnaire which included questions on awareness of cervical cancer symptoms, risk factors, and HPV vaccination. Main outcome measures: Awareness level regarding cervical cancer and HPV vaccination.

Results: 93.8% respondents were having poor knowledge about cervical cancer screening and vaccination.98%of the participants had never screened for cervical cancer.Symptom recognition was also associated with older age having a close experience of cervical cancer.
Conclusion: The study determined a remarkable gap in the knowledge attitude and practices towards cervical cancer screening amongrespondents. Underscoring stating the need of augmented health education initiatives for good cervical cancer awareness and preventive strategies
Keywords: Cervix CancerAwareness screening, humanvaccination prevention

I. INTRODUCTION

According to GLOBOCON 2012, cervical cancer is a major health concern for women, with 528,000 new cases and 266,000 deaths reported each year. Cervical cancer accounts for over 12% of all female cancers in the worlds less developed and developing countries, where it is identified in around 85% of cases. India, the world's second most populous country, is responsible for about a quarter of all cervical cancer cases. In India in 2012, there were an estimated 122,844 new instances of cervical cancer, accounting for 23% of all female malignancies. In affluent countries, cervical cancer prevention and screening [1] programmes have been successful, resulting in a downward trend in both incidence and mortality. However, in developing or less developed nations, however, more than 80% of women with cervical cancer are identified at an advanced stage, which is associated with a poor prognosis. Lack of information about the disease among the general population, as well as geographical and economic inaccessibility to cancer care, are all obstacles to the effectiveness of screening programmes in countries like India. Despite the fact that the situation in India is rapidly improving, there is still a gap in the provision of high-quality cancer care.

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While there are a number of world-class cancer centers in India's major cities, the service is essentially non-existent for the majority of the country's rural population. In terms of health infrastructure, Bihar is one of the least developed states in the country health-care services cervical cancer is quite common in Bihar, as evidenced by the high number of patients referred to Mahavir Cancer Sansthan, the state's most comprehensive cancer hospital [2]. Bihar is India's third-largest state, with the highest number of cervical cancer cases. There is no information about people's knowledge, attitudes, or practices. As a result, this research can fill that void. Various studies conducted around the world, such as in Bangladesh and Ethiopia, have revealed that people do not have a good understanding of the signs and symptoms, causes, and cervical cancer screening. As a result, the findings of the study may be useful in developing cervical cancer prevention programmes that include early screening and vaccination [2].Cervix uteri cancer is the second most common cancer among women in India. [2] Human papillomavirus (HPV) is a sexually transmitted disease (STD) that plays a significant role incervical cancer developing Cervical cancer is becoming more common In a developing country and closely linked to numerous risk factors Multiple sex partners, multiple pregnancies, and refractory Infection of the reproductive tract, lifestyle, marriage at a young age Poor genital hygiene, intercourse at a young age, and risky sexual behavior as well as many other[3,4]

II. METHODS

Study area and setting:

A hospital-based cross-sectional study was performed to analyze the KAP towards cervical cancer screening and HPV vaccination in Bihar. Mahavir Cancer Sansthan and Research Centre Patna, Bihar is a tertiary level public health facility also known as the "Centre of healing" amongst the people of Bihar & whole eastern regions in Bihar. MCSRC is the largest referral center in the state, for cancer treatment. It also provides Integrated Counselling and Testing Centers (ICTC) for cancer counseling and testing. The unique quality of this hospital is its dedication to serve socio economically disadvantaged people who are unable to afford cancer treatment due to various reasons.

Study Participants:

Age of the respondents above 18 years. And only female candidates were enrolled. Subjects who did not respond to all the questions or who left before completion of interview were also excluded. Study participants were informed about the aims and objectives of the study prior to start the interview. Interview was conducted in local language i.e. "Hindi". Study participants were recruited, following a written informed consent, until the required sample was reached (501).

Sample size

The sample size was calculated using Open Epi software **Version 3.01. Prior to actual sample size calculation, a** pilot study was performed among 100 respondents to assess the feasibility and sample size of the study. Data of these 100 respondents were excluded from actual sample size. Based on the result of this pilot study, confidence interval 95% and design effects 1%, the required sample size was found to be 501.

Variables and data sources

The main outcome variables in knowledge and awareness. After collecting all data, data were analyzed with Microsoft office excels (Pie Charts & Bar Diagrams). Then analyzed all data by different strategies based on target of study. **Sample size and sampling technique-** a cross sectional study was conducted between Aug 2017 to March 2018 in the selected site. Thus a total of 501 respondents were interviewed during the study. People above the age 18 (adults) were considered for the survey. Before the survey a verbal Consent for a face to face interview was sought from member

Data collection and data quality assurance:

The pretested self-prepared site specific questionnaires were used to collect information from the participants. At the end of the interview, health education through counselling was given to the respondentents with the intention of increasing screening and awareness towards cervical cancer. Questionnaires were administered by a interviewer. Interviewees were conducted by visiting respondents at the OPD inMahavir cancer sansthan, Patna. Questionnaires consisted two sections:1) sociodemographic characteristics of the participants such as age, gender, marital status, education, occupation, income, etc. 2) Knowledge, attitude towardscervical cancer screening , and practice to control the disease through HPV vaccination

Data analysis

A well-structured, pretested questionnaire was used to collect data. All the questions have assessed KAP about Crevical cancer screeing and HPV vaccination in populations .The questionnaire consists of 4 sections that address the a] socio-

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demographic information b)knowledge and awareness of participants where cervical cancer screening & HPV vaccination was concerned 3] Attitude of participants towards cervical cancer screening & HPV vaccination 4] Preventive practices related to cervical cancer screening & HPV vaccination . A trained research assistant administered the questionnaires in Hindi. The questionnaire was pretested .Each response was scored one for the correct answer while zero for the wrong/ "don't know" response. Knowledge about cervical cancer was graded on a scale of 0 to 8, with 0 being the lowest and 8 being the highest. Participants' scoring from five to eight was considered as "good knowledge" while zero to four score indicated "poor knowledge". Similarly, attitude/perception about cervical cancer screening was graded on a scale of zero to eight, with a score of 0 to 4 indicating "unfavorable attitude/perception" and a score of 5 to 8 indicating "favorable attitude/perception ". Practice towards cervical cancer screening & HPV vaccination was scored from zero to four. Participants who received a score higher than 2 were deemed to have optimal/good cervical cancer screening & HPV vaccination practice. Participants with a score above 2 were considered to have optimal/good cervical cancer screening & HPV vaccination practice

Data analysis was done with the help of SPSS version 16.1. Descriptive statistics such as frequency, percentage, mean, median and standard deviation were used to describe demographic parameters and knowledge, attitude, practices (KAP's) ofrespondentsMultiple linear regression analysis were used to identify the most important determinants of knowledge regarding screening and HPV vaccination.

Ethics Statement

Ethical Review Committee of Mahavir Cancer Sansthan and Research Centre of**Ref no mcs/admin/2017-18(MCSRC).**The purpose of the study was also intimated. The medium of Communication was Hindi. At the end of the interview each respondent was given sufficient clarification and other information regarding cervical cancer causes risks factors screening and vaccination etc. The information given by each respondent was kept confidential. The survey was based on a self-prepared pre-tested structured questionnaire consisting of 30 questions, which was intended to collect data regarding basic Demography, knowledge regarding cervical cancer and HPV vaccination. As no suitable readymade questionnaire was available, it was prepared. Self-prepared questionnaire was pretested among 100 people and made necessary Changes before the administration of the questionnaire.

Results: Socio Demographic Characteristics of the study participants

A total of 501 respondents was interviewed. Mean ages of the respondents were 36 years, ranging from (20 to 75 years). Study participants consisted of respondents in which 49.9% (Patients), 32% relatives, 11% girl students, and 5%nurses.(82%) were married and the majority of subjects belonged to rural area.(56.47%) participants were illiterate . The detail and demographic characteristics of the study participants were presented in

Table 1

variables		**N (%)**
Type of respondents		
Patients	250(49.90)	
Relatives	163(32.5)	
Girl students	58(11.50)	
Nurses	30(5.97)	
2. Religion		
Hindu	450(89.1)	
Muslim	20(10.1)	
0thers	31(20.1)	
3 Marital status		
Married	418(82.1)	
Unmarried	82(16.1)	

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4.Residential status	
Urban	32(9.1)
Rural	468(93.5
5 Parity	
Less than 3	57(11.2)
More than 3	443(88.6)
6.Age of marriage	
Before 18years	420(88.2)
After 18years	80(12.8)
7.Education	
Illiterate	350(56.4)
Primary school	150(29.9)
Secondary school	2(0.39)
Intermediate	2(0.39)
High school	5(0.8)
Graduation	42(8.38)
8 Occupation	
Unskilled	127(25.3)
Unemployed	147(29.3)
semiskilled	76(15.1)
skilled	51(10.17)
semiprofessional	l2(2.39)
Professional	81(16.1)
9.Income	
Less than 100	50 (9.9)
101-299	282(56.2)
299-491	88(17.5)
500-749	51(10.1)
749-999	12(2.39)
999-1999	18(3.4)

Fig 1 demographic details of respondents

Variable	**Mean SD**	**P–value**
Residential status	0.75 +-0.472	0.38
Urban		
Rural		
Marital status	0.17 +-0.379	0.747
Married		
Unmarried		
Parity	1.01 +-0.486	0.536
Less than 3		
More than 3		
Age of marriage	0.30 +-0.714	0.02
Before 18 years		
Afterv18 years		

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Table 2. **Knowledge about screening and HPV vaccination**

where the majority 312(93.3%) of the study participants previously heard about cervix cancer and only (2.1)% of the participants were aware about the screening and HPV vaccination .According to only 69.6% of respondents, were not aware about the prevalent cancer in women .A large proportion of respondents (85%) reported they don't have idea about risk factors and HPV as a causative agent of cancer.Awareness that cervix cancer is a preventable disease through screening and vaccination was found in 1.1% of participants, while Majority were unaware. Overall 82.3% had poor awareness of cervix cancer and its cause. Factors associated with knowledge Bivariable analysis as indicated in revealed that occupation, education was highly associated with the knowledge index. The multivariable regression analysis revealed that occupation and education were the two independent predictors of the knowledge index. Participants working in healthcare (AOR: 7.821, 95% CI: 1.288– 47.492) were more likely to have a better awareness of screening & vaccination than other participants.

Questions to the patients related to screening	**Response%(yes)**	**Response%(no)**
Are you aware about screening for cervical cancer?	1%(11)	(98.2%)
Whether you have gone through screening?	2.5%	97.5%
Did you ever consulted any doctor in the past?	72.8%	7.2%
Have you had any treatment regarding the disease?	16.3%	83.70%

Table 4**Questions related to the Attitude of respondents regarding screening and Vaccination**

QUESTIONS	**Response%(yes)**	**Response%(N0)**
Do you think it is preferable to vaccinate both men and women?	15%	85%
Do you think women are embarrassed to get pap test?	85%	15%
Do you think there is need to start HPV Vaccination in hospital?	98%	2%
Do you think information related to screening for cervical cancer and its sign symptoms should be taught in detail?	99%	1%

QUESTIONS	**Response%(yes)**	**Response%(N0)**
Do you think it is preferable to vaccinate both men and women?	15%	85%
Do you think women are embarrassed to get pap test?	85%	15 %

Variable	Mean SD	p –value
Education	2.20+-1.717	
Illiterate		0.02
Literate		

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Occupation	2.20 +-2.208	
Unemployed		0.57
Unskilled skilled worker		
Professional		
Family type	0.67+-0.471	0.773
Joint		
nuclear		
Age of marriage	0.71+- 0.714	0.733
before 18 years		
after 18 years		
parity	1.01+- 0.486	0.02
less than 3		
more than 3		

The disease fatality was unknown to almost half of the study participants. Proportion of patients who believed that cervix cancer is a preventable disease was 2.3 % whereas Majority of the respondents believe that they do not have any risk to get the disease. Majority (72.3%) of the preferredthere is need to start HPV Vaccination in govt hospital. A significant proportion of respondents (56.3%) believes that think it is preferable to vaccinate both men and women**.** Factors associated with attitude In bivariable regression analysis as mentioned in Table 5, occupation was significantly associated with the attitude index of the participants (p-value0.2), all other variables were entered into the multivariable logistic regression model. The results revealed that family type, occupation, education status were the two independent predictor variables of attitude towards cervical cancer screening and HPV vaccination.

Participants' practices toward Screening and HPV vaccination

Most (66%) of the respondents have not ever seen any person getting vaccinated for cervical cancer. None of them have got vaccinated against HPV.There was widespread poor practice was observed among the participants. Around 28.6% of responders did not gone through screening as a preventive strategies.

Factors associated with the practice

Bivariable analysis revealed that age, residence, occupation, education and socioeconomic status of the respondents were significantly associated with the overall practice, while in multivariable logistic regression analysis, and respondent's age, residence, and occupation were found to be significantly associated with the practice. Participants working as labors (AOR: 0.248, 95% CI: 0.073–0.844) were less inclined to follow good preventive practices. There were increased odds of having good practice among participants aged 18–40 years (AOR: 6.866, 95% CI: 1.694–27.834) and those who reside in urban areas (AOR: 4.159, 95% CI: 1.317–13.139) than their peers.

Regarding knowledge only age of marriage status is only variable to have an impact on the knowledge on the respondents using t test (p =0.02).residential status parity marital status did not show any significant differences in terms of knowledge.

Attitude, Practice and socio –demographic characteristics

Regarding attitude, parity and education are the only variables that have an impact on the impact on the attitude of respondents using t-test .whereas occupation, family type, and age of marriage did not have any significant differences.
Using a multiple linear regression test showed that education of respondents was significantly associated with overall knowledge, attitude, and practice regarding cervical cancer screening and vaccination.

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Variable	mean SD	p value
Age of marriage	0.30 +-0.714	0.02
Before 18 After 18		
Family type	0.67+-0.471	0.324
Joint nuclear		
education level	1.24+- 1.717	0.01
illiterate		
Literate		
Occupation	2.20+-2.08	0.07
Unemployed		
unskilled worker		
Skilled		
Professional		

Fig 1.4 Practice and socio demographic factors

QUESTIONS	Response % (yes)	Response% (N0
Have you ever taken any kind of vaccination for any disease	79%	21%
Have you ever seen any person getting vaccinated for cervical cancer?	1%	99%

Practice of the study subjects with respect to Pap test

Pap smear test	Occupation				TotalN(%)
	Professional	Semiprofessional	Skilled worker	Semi-skilled worker	
Ever undergone Screening	2.8	5.10	3.10	8.32	19.21 (3.79)

III. DISCUSSION:-

In this study, risk factors like poor level of education, and early age of marriage, and child birth were prominently present. As Major risk of HPV is associated with early age of marriage, increase in parity, poor socioeconomic background including low education level, living rural areas, not having much facilities for screening. Maximum women were married before the age of 18 years according to study .immunocomprised state of women were considered risky due to having poor socioeconomic, poor nutritional status, long use of contraceptives and women with low financial background .evidence of cervical cancer is greater among women of lower classes with less education and those with high parity. Among the respondents, majority of them stated they never got screened and have no idea of HPV vaccination .and they haven't heard of cervical screening and vaccination. It shows that they were clearly unaware of cervical cancer screening and HPV vaccination. This was due to lack of awareness due to lack of population-based screening programs ,inefficient mass mediacampaigns and cultural barriers like

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embracement ,shyness and ignorance .The knowledge of cervical cancer symptoms ,causes, and risks factors was very poor among respondents .Very few of them knew about the symptoms .the women who have ever heard of cervical cancer were asked if they knew of any method that could prevent the disease as it is the most preventable type of cancer they were clueless. None of them were aware about that fact that it is a preventable type of cancer .Very few among the respondents were known about vaccination against HPV when questioned on its frequency of screening and who screen no one answered correctly. This study showed that the practice of pap smear screening and HPV vaccination was very less. However, the attitude of participants towards screening was good. This study shows that a low level of knowledge regarding cervical cancer but a favorable attitude for the screening of cervical cancer and vaccination. In this study, 11% of the respondents had heard about cervical cancer .Similar results were reported by Trans et al and Shrestha et al. in Korea and Nepal (1,2).

Only 11% had an adequate knowledge about cervix cancer and screening .however, the level of knowledge is far less than in developing countries study done in Kerala (3).52% had a good knowledge in London (3,4). Lack of knowledge is due to low education level and low socio – economic status .Abnormal vaginal bleeding was the commonly known symptoms among the respondents .This finding is similar to the study done in Kerala ([3]) and Ahmedabad (4). The study states poor knowledge of cervical cancer, and similar results was shown by Shrestha et al. in Nepal (5).Majority of respondents expressed willingness for screening and vaccination if provided free of cost. These findings are consistent with studies by Al Saurali and Mohamed in Kuwait(5).Lack of awareness of the screening test and absence of symptoms were the common reason for not screening .This is similar to a done in Korea (6) and Ethiopia (4).Association was found between socio –demographic characteristics and KAP .the study show that respondents with lower per capita family income and those; low level were likely to have satisfactory attitude towards cervical cancer.

IV. CONCLUSION:

The outcome of our study revealed that the respondents are having poor knowledge on cervical cancer screening and vaccination. .Respondents counselling about the vaccination were also done during the questionnaire section. These findings will help in the tailoring of the present awareness, control, and prevention of cervix cancer. Lack of knowledge, ignorance, embarrassment, and poor financial conditions are the potential barriers for the control program

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