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KNOWLEDGE AND AWARENESS OF CERVICAL CANCER AMONG WOMEN IN RURAL INDIA

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ABSTRACT

Objectives: To assess knowledge and attitudes about HPV, cervical cancer and its screening among women using a structured questionnaire to obtain information.

Methods: A cross: Section interview based survey was conducted in May 2015. Two hundred women attending a well women clinic were asked to complete a questionnaire assessing cervical cancer awareness and specific knowledge about prevention of the disease.

Settings: Karpaga Vinayaga Institute of Medical Science and Research Centre.

Results: Only 38% of the respondents were aware that cervical cancer is the most common cause of gynecological cancers. 63% were aware that infection is the most common cause of cervical cancer of these 49% said that virus is the cause and 16% of the respondents knew that the virus is Human Papilloma virus(HPV). 78% recognized pap smear as a screening test. In total only 13 out of 200 respondents were aware of HPV Vaccine.

Conclusion: The low screening participation among Indian women may be due to limited awareness and knowledge about cervical cancer screening examinations. The universal application of Pap smears in western communities has lead to drastic decline in the number of invasive cancers of the cervix and higher detection of preinvasive lesions . Identification of factors determining participation, incorporating a comprehensive health education programme prior to screening, personal invitations, proximity of clinics to the target women all help in increasing the compliance.

Key Words: Conventional cytology, Chronic infection, Sophisticated equipment

INTRODUCTION

Cancer of the uterine cervix is the second most common cancer among women globally. An estimated 550,700 new cases and 286,823 deaths due to cervix cancer are estimated to have occurred in the year 2010. India alone accounts for one-fourth of the global cervix cancer burden.[1]. Several tests have been developed to screen women for cervix pre-cancers and cancers. The choice of the test will depend on its technical performance, cost-effectiveness, the available resources and the socio cultural settings in which it is to be used.[2]

Conventional cytology based screening with pap smear test developed by George Papanicolaou has been the mainstay of cervical cancer prevention worldwide since the 1950's. Pap test has repeatedly demonstrated good specificity ranging from 86% to 100%.[3]. Cytology based screening programmes are labor intensive and logistically burdensome. They require multiple visits by the women for various reasons like screening, obtaining the results follow up investigations and treatment in case of abnormal smears. Thus, despite the low consumable cost, high quality cytology is expensive in absolute terms and may not necessarily be the most cost-effective option for screening.[4]

Chronic infection with oncogenic HPV is a necessary, but insufficient cause for the development of cervical cancer. Presence of Co-factors such as high parity smoking nutritional deficiency, hormonal contraceptive use and presence of other sexually transmitted infections increases the risk.[5]

Even today millions of women in the developing countries are never screened for cervical cancer in their entire lifetime. Routine cytological screening should be offered to all

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women above the age of 21 years who are active for atleast 3 years

Screening combined with vaccination can substantially reduce the worldwide cervical cancer mortality. Effective implementation of sustainable cervical cancer screening programmes using sufficiently sensitive and specific tests that covers minimum 70% of the targeted population through screening atleast once in a lifetime along with effective treatment is vital in reducing the burden of cervix cancers.[6]

The purpose of the study was to assess the level and accuracy of public understanding about cervical cancer and its screening in India.

METHODS

The study was conducted in May 2015. A questionnaire based on the study objectives was designed and administered to 200 women attending a public clinic. The questionnaire consisted of the questions regarding the knowedge and awareness about different aspects of cervical cancer . Open ended questions were asked about the etiology, clinical features and prevention of cervical cancer with multiple responses. This study was approved by ethical committee.

RESULTS AND ANALYSIS

1 KNOWLEDGE ABOUT THE EPIDEMIOLOGY OF CERVICAL CANCER.

The result showed that 38% of the respondents recognized that cervical cancer is the most common malignancy in gynecological cancers, while 28% thought that it is moderately common and 34% thought that it is least common, 36% were aware that it is the second most common gynecological cancer leading to death.

Table 1: Knowledge of the respondents regarding the epidemiology of the disease

Questions	Responses	Number (%)
How common is cervical cancer among gynecological cancer (n= 200)	Least Moderately Most	68(34%) 56(28%) 76(38%)
Mortality rank of cervical cancer amongst gynecological cancer (n=200)	Leading cause Second in rank Don't know	82(41%) 72(36%) 46(23%)

2. Knowledge about the etiology of cervical cancer

63% were aware that infection is one of the causes of cervical cancer, 21.5% said environment and 17% opted for genetics. 19% of the sample said that they "don't know" the cause of cervical cancer. Of all the respondents who opted for infection 49% said virus is the cause of that infection, Other responses were bacteria (22%), fungus (19%) and parasite (8%). 16% of the study population who opted for virus were aware that HPV is that virus. None of the respondents were aware of the correct technique to detect HPV, which is PCR.

Table 2: Knowledge of the respondents regarding the etiology of the disease.

Questions	Responses	Number (%)
Causes of cervical cancer (n= 200) (Multiple responses accepted)	Infection Environmental Genetics Don't Know	126(63%) 43(21.5%) 34(17%) 38(19%)
Organism causing the infection (n=126) (Multiple responses accepted)	Virus Bacteria Fungus Parasite Don't know	62(49%) 28(22%) 24(19%) 10(8%) 13(10%)
Virus responsible for cervical cancer (n=62)	HPV Don't know	10(16%) 52(84%)

3. Knowledge about the risk factors and clinical features of cervical cancer.

Sexual practice which included unprotected sex was the most common risk factors observed (32%). Most common presenting complaint reported was vaginal bleeding (38%) and vaginal discharge (24%). While few thought lower abdominal pain (15%), swelling of cervix (9%), itching (6.5%) could also be the initial symptoms patients with cervical cancer present with.

Table 3: Percentage distribution of risk factors for cervical cancer as reported by the respondents.

Risk factor	Number (%)
Sexual Practice	64(32%)
Poor Hygiene	40(20%)
Infection	26(13%)
Genetics	22(11%)
Old age	16(8%)
Early age at 1st coitus	14(7%)
Early marriage	14(7%)
Multiparty	12(6%)
Smoking	10(5%)
Family history	8(4%)
Contraception(IUCDs, OCPills)	6(3%)
Poor diet	5(2.5%)
Don't know	22(11%)

Table 4: Knowledge of the respondents about the clinical features of the disease.

Clinical features	Number (%)
Bleeding Per Vaginal	76(38%)
Vaginal discharge	48(24%)
Lower abdominal pain	30(15%)
Swelling of Cervix	18(9%)
Itching	13(6.5%)
Postcoital bleeding	9(4.5%)
Fever	8(4%)
Weight loss	6(3%)
Weakness	5(2.5%)
Don't know	10(5%)

4. Knowledge about the treatment of cervical cancer

21% answered the correct treatment option which was "to treat according to the stage of the disease". 34% were of the opinion that radiotherapy is required to cure cervical cancer, whereas 26% were in favour of surgery and 19% for chemotherapy

5. Knowledge about prevention of cervical cancer

78% of respondents were aware that pap smear is the screening test for cervical cancer. Ultrasonogram (14%), Biopsy(5%), Radiological scans (3%) were few of the incorrect responses observed. Majority of respondents were aware of the correct time to start screening which is after first coitus (62%). In total only 13 out of 200 were aware of the vaccine against HPV Majority of the respondents opted for health professionals (48%) and mass media (41%) as a source through which knowledge concerning cervical cancer, 11% found special lectures and conferences to be a good source to obtain information.

DISCUSSION

In India cancer of the cervix is number one killer cancer among women. It is estimated that during 2008, 134,420 new cases of cancer cervix occured in the country (incidence rate of 7 per lac population) and about 72,825 women died of the disease (mortality rate of 15.2 per lac population). It comes to 23.3 percent of all cancer deaths in women and about 11.4 percent of total cancer deaths in the country.[7].

Liquid based cytology (LBC) is more expensive than conventional cytology and requires additional supplies and sophisticated equipment. In a meta-analysis comparing conventional pap with LBC no difference was found in the relative sensitivity. But, a lower pooled specificity was found for LBC when presence of atypical squamous cells of undetermined significance (ASCUS) and above were included (ratio 0.91, 95% CI: 0.84-0.98).[8].

The evidence base in support of visual based screening methods has emerged from several studies conducted in different developing countries demonstrating comparable or greater sensitivity of visual inspection of the cervix with naked eye (after application of acetic acid (VIA) or lugol's iodine (VILI) than that of cytology. The test characteristics of VIA have been evaluated from several cross sectional studies in India, Africa and china, wherein the sensitivity range from 67% to 79% and the specificity range from 49-86% [9] .

The sensitivity and specificity in a pooled analysis of eleven cross – sectional studies were 76.8%(range, 56.1-93.9%) and 85.5% (range 74.2-93.8%) for VIA and 91.7% (range, 76.0-97.0%) and 85.4% (range, 73.0-91.3%) for VILI respectively.[10] VIAM (performing VIA under low magnification) has similar sensitivity and specificity as compared with VIA and does not have any added benefit over VIA.[11].

The results of cluster randomised controlled trial in southern India, after a single round of screening using VIA followed by treatment in the same visit, when appropriate, show a significant 25% reduction in cervical cancer incidence and a significant 35% reduction in cervical cancer mortality at the end of seven years of follow up.[12] Another cluster randomised controlled trial of cervix cancer screening in Mumbai, India, demonstrated a significant down staging of cervix cancers in the intervention arm.[13] Though a single round of VIA screening did not show decrease in the incidence of advanced cervical cancer and significant mortality reduction after eight years of initiation of the osmanabad trial[14], the same may be evident after few more years of follow-up.

The Mumbai cross-sectional study concludes that parallel testing with both VIA and VILI should be considered where good quality cytology is not feasible and that the sensitivity of cytology and HPV testing can be significantly increased by adding the visual test.[15]. Visual tests are not reliable in postmenopausal women because of changes in the transformation zone of the cervix the area in which precursors of cervical cancer arise.[16,17].

Genital HPV infection is the most common viral sexually transmitted infection (STI) and affects roughly 80% of sexually active people. In most cases HPV infection is cleared by the cell mediated immune system within 1-2 years of exposure.[18]. The median time of clearance of HPV infections detected during screening studies is 6-18 months.[19]. The small proportion (about 10%) of carcinogenic infections persisting for several years is strongly linked to a high absolute risk of diagnosis of precancer.[20].

CONCLUSION

More than 85% cases and 88% deaths from cervix cancer occur in developing countries, where women often lack access to cervical cancer screening and treatment. Choosing a suitable screening test with good efficacy and one which is replicable, affordable, feasible for implementation with respect to available technical expertise and manpower is an important aspect of a screening program . Highly effective HPV prophylactic vaccines are now available for prevention of cervix cancers. Hence, early detection and treatment needs to be continued for millions of women who are already infected and who may not receive vaccination in the near future.

ABBREVIATIONS:

HPV- Human Papilloma Virus

STI- Sexually Transmitted Infections

VIA- Visual Inspection of Acetic acid

VILI-Visual Inspection of Lugol's Iodine

VIAM- Visual Inspection of Acetic acid under low Magnification

ICUD-Intra Uterine contraceptive Device

OCP- Oral contraceptive Pills

LBC- Liquid Based Cytology

ASCUS- Atypical Squamous Cells of Undetermined Significance

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