



## GENERAL AWARENANCE OF HUMAN PAPILLOMA VIRUS VACCINE AGAINST CERVICAL CANCER

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### ABSTRACT

**Objective:** We have conducted a survey program on the awarnance of HPV vaccine of cervical cancer in common people. **Methods:** For this survey we perform 2 steps. First we made a questionnaires in which we ask to female of different belongs to different education field either they are married or not. Secondly we gone in the different hospitals of Karachi and observe treatment, diagnosis, vaccination availability and frequency of cervical cancer. **Results:** From questionnaire we observed that only 1 % female are aware about cervical cancer and its vaccine i.e. HPV, even female belongs medical field are not aware about it. Form hospital survey we observed that frequency of cervical cancer is very less but in Shaukat Khanum hospital 90 cases reported out of 1803 cancer. The given treatment is radiology, chemotherapy and surgery. **Conclusion:** From this survey we conclude that the awarnance of people on cervical cancer and its vaccination is negligible.

**Keywords:** Cervical cancer, HPV vaccine, frequency, awareness.

### INTRODUCTION

The worldwide second most common type of cancer in women is cervical cancer, after breast cancer [1]. It is formed in the interior lining of the cervix at the junction of the vagina and uterus. Cervical cancer development is typically slow which occurs over a period of years. The progression begins with the development of precancerous changes in normal cells. If most of these changes left untreated it won't progress to cancer [2]. CERVICAL cancer is caused by infection from a type of human Papilloma virus (HPV16 or HPV 18), in developing countries it is the leading cancer-related cause of death among women [3]. Among women location of transformation zone varies. In teenage girls, transformation zone is on the immature cervix's outer surface & they are more susceptible to infection than in adult women. In older women, transformation zone may be higher in cervical canal [4]. The cancer can then be spread into your bladder, rectum (back passage) and eventually into your lungs, liver & bones. Cancerous cells can spread through your lymphatic system as well. The lymphatic system is a series of nodes (glands) and channels that are spread throughout your body like blood circulation system [5].

### TYPES OF CERVICAL CANCER

There are 2 main types of cervical cancer.

Exocervix (flat cells) squamous cell cervical cancer Endocervix (glandular cells) adenocarcinoma of the cervix [6].

### STAGES OF CERVICAL CANCER

There are 5 stages of cervical cancer

#### Stage 0

This stage is also called carcinoma in situ. In this stage only some abnormal cell is present on the surface layer of cervix. Some experts even not consider this stage as a stage of cervical cancer. For this stage the treatment which is used are include Loop Electrosurgical Excision Procedure (LEEP), Laser surgery, Conization, Cryosurgery, Total hysterectomy for those women who not want or can't have children and internal radiation therapy for those women who can't able for surgery.

#### Stage 1

This stage is only the stage of the neck of uterus and womb. This stage is further classified into STAGE 1A in which the cancer is microscopic in size and the other is STAGE 1B in which the size of cancer cell is large enough too seen by naked eyes. Stage 1A is also divided into 1A<sub>1</sub> in which the size of cancer cell is less than 3 mm in length and less than 7mm in width. And the other is 1A<sub>2</sub> in which the length of cancer cell is 3-5mm while the width is less

than 7mm. for STAGE 1A the treatment is total hysterectomy, Conization, removal of lymph node and internal radiation therapy. The stage 1B is further divided into 1B<sub>1</sub> in which the cancer is not larger than 4cm while in 1B<sub>2</sub> the size of cancer cell is larger than 4cm. the treatment which is used for stage 1B is combination of internal and external therapy, Radical hysterectomy and removal of lymph nodes and chemotherapy.

#### Stage 2

In this stage cervix and uterus is include but not spread in pelvic wall and lower portion of vagina. This stage is divided into 2A in which the cancer cell is reached in the top of vagina. The given treatment in this stage is combination of internal and external therapy, removal of lymph node plus radiation therapy and chemotherapy, while the other stage is 2B in which the cancer is reached to the tissue around the cervix. The given treatment is internal and external therapy with chemotherapy.

#### Stage 3

In this stage the cancer cell reached to the surrounding structure of pelvic area, the pelvic wall and lower portion of vagina. In this stage the ureter is also blocked. This stage is further divided into 3A in which only lower portion of vagina is infected but not spread in pelvic wall and the other type is 3B in which the cancer is effect the pelvic wall and block either 1 or 2 ureter. The given treatment is internal and external therapy with chemotherapy.

#### Stage4

This is the advanced stage of cervical cancer in which the cancerous cell is spread in the adjacent organ of the body like bladder, rectum etc or it may further spread into liver lungs or bones etc. this stage is divided into 4A in which the cancer is spread into bladder or rectum while in 4B the cancer is spread into lungs, liver or bones. The treatment is external and internal therapy with chemo radiation [6,7].

### SYMPTOMS

The symptoms of cervical cancer include: After sex bleeding, bleeding other than normal period days and after menopause, pain during unusual bleeding , Feeling of discomfort and pain during sex ,smelly vaginal discharge, blood in urine and Swelling of 1 or both legs [8].

### CAUSES

The main causes of cervical cancer are Human Papilloma virus (HPV), HIV infection, smoking, family history of cervical cancer,

having of child at very young age/ more number of pregnancies, other STD specially chlamydia infection, Long uses of oral contraceptive, more no. of sexual partner and long medical stress [9-12].

**MEDICAL HISTORY AND PHYSICAL EXAM**

First, the doctor will ask you about your complete personal and family medical history. This includes information related to risk factors and symptoms of cervical cancer. A complete physical exam will help evaluate your general state of health. The doctor will do a pelvic exam and may do a Pap test if one has not already been done. In addition, your lymph nodes will be checked closely for evidence of metastasis (cancer spread). [13]

**TYPES OF TREATMENT AND PREVENTION**

Different type of treatment is used for cervical cancer. Three types of standard treatment are used: Surgery, radiation therapy and chemotherapy[14,15]. Drugs which are used to prevent cervical cancer are Cervarix (Recombinant HPV Bivalent Vaccine), Gardasil (Recombinant HPV Quadrivalent Vaccine), Recombinant Human Papillomavirus (HPV) Bivalent Vaccine and Recombinant Human Papillomavirus (HPV) Quadrivalent Vaccine and drugs which are used to treat cervical cancer: Bleomycin, Cisplatin, Hycamtin (Topotecan Hydrochloride), Platinol-AQ (Cisplatin) and in combination Gemcitabine-Cisplatin[16].

There are 8 ways to prevent Cervical Cancer which are as follows: Get a regular Pap smear and follow up on abnormal Pap smears, quit smoking or avoid secondhand smoke, limit the amount of sexual partners you have and If you are sexually active then use a condom, Get the HPV vaccine, cervical screening and delayed first sexual intercourse[17,18]. Free radical also play important role in biological system[19]

**DIAGNOSIS OF CERVICAL CANCER**

Cervical Screening - LBC or Pap Smear Test.	HPV DNA Test.
Biopsy.	Colposcopy.
Cone biopsy.	LLETZ.
Blood tests.	Chest x-ray.
Examination under Anesthetic (EUA).	CT (computerized tomography) scans.
MRI (magnetic resonance imaging scan).	Pelvic ultrasound.

**METHODOLOGY**

Firstly we made a questionnaire in which we asked from females of different age groups and different fields of education. It also categorized them as married or unmarried. The questionnaire contained the following questions:

- Have you ever heard about cervical cancer?
- If yes? Thinking of it, what do you think its main cause?
- Do you know the preventive treatment of cervical cancer?
- Do you think any drug can eliminate cervical cancer?
- Have you ever come across a patient of cervical cancer?
- If yes, how many?
- Are you married?
- If yes, then how long have you been married?
- Were you aware of HPV (Human Papilloma Virus) vaccine before?
- If you are married, were you vaccinated yourself?
- If you are not married, will you vaccinate yourself in future?
- If you vaccinated yourself, did you experience any side effects?
- If yes, what is it?
- Did you know about the dose and dosing interval of the vaccine?
- Do you consider the use of this vaccine important?

Secondly we have done a survey in the different hospitals of Karachi in which we observed:

- Total number of female cancer patients.
- Number of cervical cancer patients.
- Diagnostic test available.
- Treatment available.
- Preventive vaccine (HPV) available.

We have done observation in the following hospitals:

- Abbasi Shaheed Hospital.
- Patel Hospital.
- Jinnah Post Graduate Medical Centre.
- Liaquat National Hospital.
- Shaukat Khanum Hospital.
- Civil Hospital.

**DISCUSSION**

From our survey we observe that mostly female are not aware from vaccine of cervical cancer even female related to medical field are not aware of it. From age bar chart we observed that the awareness of female depends on generation as, the older ones' are not aware of it while the younger ones' are aware of it. We have characterized the female age in 7 categories i.e. from 15-25, 26-35, 36-45, 46-55, 56-65, 66-75, 76-85 the awareness is only found in the age circle of 15-25 (62 out of 236 i.e. 26.27% ) and 26-35 (4 out of 14 i.e. ) p value 0.39 ( df 6). According to marital status the awareness is more found in unmarried rather than married. Only 7 out of 45(15.55%) married female and 59 out of 229 (25.76%) unmarried female p value 0.239 ( df 1) are aware about cervical cancer and its vaccine i.e. HPV.

According to qualification, we observed the females belonging to pharmacy, M.B.B.S and other fields of education. We observed that the female related to fields other than medicine are not aware of the cervical cancer. Following results were observed: Pharm-D: 60 out of 255 (23.52%), M.B.B.S: 5 out of 13 (38.46%) and from others: 1 out of 73 (1.38%) are aware about it and p value is 0.00 with df 2 indicate that there is major difference about awareness in different population.

Mostly female are even not know the term cervix or cervical. We also observed that no female is vaccinated form HPV including a pharmacist, a doctor or any other female. Mostly female don't even think that this vaccination is necessary or important.

From hospital survey we observed that the frequency of cervical cancer among all other cancers of female is only 5.20% even in many hospitals the cervical cancer patient are not present. The treatment which is use to treat it is Radiology, Chemotherapy and surgery. The only test which is done to treat is PAP TEST except Liaquat National Hospital in which LBC test is done for diagnosis. We also observed that the availability of vaccine in the hospitals of Karachi is zero. The vaccine is not available in any hospital.

**Table 1: Awareness of human papilloma virus vaccine and Cervical cancer in different age group**

Age	yes	no	Total
15-25	62	236	298
26-35	4	14	18
36-45	0	10	10
46-55	0	1	1
56-65	0	5	5
66-75	0	5	5
76-85	0	3	3
Total	66	274	340

**Table 2: Awareness of human papilloma virus vaccine and cervical cancer in Married and unmarried Women**

	Awareness		Total
	yes	no	
Married	7	45	52
Unmarried	59	229	288

Total	66	274	340
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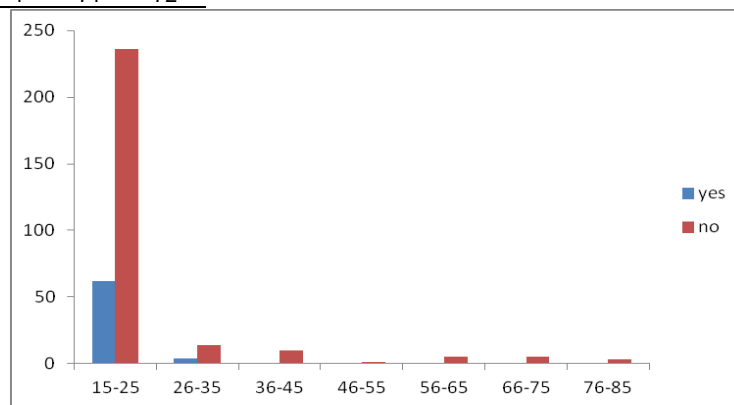
Total	66	274	340
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**Table 3: Awarnance of human papilloma virus vaccine and cervical cancer in Pharm D,MBBS and other population**

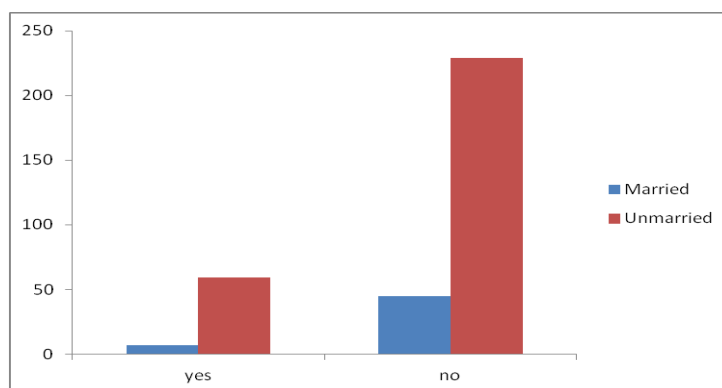
qualification	Awareness		Total
	yes	no	
pharm D	60	195	255
MBBS	5	8	13
Others	1	71	72

**Table 4:Chi-Square Tests(p value) in different group**

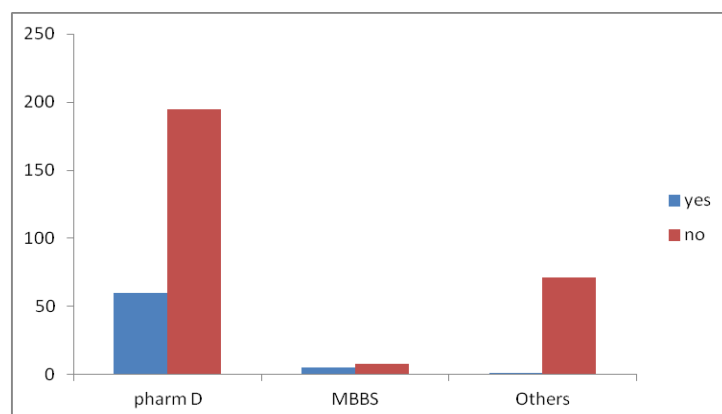
Pearson Chi-Square	Value	df	p value
In different age group	6.242 <sup>a</sup>	6	0.397
Marital status	1.389 <sup>a</sup>	1	0.239
Qualification	20.730 <sup>a</sup>	2	0
No of Valid Cases	340		



**Figure 1: Awarnance of human papilloma virus vaccine and cervical cancer in different age group**



**Figure 2: Awarnance of human papilloma virus vaccine and cervical cancer in Married and unmarried Women**



**Figure 3: Awarnance of human papilloma virus vaccine and cervical cancer in Pharm D,MBBS and other population.**

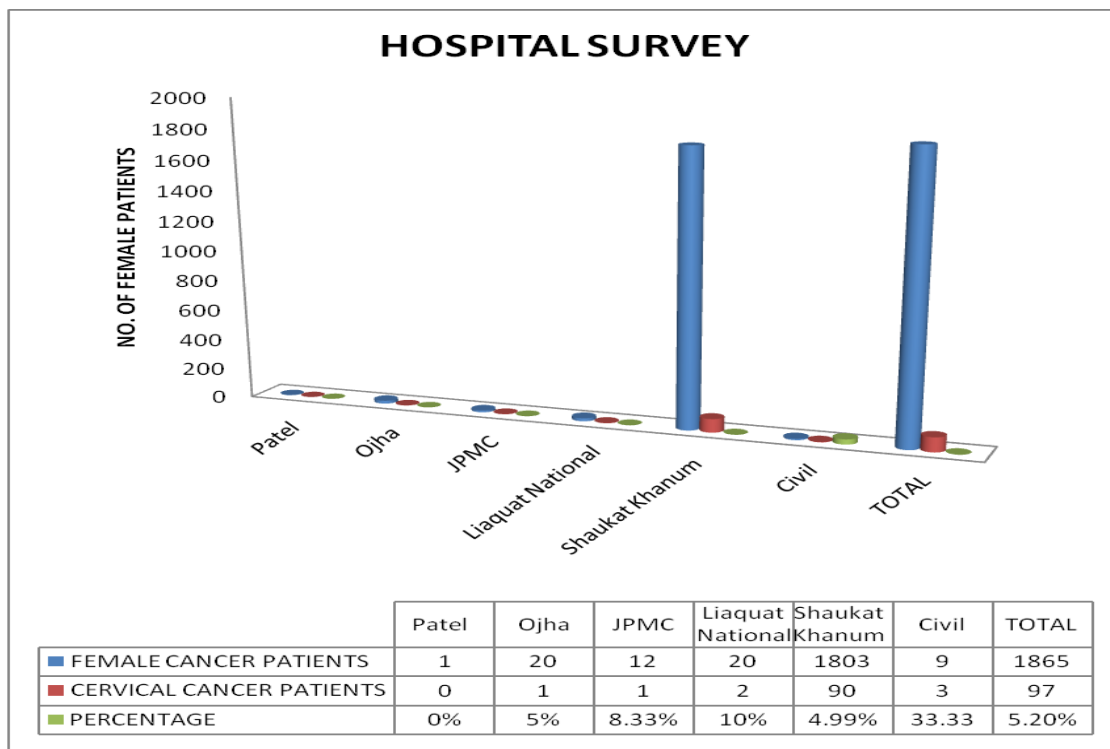


Figure 4: frequency of cervical cancer among all other cancers in different Hospitals

**CONCLUSION**

From our result we conclude that the awareness of cervical cancer and its vaccine is 16.74% which is negligible. We also conclude that the diagnostic test are not advanced also no drug therapy is given in any hospital. We also conclude that the vaccination is not available in any of the hospital. There should be a need to aware the people especially female about it.

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