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A STUDY ON AWARENESS OF CAUSES, SYMPTOMS, DIAGNOSIS, TREATMENT, RECOVERY AND PREVENTION FROM CERVICAL CANCER AMONG WOMEN IN THANJAVUR DISTRICT, TAMIL NADU

Dr.C.Sunitha
Associate Professor of Economics &Head, Principal Investigator-UGC-MRP, Rajah Serfoji College, Thanjavur, Tamil Nadu, India.

ABSTRACT

Cervical cancer is the second most common cancer in women worldwide. Every year more than 270 000 women die from cervical cancer, more than 85% of these deaths are in low and middle income countries (WHO,2013). In 2012, 528 000 new cases of cervical cancer were diagnosed worldwide; of these, a large majority, about 85% occurred in less developed regions. It is the most common cancer among women in 45 countries of the world, and kills more women than any other form of cancer in 55 countries including India. (WHO, 2014). One in every five women in the world suffering from cervical cancer belongs to India which has the largest burden of cervical cancer patients in the world and one woman dies of cervical cancer every 8 minutes in India (GOI, 2006). More than three-fourths of these patients are diagnosed at advanced stages leading to poor prospects of long-term survival and cure (NCMH, 2005). If early diagnosis happens, survival rate will go up and to ensure the early detection, the awareness about the same is very essential. This study deals with assessing the awareness about the causes, symptoms, diagnosis, treatment, recovery and prevention of cervical cancer of women in Thanjavur district of the state of Tamil Nadu.

KEYWORDS: *Cervical cancer, Human Papilloma Virus(HPV), Pap smear test.*
JEL Classification: I 12, B 54,

INTRODUCTION

Cancer starts when cells in the body begin to grow out of control and can spread to other areas of the body. Cervical cancer starts in the cells lining the cervix that is the lower part of the uterus which is called as the uterine cervix. The part of the cervix closest to the body of the uterus is called the endocervix and the part next to the birth canal is the exocervix.

The two main types of cells covering the cervix are squamous cells on the exocervix and glandular cells on the endocervix. These two cell types meet at a place called the transformation zone. Most cervical cancers begin in the cells in the transformation zone. These cells do not suddenly change into cancer. Instead, the normal cells of the cervix first gradually develop pre-cancerous changes that turn into cancer. These changes can be detected by the Pap test and treated to prevent cancer from developing. The prognosis the chance of recovery is better when the cancer is detected early.

METHODOLOGY OF THE STUDY

The Thanjavur District, one of the 32 Districts in the State of Tamil Nadu, is taken as the area for the present study. It is one of the biggest districts in Tamil Nadu State with an area of 3,396.57 Square km. It lies on the east coast of Tamil Nadu. Basically, it is an agricultural district. The Thanjavur District is divided into 3 revenue sub divisions namely Thanjvur, Kumbakonam and Pattukkottai.

Giving equal weightage to each Revenue divisions, 100 samples each were taken from each division.In each block again samples were taken by giving equal weightage to the area whether they are hailing from rural or urban. Thus 300 participants were selected by systematic two stage random sampling. Only the adult female of above the age of 20 visiting the health centre for any reason, medical or non-medical during the three months between August 2016 and October 2016 were considered for study. Data collection was done during the same period using a validated questionnaire.

Carcinoma of uterine cervix has been known since Vedic times in India & is described in Sushruta Sanhita. It is also well known disease in India & Egypt years before both of Christ at around1500 B C. Due to availability of various facilities & methods for its diagnosis, it has gained great importance in the last fifty years. In 1972 itself, Dr.Ratkin stated that women among lower socioeconomic classes and women of many sexual partners are at higher risk for cervical cancer which holds even today. (Choudhury, Arun Paul, 2011).

All over the world several studies were undertaken to research various types of cancers and their impact on physical, social and economic life.

The present study conducted is micro level empirical field study pertaining to the awareness about the cervical cancer by women residing in Thanjavur District in the state of Tamil Nadu in India.

DATA ANALYSIS

1. Overall awareness:-

Questioned about the general awareness regarding cervical cancer, nearly half of the respondents revealed that they are not at all aware of the same. In spite of the massive media publicity undertaken by the Government and NGOs in the region, nearly half of the women respondents remained ignorant in the Delta District Thanjavur. Among those who said that they know something about the cancer, majority of them also got the awareness only when they approach the Doctor for the treatment of one or other disease. The next mostly available source of the information is the village Primary Health Centre workers/ Nurses from whom 23% of the respondents gained the knowledge of cervical cancer. While the media accounts for 17% awareness the society comprising the family, relatives and friends, is found as the next source of information spreading awareness among 14% respondents. It is to be noted that while, in majority cases, all the information about any disease are discussed primary discussed with these social forums, the cervical cancer discussions are yet to take place.

Table No.1: Overall Awareness about the Cervical Cancer

Sl.No	Whether heard of cervical cancer?	Number of Respondents	Percentage
1	Yes	146	49%
2	No	154	51%
	Total	300	100%
If yes, the source of information, (multiple answers)			
1	Family/friends/relatives	20	14%
2	Nurse/PHC	34	23%
3	Gynecologist /family physician	62	42%
4	Media	25	17%
5	Other sources	05	3%

Source: Primary Data

Relationship with Socio-Economic factors:-

The study analysed whether various socio-economic demographic variables have any statistically significant relationship with the awareness of cervical cancer. The chi-square test at a level of significance of 5% is used for the same. It shows that the family income has no significant impact on the awareness about the cervical cancer. In other words, the standard of living fails to raise the standard of awareness about the cervical cancer in this region. Similarly, there is no statistically significant relationship between the religion one follows and the awareness level.

On the other hand, there is a significant relationship between the area of the residence and cervical cancer awareness has nearly three fourths of rural women

were ignorant of the disease, only one-fourth, of the urban women are so. Similarly, a positive correlation exists between the caste and the awareness level. The awareness about the cervical cancer is very low among the SC/ST women i.e., 35% comparing other caste women i.e., 57%. Similarly the age of the respondent is positively correlated with the awareness. Higher the age, more is the awareness. While only 25% of the women of age group of below 30 years are found aware of the cervical cancer, it is 68% among those of age group of above 50 years.

A similar linear relationship is witnessed between the occupation status of a women and awareness level. The housewives with a very minimal exposure to the other societal institutions are found less aware (i.e., 43%),comparing their counterparts who are engaged in agricultural or other form of work.

The marital status, years of marriage life and the number of children delivered also have a positive impact on the awareness level of awareness about the cervical cancer. While half of the married respondents found aware of the disease, only 26% of the unmarried women are so. Adding to this phenomenon, more the number of years of marriage life, higher is the awareness level. It is evident from the following table that while only 39% of the women of below 20 years of marital life are aware, 65% of the women of more than 30 years of marital life are found aware of the cervical cancer. In the same lines, 72 % of the women with no history of pregnancy has no knowledge about the cancer and more than half of the women who delivered more than 2 children have some knowledge about the cervical cancer, evidencing a linear relationship.

Table No.2: Relationship between the Socio-Economic Variables and Awareness about the cervical cancer

		Awareness in no. of respondents			Awareness in % of respondents				
Variable	**Category**	**Aware**	**Not Aware**	**Total**	**Aware**	**Not Aware**	**Total**	**p value**	**Relationship at A level of significance of 5%**
Age in Years	Below 30	13	39	52	25%	75%	100%	1.01E-06	Related
	31-40	30	51	81	37%	63%	100%		
	41-50	38	33	71	54%	46%	100%		
	Above 50	65	31	96	68%	32%	100%		
		146	154	300	49%	51%	100%		
Residence	Urban	109	41	150	73%	27%	100%	9.04E-17	Related
	Rural	37	113	150	25%	75%	100%		
		146	154	300	49%	51%	100%		
Religion	Hindu	103	115	218	47%	53%	100%	0.514505	Independent
	Christian	17	12	29	59%	41%	100%		
	Muslim	26	27	53	49%	51%	100%		
		146	154	300	49%	51%	100%		
Caste	SC/STs	41	75	116	35%	65%	100%	0.000247	Related
	Others	105	79	184	57%	43%	100%		
		146	154	300	49%	51%	100%		
Marital Status	Married	105	93	198	53%	47%	100%	0.004529	Related
	Unmarried	11	32	43	26%	74%	100%		
	Separated/ Widowed	30	29	59	51%	49%	100%		
		146	154	300	49%	51%	100%		
Years of marriage	Less than 11 years	11	17	28	39%	61%	100%	0.015013	Related
	11- 20 years	34	53	87	39%	61%	100%		
	21-30 years	61	62	123	50%	50%	100%		
	Above 30 years	40	22	62	65%	35%	100%		
		146	154	300	49%	51%	100%		
No. of Births given	0	19	49	68	28%	72%	100%	0.000207	Related
	1	28	25	53	53%	47%	100%		
	2	39	47	86	45%	55%	100%		
	3	31	21	52	60%	40%	100%		
	4	18	5	23	78%	22%	100%		
	more than 4	11	7	18	61%	39%	100%		
		146	154	300	49%	51%	100%		
Occupation	House wife only	72	96	168	43%	57%	100%	0.044219	Related
	Agricultural workers	29	28	57	51%	49%	100%		
	Other Workers	45	30	75	60%	40%	100%		
		146	154	300	49%	51%	100%		
Yearly Family Income in Rs.	Less than 100000	39	49	88	44%	56%	100%	0.534919	Independent
	100001-200000	48	61	109	44%	56%	100%		
	200001-300000	38	31	69	55%	45%	100%		
	Above 300000	21	13	34	62%	38%	100%		
		146	154	300	49%	51%	100%		

Source: Primary Data

Causes of cervical cancer:-

In most cases, cervical cancer is caused by the Human Papilloma Virus, also referred to as HPV is the most important risk factor for cervical cancer. However, there are multiple strains of HPV, many of which do not cause cancer. The other risk factors for developing cervical cancer include being exposed to the drug DES(diethylstilbestrol) while in the mother's womb, cigarette smoking, multiple births and multiple sex partners, especially sexually active at a young age and using oral contraceptives for a long period, according to the National Cancer Institute, other factors are having a weakened immune system caused by immunosuppression which weakens the body's ability to fight infections and other diseases and using medicines to help to prevent the organ rejection after a transplant.

Enquiring whether the women are aware of the causes of cervical cancer, of the 300 respondents interviewed, only one third are found aware and among the women who are aware of any of the causes of cervical cancer strongly believe that physical relationship is the key source of infection as, 67% of the women responding that physical relationship with multiple partners, 63% responding that husband having sex with multiple partners and 54% responding that STDs are the reasons for cervical cancer.

Table No.3: Awareness about the causes of cervical cancer

Sl. No.	Do you know about the various causes of Cervical cancer?	Number of Respondents	Percentage
1	Yes	104	71%
2	No	42	29%
	Total	146	100%
If Yes, the cause known, (multiple answers)			
1	Sexually Transmitted Disease (STD)	56	54%
2	Multiple partners	70	67%
3	Marriage to man who had multiple partners	65	63%
4	Early age of marriage less than 18 years	05	05%
5	Smoking	04	04%
6	Less Immune system	12	12%

Source: Primary Data

Symptoms of cervical cancer:-

Women with early cervical cancers and pre-cancers usually have no symptoms. Symptoms often do not begin until a pre-cancer becomes a true invasive cancer and grows into nearby tissue. The most common symptoms as per American cancer society are: abnormal vaginal bleeding, such as pain during physical relationship and bleeding after physical relationship, bleeding after menopause, bleeding and spotting between periods, bleeding after douching or pelvic exam, having longer or heavier menstrual periods than usual and unusual discharge.

Of the 146 respondents who know something about cervical cancer, 81%are aware of one or other symptoms of the same. They all unanimously agree that bleeding between periods is one of the important symptoms of the cervical cancer and consider other symptoms like pain during sex and bleeding after sex, very lightly.

Table No.4: Awareness about the symptoms of cervical cancer

Sl. No.	Response/ Symptoms	Number of Respondents	Percentage
1	Yes	118	81%
2	No	28	19%
If yes, Symptoms, known (multiple answers)			
1	pain during physical relationship or pelvic exam/ bleeding after physical relationship	3	3%
2	bleeding after menopause or spotting between periods	118	100%
3	Longer or heavier menstrual periods	8	7%
4	Unusual discharge from the vagina	4	3%

Source: Primary Data

Diagnosis of cervical cancer:-

According to National Institute of Cancer, following are the tests used to examine the cervix to detect and diagnose cervical cancer.

a)Physical Exam : An exam of the body to check general signs of health, including checking for signs of disease, such as lumps or anything else that seems unusual. A history of the patient's health habits and past illnesses and treatments will also be taken.

b)Pelvic Exam : An exam of the vagina, cervix, uterus, fallopian tubes, ovaries, and rectum is known as the pelvic exam. A speculum is inserted and the doctor observes the vagina and cervix for signs of disease. The doctor identifies the size, shape, and position of the uterus, ovaries and rectum to feel for lumps or abnormal areas.

c) Pap test: It is a procedure to collect cells from the surface of the cervix and vagina. A piece of cotton, a brush, or a small wooden stick is used to gently scrape cells from the cervix and vagina. The cells are viewed under a microscope to find out if they are abnormal. This procedure is also called a Pap smear.

d) HPV test: It is a laboratory test used to check DNA or RNA for certain types of HPV infection. Cells are collected from the cervix and DNA or RNA from the cells is checked to find out if an infection is caused by a type of HPV that is linked to cervical cancer. This test may be done using the sample of cells removed during a Pap test.

Following tests may also be done if the results of a Pap test show certain abnormal cervical cells.

i) Endocervical curettage: A procedure to collect cells or tissue from the cervical canal using a curette, spoon-shaped instrument, Tissue samples are taken and checked under a microscope for signs of cancer. This procedure is sometimes done at the same time as a colposcopy.

ii)Colposcopy: A procedure in which a colposcope, a lighted, magnifying instrument is used to check the vagina and cervix for abnormal areas. Tissue samples may be taken using a curette or a brush and checked under a microscope for signs of disease.

iii)Biopsy : If abnormal cells are found in a Pap test, the doctor may do a biopsy. A sample of tissue is cut from the cervix and viewed under a microscope by a pathologist to check for signs of cancer. If required, a cervical cone biopsy that is removal of a larger, cone-shaped sample of cervical tissue may also be done.

Of all the 300 respondents interviewed, only 81 perceive that the early detection will help for better treatment and speedy recovery and the rest are either unaware or the believers of Karma theory. All those who are aware of early diagnosis techniques state that the pelvic examination is the primary detecting option and only 23 respondents are aware of the most important Pap smear test.

Table No.5: Perception about the early detection of cervical cancer

Sl. No.	Is early detection of cervical cancer good for treatment outcome?	Number of Respondents	Percentage
1	Yes	81	55
2	No	65	45
	Total	146	100%
If yes, Diagnostic method known (multiple answers)			
1	Physical test	5	6%
2	Pelvic Exam	81	100%
3	Pap test	23	28%
4	HPV test	5	6%

Source: Primary Data

Treatment:-

Treatments for cervical cancer depend on the specific extent of the disease and include surgical procedures that remove the affected tissue, hysterectomy procedures, radiation therapy and chemotherapy. Targeted therapy procedures that attack localized areas of cancer cells without harming surrounding tissues may also be utilized to treat certain stages of cervical cancer.

Regarding the treatment procedure, a majority of the 132 respondents are aware of one or other procedures. Among them, a whopping 92% respondents are found aware of the surgical removal of the tumor as the ultimate treatment. Awareness about radiation and chemo therapy treatments is very low.

Table No.6: Awareness about the treatment for cervical cancer

Sl.No.	Response	Number of Respondents	Percentage
1	Yes	132	90 %
2	No	14	10%
	Total	146	100%
If yes, treatment technique known (multiple answers)			
1	Surgical procedures	122	92%
2	Radiation Therapy	48	36%
3	Chemotherapy	37	28%

Source: Primary Data

Recovery:-

The prognosis, the chance of recovery, depends on the following factors such as the stage of the cancer that is the size of the tumor and whether it affects part of the cervix or the whole cervix, or has spread to the lymph nodes or other places in the body and the type of cervical cancer. Apart from this the patient's age and general health, the type of Human Papilloma Virus (HPV), infection with Human Immunodeficiency Virus (HIV) and whether the cancer has just been diagnosed or has recurred, were also the factors that determined the chances of success.

Enquiring about the optimistic attitude of the respondents regarding the possibility of complete recovery, 78 respondents are so negative in the perception and only 68 respondents believe in recovery possibility. Even those who are optimistic are of the view that only if the general health condition is supportive and conducive enough the recovery intended is possible.

Table No.7: Perception about the recovery from cervical cancer

Sl. No.	Do you know that the complete recovery from cervical cancer is possible?	Number of Respondents	Percentage
1	Yes	68	47%
2	No	78	53%
	Total	146	100%
If yes, according to you, recovery depends on (multiple answers)			
1	General Health	68	100%
2	Stages of cancer and early detection	62	91%

Source: Primary Data

Prevention:-

Cancer prevention is action taken to lower the chance of getting cancer. Anything that increases the chance of developing cancer is called a cancer risk factor; anything that decreases the chance of developing cancer is called a cancer protective factor. Since HPV is the main cause of cervical cancer and pre-cancer, avoiding exposure to HPV could help to prevent this disease. HPV is passed from one person to another during skin-to-skin contact with an infected area of the body. It is even possible for a genital infection to spread through hand-to-genital contact. HPV infections occur mainly in younger women and who have had many sex partners are more likely to get infected with HPV. Not smoking, and using condoms are another important way to reduce the risk of cervical pre-cancer and cancer.

Of all the 300 respondents only 57 respondents are aware of the fact that the cervical cancer is the one and only preventable form of cancer. But they also believe that only by avoiding physical relationship, one can prevent. It is shocking to note that even after mass campaigns and publicity, awareness about the vaccination is known to no one in the District.

Table No.8: Awareness about the prevention of cervical cancer

Sl. No.	Response	Number of Respondents	Percentage
1	Yes	57	39%
2	No	89	61%
	Total	146	100%
If yes, the prevention technique known (multiple answers)			
1	Avoiding contact with HPV infected person	100	100%
2	Not smoking	0	0%
3	HPV Vaccination	0	0%

Source: Primary Data

Complications:-

Mortality statistics and trends in cervical cancer are lacking due to inadequate and incomplete information on deaths. The objective of cervical screening or secondary prevention is to prevent invasive cervical cancer from developing by detecting and treating women with CIN2/3 lesions, and the effectiveness is determined by reduction in incidence and mortality. But there are resource limitations to establishing cervical cancer screening program as a priority program all over the country. It's important to realize that no vaccine provides complete protection against all cancer-causing types of HPV, so routine cervical cancer screening is still necessary.

Even Pap smear test itself has several limitations, such as high false-negative rates, low sensitivity, subjective interpretation, and low predictive value, as one-third of women who progressed to cervical cancer had a normal Pap smear. Moreover several studies confirm that in India even after getting screened, nearly two-third cervical cancer patients failed to get the treatment completed. The reasons mentioned were old age, having many children at home, and inability to travel. Thus, the post diagnosis scenario is also bleak for thousands of poor women.

CONCLUSION

The studies in developed countries both the incidence and mortality of cervical cancer can be reduced by proper screening. Ensuring high levels of participation and sufficient health care infrastructure and human resources are important for the screening program to succeed. It is also important for screening to be guided by equity considerations for those who are more vulnerable or with lesser access to health care services because of social, economic, or demographic factors. Lastly, prudent measures to vaccinate the needy women should be carried out. Research needs to be carried out further in making HPV tests cheaper and accessible to the entire population through a national program.

Conflict of interest: Nil

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