Annals of R.S.C.B., ISSN:1583-6258, Vol. 25, Issue 3, 2021, Pages. 7253 - 7258
Received 16 February 2021; Accepted 08 March 2021.

Application of Health Belief Model (HBM) with Health Intervention Son the Attendance of Cervical Screening

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ABSTRACT

Background

Cervical cancer has a maximum potential for primary and secondary prevention, nevertheless, it remains a significant cause of morbidity and mortality in Indian women. However, regular screening tests will able to detect the precancerous lesions at an early stage for timely and effective management. The main objective of this study was to identify the barriers to cervical screening by applying the Health Belief Model (HBM) along with some interventions.

Materials and methods

A cross-sectional study was executed in this study and the sample size was 501 women aged between 30 to 60 years. These samples were selected by simple random and stratified sampling techniques in various stages of the sampling section process. The tool of the HBM model included the identification of barriers for cervical screening programmes. Descriptive statistics applied for the analysis of the data.

Results: Among all three groups a large proportion of women were observed between 30-45 years of age. The least percentage of participants have seen the age group between 51-60 years. Before education, only 13.37 % of women had good knowledge regarding cervical cancer. The perceived susceptibility enhanced from pretest to posttest from 4.79 % 48.70 %, Perceived benefits increased from pretest to post-test from 4.79% to 53.29%, Perceived barriers was 52.10 % after intervention Cues to action was 52.30 % and Perceived self-efficacy and the likelihood of behavior was 48.70. The application of the HBM model with other interventions found effective.

Conclusion

The HBM model consisting of factors such as perceived susceptibility, perceived benefits, perceived barriers, cues to action, Perceived self-efficacy, and the likelihood of behavior need to be used to find out the preventive behaviors of women in health teachings of cervical screening programmes

Keywords
Application of health belief model (HBM), health interventions, attendance, cervical screening

INTRODUCTION AND BACKGROUND

There are significant results shown that the prevalence of morbidity and mortality rates due to cervical cancer reduced by organizing and implementing systematic cervical screening programmes[1]. The incidence of cervical cancer rates decreased by 50–60% by cervical screening programmes. If the precancerous lesions can be treated if they are identified at an early stage. Advanced treatment such as chemotherapy, radiation, etc to treatment of precancerous lesions[2].

The cervical screening can be performed by using a Pap smear test which helps to identify abnormal cells on the cervix by detecting the presence of the human papillomavirus. The success of screening programmes depends on the various factors such as an interval of screening programmes, awareness programmes, availability of the resources for the conduct of screening, the willingness of participants in screening, and availability of the treatments for abnormal pap test[3].

According to WHO guidelines, screening must not be suggested to a woman whose age is less than 30 years. HPV infections are quietly high in all women. But these infections become transient and they will be destructed by woman's body within few days. Screening for women aged between 30-49 years, even once should be screened to reduce the deaths from cervical cancer. Screening may be advised to women below 30 years if there is any evidence of cervical cancer. Among women whose test is negative with VIA/ Pap should be advised for rescreening every 3- 5 years. Among women whose screening is negative with HPV test should be advised to rescreen after a 5-year

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minimal interval. When a woman's Pap test results are negative in subsequent tests, the screening interval can be lengthier than usual. The women who have undertaken treatment for pre-cancerous lesions should have regular follow-up visits.[4]

The American cancer society has forwarded endorsements for cervical screening at various age groups, women aged between twenty-one to twenty-nine years must be screened for Pap smear examination, and these women do not have to go for HPV DNA tests. For women aged between 30-65 years, a Pap test should be done along with an HPV DNA test and it is advised for every 5 years, or a Pap test alone can be done every three years. Women beyond 65 years, who had regular practices of cervical screening and had clean findings in the past 10 years, are advised to quit the cervical screening. If a woman had shown some abnormal cells or precancerous cells in their past 20 years, she is directed to continue screening another 20 years after the date she has found abnormal cells in the cervix. It also recommends that women whose uterus was removed and cervix was still not removed, these women also are advised for screening. Women who had vaccinated with the HPV vaccine are also advised for regular cervical screening.[5]

U.S. Preventive Services Task Force, had passed some endorsements regarding cervical screening, women age below 21 years do not require screening, women old 21 to 29 years, should be screened every 3 years, women aged between 30 to 65 years, are advised for HPV DNA screening every 5 years alternatively on other hand every three years for cervical cytology, women after 65 years of age do not have to go for cervical screening and women who had undergone for total hysterectomy no need to go for cervical screening.[6]

FOGSI suggested that, in the health care industry where the good recourses for cervical screening are available, women aged between 25-65 years should be screened with HPV test /with Pap smear every 5 years and only with Pap test should screen every three years. In health care settings where the recourses for cervical screening are less, women aged between 30-65 years should undergo cervical screening with VIA test every five years, at least one-three times in their lives.[7]

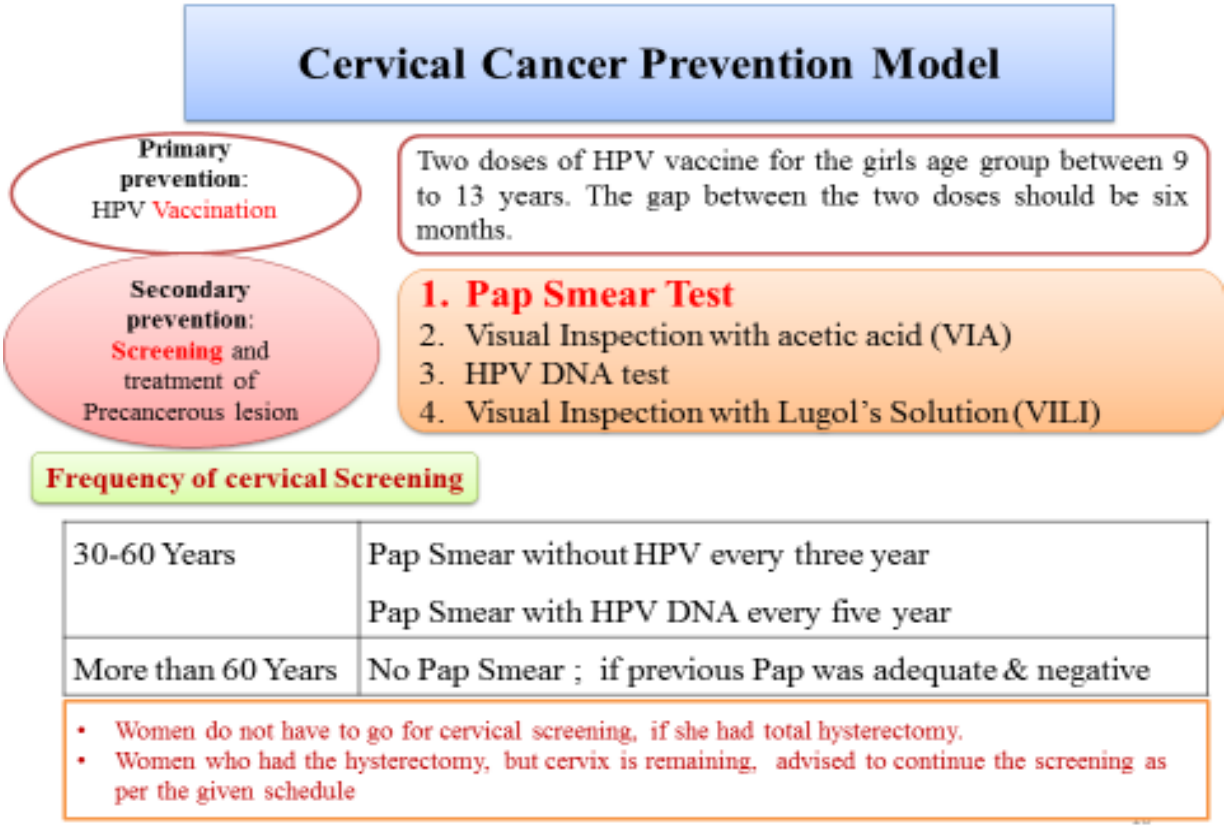

Fig 1: Cervical Cancer Prevention Model

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APPLICATION OF HEALTH BELIEF MODEL ON CERVICAL SCREENING

One of the famous social psychologists has introduced the Health Belief Modelto illuminate the extensive absenteeism by the people in the educational programmes on inhibition and revealing of disease conditions. Later it was stretched to the people's reaction to the cues and behavioral change and reaction to the sickness and acceptance to the medical treatments.[8]

HBM mainly explains and focuses on defensive wellbeing behaviors than therapeutic health behaviors. [32]It elucidates that why people take a feat to stop the disease by taking the vaccine and regular screening, control measures. [9]

This model consisting of five elements, they are perceived susceptibility, perceived seriousness, perceived benefits and perceived barriers to behavior, cues to action, and most recently factor of perceived self-efficacy. [10]

HBM is mainly used to assess the correlation between people's health beliefs and health behaviors towards preventive measures. In this section, the model will be discussed briefly, and then the application of the model on cervical screening.

Perceived Susceptibility

Perceived susceptibility is beliefs regarding the likelihood of receiving illness or risk of affecting disease condition. For eg, women have beliefs that they will be having cervical cancer before taking up the cervical screening.[10]

In this review, women try to perceive the susceptibility to cervical cancer and its seriousness. So that she will be able to understand the importance of the HPV vaccine for their daughter atthe right age and also will be able to decide for periodical cervical screening.

Perceived Benefits

If the person perceives the susceptibility of the disease condition, this perception will bring the change in the behavior of an individual to perceive the benefits of different methods of actions to prevent or to reduce the disease condition. [10]

In this review, women will perceive the benefits of taking the HPV vaccine to their daughters and the importance of early detection by cervical screening programme and establishment of systematic treatment for positive Pap results.

Perceived Barriers

Perceived barriers refer to the undesirable facets towards health-related activities which will arouse the conflicting behavior and avoid taking beneficiary actions towards health. [10]

In this review, Perceived barriers are mainly lacking awareness about the HPV vaccine and screening programmes, an embarrassment for screening tests and fear of test results, lack of time to attend the clinic and fear of test cost, fear of pain and uneasiness, non-acceptance of husband and other family members, inaccessibility health care professionals and unavailability of infrastructure in public health clinics for cervical screening develop negative behaviors to implement recommended health actions. Proper education is important to prevent the above-mentioned barriers.

Cues to Action

It refers to the bodily changes and environmental events such as health education programmes, mass media campaigns that will instigate the public to change the behavior towards recommended health action. [10]

Inthe present study, after attending health education programme, women would be more expected to change the behavior for disease condition by attending regular cervical screening progrmmes, realization for high risk for cervical cancer, motivated for cervical screening after listening to someone's experiences about cervical cancer, she will be getting ready for treatment when she is triggered with some signs of cervical cancer or when the Pap test is positive.

Perceived Self-Efficacy and Likelihood of Behavior

It is defined that, the people who will have a strong opinion to perform successful behavior, which is needed to produce a favorable outcome. For any person to change their behavior, they should be threatened by their present

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behavior and they should strongly believe that the change of the behavior will bring esteemed outcome at suitable worth. Then they must feel capable of overwhelmed problems to take a favorable decision.

In this review, women feel confident that they can be participated in the cervical screening programme regularly as per the schedule given by health care professionals. Women were assured to take the treatment systematically prescribed by the doctor if their Pap was found to be positive.

Other Variables

In this study, demographic variables are age, educational, occupation, income, religion, marital status, age at marriage, etc.

Independent variables are verbal, written, and video-based educational interventions. The dependent variable is knowledge, attitude, and participation in cervical screening

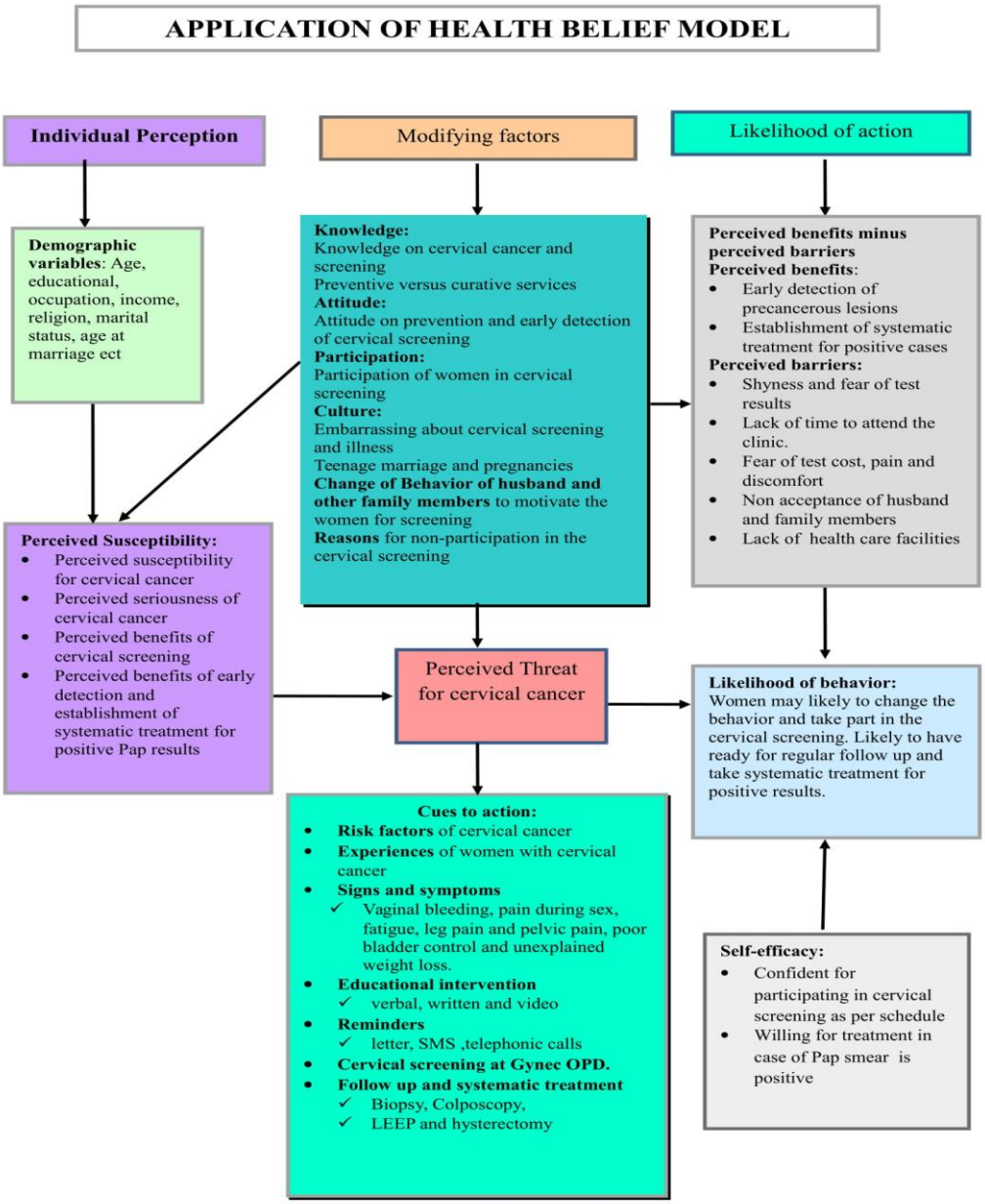

Figure No 2: Application of Health Belief Model on Cervical Screening Programmes

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Interventions in the Study

In this study total sample size was 501 women. These women were verbally counseled for the benefits of cervical screening and these women were shown a documentary film on the benefits of cervical screening. All these three interventional groups also provided education onhow to overcome the barriers to cervical screening.The cervical screening was done for women who were willing for screening. Before and after the intervention, they were questioned for barriers to cervical screening with an application of the HBM model.

Table 1. Effect of Application of HBM Model Along with other Interventions on Behavioral Changes of Women

Parameter	Pretest						Post-test					
	Poor		Average		Good		Poor		Average		Good	
	F	%	f	%	f	%	f	%	f	%	f	%
Knowledge	304	60.68	130	25.95	67	13.37	76	15.17	180	35.93	245	48.90
Perceived susceptibility	354	70.66	131	26.15	24	4.79	79	15.77	178	35.53	244	48.70
Perceived benefits	355	70.86	122	24.35	24	4.79	33	6.59	201	40.12	267	53.29
Perceived barriers	366	73.05	132	26.35	3	0.60	33	6.59	207	41.32	261	52.10
Cues to action	378	75.45	120	23.95	3	0.60	40	7.98	199	39.72	262	52.30
Perceived self-efficacy and likelihood of behavior	363	72.46	122	24.35	16	3.19	17	3.39	240	47.90	244	48.70

Discussion

In the current study majority of participants, responded that they could not take part in the cervical screening programme as they are very embarrassed with the cervical screening procedure. Similar findings are seen in the study conducted by Augusto EF (2013), results showed that embarrassment was the supreme obstacle to seek care from health care professionals, which was conveyed by all subjects, irrespective of educational qualification. [11]

In the present study, the majority of the participants had responded that it is too embarrassing to have a test like this, I am healthy I do not have to go for this test, some women said, I have only one sexual partner so I don't require this test. Similar responses are observed in a study conducted by Laura Conde-Ferráez1 (2012), investigator had interviewed the participants to find the reasons, responses were ignorance about cervical screening, lack of time, recent sexual exposure, embarrassment, and scary of test and outcomes. Only 38.9% know regarding cervical cancer and 25% knew about Pap smear [12]

Conclusion

This study is mainly focused on the application of the Health Belief Model (HBM) for cervical screening tests. This model tried to predict the attendance of the women in cervical screening programmes. Moreover, by using the HBM model, the above-mentioned interventions also applied to participants to encourage them to participate in cervical screening programmes. This resulted in drastic changes are observed in the behavior of women and decided to participate in cervical screening tests. The interventions were customized as per the participant's specific HBM beliefs were found to be more effective. After HBM with certain interventions, the women who understand that they are at high risk of contracting HPV infection, which means they susceptible to HPV infection, were easily convinced for a pap smear. In this study, there were so many barriers such as embarrassment, husband and other family member's restriction, fear of results, for her screening, for screening were identified by using the HBM model.

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