

Relationship between Females' Demographic Data and Pap Smear Test at Basrah City

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Abstract. The most popular and economical screening technique for identifying cervical cancer is the Pap test, which has also proved successful in lowering the incidence and related death rates in women. Aims this research to identify the Relationship between Females' Demographic Data and Pap Smear Test at Basrah City. A cross-sectional research design. The study population consisted of all women who visited the screening center between January 1, 2013, and December 31, 2015. During this time, 677 women had pap smears and cytological examinations; of these, approximately 60.7% had normal results, 18.8% had LSIL, 4.3% had HSIL, 1% had SCC and adenocarcinoma, 1.2% had ASC-US and AGS-US, and 14% had inflammation. The prevalence of abnormal Pap smear increases with an increase in age, about 27.6% of LSIL and HSIL at age 40 and older. A significant relationship between Pap smear results of women who attended the cervical cancer screening center in Basrah and the following factors: passive smoking, duration of marriage, and parity. No significant relationship was found between Pap smear results and the following factors: age at first marriage and first pregnancy, number of husbands' wives, socioeconomic status, and education level.

Highlights:

1. Abnormal Pap smear results were detected in 39.3% of women, with the prevalence increasing significantly after age 40.
2. Significant associations were found between Pap smear outcomes and parity, duration of marriage, and passive smoking.
3. No significant relationship was observed with age at first marriage, first pregnancy, socioeconomic status, or education level.

Keywords: Relationship, Females' Demographic Data, Pap Smear Test

Introduction

The most popular and economical screening technique for identifying cervical cancer is the Papanicolaou (Pap) test, which has also proved successful in lowering the incidence of cervical cancer and related death rates in women. [1].

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Frivable vascular tumors on the cervix are known as cervical cancers. [2] Squamous cell carcinomas, which start in the ectocervix's transformation zone, account for 90% of cervical malignancies; adenocarcinomas, which develop in the glandular columnar layer of the endocervix, make up the remaining 10%. [3].

Most tumors of the cervix are of epithelial origin and are caused by an oncogenic strain of Human papillomavirus (HPV) [4]. Unsurprisingly, there is a correlation between an elevated risk of cervical cancer development and variables that predispose to the spread of this virus. [5]. Early sexual contact, having several male partners, and male partners who have multiple partners themselves are these high-risk characteristics. [5, 6] Additionally, a history of smoking increases the risk. Cervical cancer risk is further increased by immunosuppression linked to immunosuppressive medications used to prevent allograft rejection or an underlying lymphoproliferative condition, such as Hodgkin disease. History of additional sexually transmitted diseases, including HIV, chlamydia, and herpes simplex. [6]

An excellent screening test is the cytological examination of cells that have been exfoliated from the cervix. Papanicolou first proposed the Pap smear, in which cells were taken from the cervix with a wooden spatula, put on a glass slide, and fixed. [7]. A cytologist then looked at this to check for the immature squamous cells that were shed from the CIN area. Liquid-based cytology, which involves sampling cells from the transformation zone with a tiny brush and immersing the brush head in fixative, has replaced the Pap smear. [8]. The Pap smear has reduced the death rate by 70% and the cervical cancer rate by up to 79% since 1950. [9].

It was thought that cervical cancer, especially in young women, might be virtually eradicated with the implementation of the cervical screening program. In actuality, the use of screening has not only averted malignancies but also resulted in the early detection of tumors that would not have been prevented. [10]. HPV testing, cytology, and visual inspection are screening methods for invasive and preinvasive cervical malignancies. Their results should not be utilized as a basis for treatment because they are not diagnostic. Referrals for diagnostic testing or procedures are required for patients who have a positive screening result. Diagnostic techniques for preinvasive cervical disease include colposcopy and biopsy. [11].

Pap screening guidelines vary, but generally speaking, the first smear should be performed at age 21 or within three years after the start of sexual activity, and then every three years after that. Women over 30 who test negative for HPV and have normal cytology findings may be tested every five years. Every six to twelve months, women who test positive for high-risk HPV DNA but have normal cytology results should have their cervical cytology performed again. [12]

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Methods

Study Design:

A cross-sectional study involving the records of all women who attended the cervical cancer screening center in Basrah for three years, extending from 1st of January 2013, to 31st of December 2015.

Official Endorsement:

Agreement of the Ministry of Health and the Research Committee of Basrah.
The Health Directorate was obtained before starting the study.

Place of the study:

The study was carried out in the cervical cancer screening center at the maternity and children's hospital in Basrah.

The study population:

Records of 677 women attended the center from 1st of January 2013, to 31st of December 2015.

Data collection:

Data were collected from the records of all women who attended the cervical cancer screening center. The data include the referred place/ health center, age, occupation, education, socioeconomic status, and marital status of each referred woman. Age at first marriage, duration of marriage, age at first delivery, sequence among husband's wives, sequence of the current husband. History of passive smoking and parity. Also, information about pap smear (previous smears result), cervical appearance by inspection.

Statistical analysis

The SPSS software (Statistical Package for Social Sciences, version 20) was used to do statistical analysis on the data. The results were tabulated. Chi-square test was used to detect if there is any relationship between different variables; When the p-value was less than 0.05, the link was deemed significant.

Definition of the variables

Age: completed years at last birth day was recorded for each woman.

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Education: This was recorded as completed years of formal schooling and grouped as follows: (Illiterate, Primary, Secondary, Higher education), **Occupation** (Housewife, Governmental Employee, Retired, Others: student and semiskilled worker). **Socioeconomic status** was reported as it was recorded: (Low, Middle, High). **Age (years) at first marriage** (<19, 20-29, 30-39, >40).

Age (years) at first pregnancy (<19, 20-29, 30-39, >40). **Number of marriages** (1, 2, 3, 4). **Number of husbands' wives** (1, 2, 3, 4). **Parity** was grouped as follows: (Nulliparous: a woman who has never had a pregnancy progress beyond the gestational age of a miscarriage, 1-4, >5). **History of passive smoking:** Yes/No

Because smoking among women in our society is socially not acceptable, uncommon, and most women deny smoking, women were asked only about their history of passive smoking.

Cervical appearance by vaginal examination (Normal cervix, Bleeding on touch, Eroded, Polyp, Hypertrophy, more than one). **Results of the current pap smear** (Normal -CIN1, CIN2-3, SCC, Adenocarcinoma, ASC-us, AGS-us, Inflammation).

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Results

Table 1: Sociodemographic Data of the Sample

A:		Frequency	Valid Percent
Age (years)	≤19	15	2.2
	20-29	143	21.2
	30-39	244	36.2
	≥40	272	40.4
	Total	677	100.0
Occupation	House wife	596	88.7
	Employee	71	10.6
	Retired	1	0.1
	Others	4	0.6
	Total	677	100.0
Marital status	Married	625	92.5
	Divorced	17	2.5
	Widowed	33	4.9
	Separated	1	0.1
	Total	676	100.0
Address	City center	399	59.0
	Al-Zubair	150	22.2
	Abu-Al-Khasib	53	7.8
	Shat Al-Arab	33	4.9
	Al-Qurna	14	2.1
	Al-Medainah	5	0.7
	Al- Fao	6	0.9
	Out-side Basrah (Thiqar)	13	1.9

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Total	Maisan	3	.4
		677	100.0

The highest percentage of the attending women were aged 40 and more, more than three quarters of them are housewives, more than half were from the Basrah center, and almost all of them were married.

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Table 2: Sociodemographic Data of the Sample

	Frequency	Valid Percent
Low	36	5.3
Middle	618	91.6
High	21	3.1
Socio-economic status		
Total	677	100
1	572	85.4
2	92	13.7
3	5	0.7
Women sequence	1	0.1
Total	677	100
1	612	92.0
2		7.7
3		0.3
Husband's sequence		
Total		100
	51	
	2	
	677	
Yes	238	38.0
No	389	62.0
Passive smoking		
Total	677	100

Most of the women were reported as being of middle socioeconomic level and had a primary school education. Most of them were the first among their husbands' wives and had the first husband sequence. Women were asked about the history of their husbands' smoking, most of whom denied this history.

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Table 3: The results of the pap smear test according to age

Age (years)	normal	cin1	cin2-3	ScC	Adenocarcinoma	asc-us, ags-us	Inflammation	Total
≤19	8 53.3%	3 20.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 26.7%	15 100.0%
20-29	83 58.0%	25 17.5%	0 0.0%	1 0.7%	0 0.0%	1 0.7%	33 23.1%	143 100.0%
30-39	153 62.7%	44 18.0%	8 3.3%	0 0.0%	1 0.4%	3 1.2%	35 14.3%	244 100.0%
≥40	165 60.7%	54 19.9%	21 7.7%	5 1.8%	0 0.0%	4 1.5%	23 8.5%	272 100.0%
Total	409 60.7%	126 18.7%	29 4.3%	6 0.9%	1 0.1%	8 1.2%	95 14.1%	674 100.0%

There was a consistent increase in the percentage of cervical intraepithelial neoplasia with an increase in women's age, with the highest percentage among women aged 40 or more years. There is a highly significant relationship between women's age and Pap smear results of the studied women.

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Table 4: Results of the pap smear test for the study population according to address

Address	Normal	cin1	cin2-3	ScC	Adenocarcinoma	asc-us, ags-us	inflammation	total
City center	218	96	19	4	0	6	56	399
	54.6%	24.1%	4.8%	1.0%	0.0%	1.5%	14.0%	100.0%
AL-Zubair	95	23	6	0	0	1	25	150
	63.3%	15.3%	4.0%	0.0%	0.0%	0.7%	16.7%	100.0%
Abu-Alkhasib	39	4	0	0	0	1	9	53
	73.6%	7.5%	0.0%	0.0%	0.0%	1.9%	17.0%	100.0%
Shat AL-Arab	26	2	1	1	1	0	2	33
	78.8%	6.1%	3.0%	3.0%	3.0%	0.0%	6.1%	100.0%
AL-Qurna	10	0	1	0	0	0	3	14
	71.4%	0.0%	7.1%	0.0%	0.0%	0.0%	21.4%	100.0%
AL-Medainah	3	2	0	0	0	0	0	5
	60.0%	40.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
AL-Fao	6	0	0	0	0	0	0	6
	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Thiqar	12	0	1	0	0	0	0	13
	92.3%	0.0%	7.7%	0.0%	0.0%	0.0%	0.0%	100.0%
Maisan	2	0	1	0	0	0	0	3
	66.7%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	100.0%
Total	411	127	29	5	1	8	95	676
	60.8%	18.8%	4.3%	0.7%	0.1%	1.2%	14.1%	100.0%

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The relationship is statistically significant between the result of a pap smear and the address. The highest percentage of cervical intraepithelial neoplasia was at the center, and the lowest was in Al-Fao.

Table 5: The result of the Pap smear according to women's occupation

Occupation	Normal	cin1	cin2-3	ScC	Adenocarcinoma	ascus, agsus	inflammation	total
Housewife	361 60.6%	113 19.0%	24 4.0%	4 0.7 %	1 0.2%	6 1.0%	87 14.6%	596 100.0 %
Government-employed	47 66.2%	8 11.3%	5 7.0%	2 2.8 %	0 0.0%	2 2.8%	7 9.9%	71 100.0 %
Retired	0 0.0%	1 100.0%	0 0.0%	0 0.0 %	0 0.0%	0 0.0%	0 0.0%	1 100.0 %
Others	3 75.0%	0 0.0%	0 0.0%	0 0.0 %	0 0.0%	0 0.0%	1 25.0%	4 100.0 %
Total	411 61.2%	122 18.2%	29 4.3%	6 0.9%	1 0.1%	8 1.2%	95 14.1%	672 100.0 %

The vast majority of the studied women (596) were housewives, and employed women were 71; there is no significant relation between Pap smear test results and women's occupation.

Discussion

Sociodemographic and some other characteristics

In this study, the age of the study population ranged from 16 to 70 years; most of the investigated women (76.6%) were aged more than 30 years. The prevalence of CIN increases with an increase in age; the majority of CIN were diagnosed at age 40 and more (27.6%),

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which is similar to the results obtained by a study in Basrah, which revealed the risk of cervical intraepithelial neoplasia for women ≥ 35 years was nearly three times that for women in the age group 15-24 [13]. Also similar to the study in Saudi Arabia, in which the most common age for women with CIN was between 40 and 50 years. [14] A study in China showed similar results; women diagnosed with CIN were aged 46–55 years. [15] In England in 2009, overall cervical cancer was diagnosed in women aged 25–39 years. [10]

In this Study there was no significant relationship between age at first pregnancy and pap smear results, this is similar to a case control study in Basrah (2012) in which there was no significant relationship between age at first pregnancy and cervical intraepithelial neoplasia [14], but there was significant relationship between parity and cervical intraepithelial neoplasia, and had suggested that cervical intraepithelial neoplasia increase with parity. [14] This result agrees with the results of some other studies; a case-control study of cervical cancer in the UK found that the risk of squamous cell carcinoma increases with parity. [16] Similarly, a Southern European study found that parity is a risk factor for the development of cervical intraepithelial neoplasia. [17] Also, a prospective cohort study from rural India showed that an increase in parity is a risk factor for cervical cancer. [18]

In this study, husbands' sequence and women's age at first marriage (1st sexual intercourse) showed no significant relationship with Pap smear results, but a significant relationship was observed with duration of marriage; this result disagrees with results of other studies and is similar to those found in different studies. A cross-sectional, descriptive study in Izmir, Turkey, found that having more than one sexual partner was associated with a lower rate of cervical cancer. [18].

Another study in Germany has shown that women who have more sexual partners are more likely to contract HPV and develop cervical cancer. [19]

A significant increase in the risk of cervical intraepithelial neoplasia with an increase in the duration of marriage was observed in a case-control study in Basrah. [13] A Southern European study found that young age at first marriage (less than 18) is a risk factor for the development of cervical intraepithelial neoplasia [81]. However, a recent Egyptian study showed that age at first marriage and duration of marriage had no significant relationship with HPV and

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subsequently with cervical cancer. [20] The present study found that a history of passive smoking has a significant relationship with the results of a pap smear; this finding is consistent with the results of a randomized clinical trial, which showed that passive smoke exposure is significantly associated with having an abnormal pap smear. [21] Similarly, a positive relationship between smoking and cervical cancer was shown by a cohort study done by the British Columbia Cancer Agency [22], while a cohort study in 2010 revealed that there is no relationship between exposure to smoking and its duration, with increased risk of HPV of any type. [23]

Conclusion

Age at first marriage and at first pregnancy, number of husbands' wives, and low education did not show any significant relationship with the results. Passive smoking was significantly related to Pap smear test results. Duration of marriage and parity were also associated with Pap smear test results.

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