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Women's Knowledge Regarding Pap Smear and Cervical Cancer in Duhok City in Respect to Related Educational Perspective Session

Melad Alias Yalda[1*], Iman Yousif Abdulmalek[2], Harjeen Rasul Mohammed Ali[3]

[1] Dept. of Obstetrics and Gynecology, College of Medicine, University of Duhok, Kurdistan Region – Iraq
EM: melad.alias@uod.ac
[2] College of Medicine, University of Duhok, Kurdistan Region-Iraq
EM: eman.malik@uod.ac
[3] College of Nursing, University of Duhok, Kurdistan Region-Iraq
EM: harjeen.doski@gmail.com

*Corresponding author: Melad Alias Yalda (melad.alias@uod.ac)

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Abstract

Background: Cervical cancer is a serious health problem because of its classification as the fourth commonest one in women all over the world. It is an avoidable cancer. For decreasing the incidence and the related morbidity, the early detection can be extremely important. Therefore, educating women about cervical cancer will help to lower its risks and poor prognosis. Objectives: Assessment of the impact of an educational session on the women's knowledge about pap smear and the prevention of cervical cancer in Duhok city. Materials and Methods: A quasi-experimental study includes 120 women from7th of January- 28th of April in 2021, who were selected randomly in this study which was conducted at Duhok Hospital of Obstetrics and Gynecology. Results: The study revealed that women's pre-test knowledge about cervical cancer and Pap smears was low; it was also shown that women's failure to receive screenings is due to a lack of information. The mean score knowledge's level in Pre-test was (29.99±3.44) with the majority (81.7%), were in the moderate score levels, but it was (2.99±0.091) in the post-test knowledge scores with the vast majority (99.2%) were in high scores level. The improvement in the combined knowledge scores of the women before and after the test was statistically significant with a P value of 0.001 Conclusions: The interventional education was successful in improving the women's knowledge of pap smear and cervical cancer.

Keywords
Knowledge, Educational program, Pap smear and Cervical Cancer.

One of the health issues and a significant factor in female mortality worldwide is cervical cancer (CC) that is on the rise everywhere[1]. The CC prevalence increased globally, according to Global Cancer Statistics (GLOBOCAN 2020), it is one of the leading causes for cancer death in 36 countries, the death rates for this cancer, were considerably higher in transitioning versus transitioned countries (12.4 vs. 5.2/100,000). It continued to be the 4th most typical cancer for women to be diagnosed and to die from[2]. It is the seventh most common kind of cancer among Iraqi women[3].

Due to the lengthy pre-invasive period, CC is a disease that can be prevented. The right diagnosis and therapy are doable. The Pap smear (PS) test is the main screening test to detect the cervical intraepithelial neoplasia,

the early alterations of the cervical epithelium, the precancerous stage, and the invasive CC in its early stage. The frequency of CC has decreased by 79% up to this point, and there has been a significant decrease in CC mortality in industrialized nations as a result of the extensive use of screening programs[4].

CC still imposes a significant cost on poor nations. According to World Cancer statistics, developing and low-resource nations account for >80% of all CC incidences because of a lack in education and awareness of the advantages of PS cytology screening programs[1]. Due to the difficulties, shame, and anxiety associated with the screening process, women typically do not undertake CC screening[5]

A global strategy with quantifiable objectives and targets to hasten the eradication of CC was under consideration in 2019 by the WHO and several gynecologic associations. Ongoing immunization, screening, and treatment initiatives were among them[6]. As a result, conducting the PS test during the women's active sexual life should be viewed as a component of their health policy[7]. The women who never had this test or had their PS tests more than three years ago were to be at the greatest risk for developing CC[8].

The Centers for Disease Control and Prevention (CDC), considered the Human papilloma virus (HPV) infection as a primary cause of CC in 2020. The CC is associated with HPV infection. Recent discoveries show that HPV, which causes the warts of the genitalia can be isolated in (99.7%) of the cases of CC, it spreads predominantly through sexual activity such as skin-to-skin contact. As HPV is linked practically to all cervical dysplastic and cancerous tissues, infection of metaplastic squamous epithelium with this virus can cause dysplasia and squamous cell cancer[9].

In the majority of high-income countries (HIC), since 2006, preventive vaccinations against HPV as CC precursors were available. There are three HPV vaccines that are now accepted for use as preventative measures. The first-generation of HPV vaccines are bivalent (2vHPV) and quadrivalent (4vHPV), both offer against the two most prevalent strains of HPV types 16 and 18 which cause CC, whereas 4vHPV additionally offer protection against types 6 and 11 which are responsible for genital warts. The second-generation is the nonavalent HPV vaccine (9vHPV) which was authorized by Food and Drug Administration (FDA) of the America United States in 2014 for people aged 9 to 26 years, and it was later expanded in 2018 up to women's age of 45 years[10].

Screening for CC is advised for all women with risk between 25 and 65 years old in addition to primary HPV screening every 5 years, since HPV screening was thought to be a more sensitive test for detection of the cause and risk stratification. It was discovered that the higher educated women were 122 times more interested in CC screening. To increase adherence and prevent both overuse and underuse of screening and colposcopy, it is crucial to be aware of screening and management guidelines[11].

The Kurdistan Region had no screening programs for CC up until 2004. The Ministry of Health carried out the initial investigation into cervical intraepithelial neoplasia (CIN). The results showed that 4.4% of the women had dysplasia, so the Ministry of Health established a CC screening program in this region, The initiative programs were introduced in Duhok, Sulemani, and Erbil in 2006, 2008, and 2009, respectively[12].

A Limited study has analyzed the prevalence of CC in the nation, especially in Kurdistan Region, but there were some independent reports from several areas in Iraq that have shown an increased in the rates of various cancer kinds. Othman, et al.(2011), mentioned in their study, the evidence of increased rates of all cancers, including CC, it is the first study on CC incidence in Kurdistan Region[13].

Health education is an information exchange with the goal to have high levels of awareness and knowledge about how to maintain health and avoid diseases like CC, involving the data about the methods that are applicable and the advantages of achieving services[14].

There are significant rate fluctuations both globally and locally, with incidences ranging from 3 to more than 70/100 000 women. Among all malignancies, cervical cancer mortality has the widest inter-country range of

variance[15]. In women at all ages in Iraq, the World Health Organization (WHO) estimates that 2.1/100,000 have a crude incidence rate of CC. Additionally, 10.21 million Iraqi women over the age of 15 are risky of contracting the illness[16].

In Duhok City, the occurrence of new cases and death rates of CC have continuously increased, but nevertheless remain quite low when compared to other emerging nations. Since some women are still consulting with late stage condition due to the ignorance of the PS and prevention of CC and there was no screening program3. This study was designed to evaluate the women's Knowledge Regarding PS and CC in Duhok City in respect to related Educational Perspective Session.

Methods

A total of 120 women who visited the consultation clinic and outpatient section of the obstetrics and gynecology hospital in Duhok during theS time of data collection were included in a quasi-experimental study. They were visiting the hospital for any problems regarding their pregnancy, gynecological conditions, follow up of antenatal care visits, ultrasound examination, laboratory tests, family planning, or making an appointment for operations. Their understanding of CC and PS screening was tested, and an instructional program was provided. The sample was chosen using a straightforward random approach. All of the women are married, the ages groups were 20 to 50 years, accepting to share in the study, with an equivalent level of education, good writing and reading skills, access to a smart phone, and the ability to speak clearly in Kurdish or Arabic without having previously participated in any educational programs about CC or PS. Women who refused to engage in the study, medical staff, single, incomplete surveys, and an inability to maintain participation for at least three months were among the exclusion criteria

Pilot Study

of the overall study sample, 12 (10%) participants underwent a pilot trial in order: to assess the appropriateness, relevance, and clarity of the instrument's contents, to determine the obstacles to do the study, to recognize the potential challenges for the research, to assess the study questionnaire's reliability and validity, and to estimate the potential duration of each interview. The pilot study was also used to make sure that the instrument was both scientifically and culturally appropriate for Duhok community. Women who took part in this pilot study didn't include in it.

Data collection methods

The researcher used a structure-validated questionnaire to conduct direct interviews with women in order to collect data. The questionnaire was created in regard to the objectives of the study, and it was organized and validated by reviewing the literature. Oral consent for all the participated women was obtained before the data collection process even began. Although the questionnaire was written in English, but a translation copy in Kurdish and/or Arabic was made so that ladies could understand it.

The information was gathered after a clear and proper explanation of the study's purposes and its importance to the participants. A total of 4-5 women were questioned per a day and each one received 45 to 60 minutes to complete the interview, the information was considered as a pretest. The number of interviews was 30 per a week, during which the required media was described in the form of a booklet, brochure, videos, and gallery of cancer pictures. In addition to using a computer and power point slides to display images. Prior to and one month after the instructional session, data were collected using a pretest-posttest approach.

The goal of the questionnaire's; the first part was to gather information on women's socio-demographic and obstetrics factors of the participants, such as age, educational level, employment position, age at first marriage, parity, place of residence, usage of contraceptives, and CC's family history. In the second section of the questionnaire, knowledge of CC and PS was evaluated. There were 16 knowledge-related topics, including six questions about the risk factors that lead to

CC and its symptoms and signs, four questions about PS, and six questions related to the general knowledge of CC.

For evaluation of knowledge ratings, The Modified Bloom's cutoff which was used for the 16 questions regarding PS and CC was borrowed from a KAP by Ahmed & Taneepanichskul (2008)[17]. The questions had a value as: (the right answer scored "three", the incorrect answer "one", and "I don't know" response had "two"). The low level score range (16-26), the moderate level was with score 27-37%, and the high level score was 38-48S%. These were the scores of the corresponding knowledge levels.

The curriculum of the educational session was as a pretest which was done in addition to overview about CC and PS test and its technique as video presentation in Kurdish and Arabic about them were all covered in the first interview. Then distributing a booklet to every participant, focusing on CC, risk factors, clinical presentation, immunization, and treatment of precancerous diseases. Lastly, the posttest was done after one month for each of women during their follow up visits to the hospital by using the same pretest questions.

Results

The Study Sample in terms of socio-demographic and obstetrics features (n=120)

The mean age of the enrolled women was 35.7 ± 6.54, with a range of 20-≥50, and almost half of them (46.7%) were in the age group of 26-29 years. More than half (56.7%) resided in urban area. According to the level of education, the results showed that roughly one third of the women (32.5%) had a college degree or higher, and (29.1%) of them could read and write. Most of them (70.8%) were housewives or unemployed as in Table 1. None of the participants were smokers, and none of them had any family history of CC.

In terms of obstetrics, around three-quarters of the sample (74.2%) fell into the (20-29 years) age range for marriage, while the majority (77.5%) of the women fell into the parity (1-4) category. Only 22.5% of the participants used contraceptive methods such tablets and IUDs.

Table 1: The Study Sample in terms of socio-demographic and obstetrics features (n=120)

Variables		Frequency	%	Mean±SD	P-value
Age groups	20 to 29 years	56	46.7	35.7±6.54	0.898*
	30 to 39 years	46	38.3		
	40 to 49 years	16	13.3		
	50 year and more	2	1.7		
Educational level	Can read and write	35	29.1		0.067*
	Primary+ Intermediate	25	20.8		
	Secondary School	21	17.5		
	college degree or higher	39	32.5		
Employment	Housewife/unemployed	85	70.8		0.135*
	Students	3	2.5		
	Public employee	26	21.7		
	Employee of private sector	6	5.0		
The age at marriage	< 20	24	20.0	25.4±5.5	0.099*
	20−29	89	74.2		
	≥30 years	7	7.8		
Residency	Urban	68	56.7		0.523*
	Rural	52	43.3		
Parity	Nulliparous 0	19	15.8	2.4±1.1	0.840*
	Para1 and multipara 2- 4	89	74.2		
	5 and more	12	10.0		
Use of any methods of contraception	Yes	25	20.8		0.354*
	No	95	79.2		

* Fisher Exact Test

Distribution of the Study Sample According to Causes for not carried out Pap smear (no. =120)

In 95.8% of the women, they reported that they were prevented from performing PS because "they did not have a doctor's or other healthcare provider's guidance". While 90.8% of women "did not know where to find the services", For 76.7% of the sample the "beliefs" were the primary factor. But just 15.8% of women thought "Pap smear test is too painful". As in table 3.

Table 3. Study Sample Regarding the Reasons for not Performing PS

	List variables	No	%
1	Lack of Knowledge about CC screening	52	(43.7)
2	No advice from the doctors and other health providers	115	(95.8)
3	Fear from result	25	(20.6)
4	Pap smear test is too painful as they heard	14	(15.8)
5	Ashamed to lie on a gynecologic examination	52	(43.3)
6	It is expensive to do this test and is not necessary if no symtoms	40	(33.3)
7	Not know where to get the services	109	(90.8)
8	Beliefs	92	(76.7)

Women' knowledge about the CC & PS as Pre- test& Post-test

Considering women's pre-test knowledge of CC and PS, the mean of Knowledge score was (2.48±.698) in pre session while it was (3.00±.000) in the post test about " Do you hear about CC?", so there was statistical significant difference between the women's knowledge regarding PS and CC in the pre and post intervention.

The majority of the measured items indicated that the women's knowledge had improved. For example, the women who had a correted answer for the question "PS test is the primary test used for CC screening" were 100%; The difference between the pre- and post-educational programs (P-value <0.001) in all of the itemes was highly significant as displayed in Table 3.

Table 3. The study sample knowledge about the CC & PS as Pre- test& Post-test (N=120)

No.	Knowledge	Pretest	Posttest	P-value
		Mean ±SD	Mean ±SD	
1.	Do you hear about CC?	2.48±.698	3.00±.000	
2	Is CC a common cancer in women?	2.03±809	2.97±257	≤ 0.001
3	Is CC a preventable one?	1.63±721	2.56±786	≤0.001
4	Can CC have no signs in the early stages?	1.88±.842	2.83±.560	≤0.001
5	Do you Know that PS test is the primary screening test for CC?	2.09±.580	3.00±.000	≤ 0.001
6	Have you heard about HPV as a cause of CC?	1.28±594	2.53±.829	≤ 0.001
7	Have you heard about a vaccine against HPV?	1.39±.702	2.98±183	≤ 0.001
8	Is the unexplained weight loss one of the signs of CC?	2.02±898	2.98±183	≤ 0.001
9	Use of any methods of contraception increase the risk of of CC?	1.92±984	2.51±.829	≤ 0.001
10	Is the infections of genitourinary tract one of the risk factors for CC?	2.25±.853	2.95±2.95	≤ 0.001
11	Is the persistent bad smells vaginal discharge one of the signs of CC?	2.25±.853	2.79±.607	≤ 0.001
12	Is spotting between or after menstrual periods may be a symptoms of CC?	1.83±.706	2.93±2.93	≤ 0.001
13	Is it mandatory that all women above 30 need to do PS test?	2.34±.912	2.79±.608	≤ 0.001
14	Are only the symptomatic women suggestive to have CC?	1.90±.738	2.95±.286	≤ 0.001
15.	Is the vaginal bleeding during or after the sexual relation is one of the signs of CC?	1.58±857	2.78±624	≤ 0.001
16.	Do you have an idea that pain during the sexual relation is a symptom of CC?	1.92±984	1.00 ±.000	≤ 0.001

The Enrolled Women in terms of Knowledge Levels Before and After the educational session.

Table 4. showed a statistically significant increase in women's overall knowledge scores in the post-test in comparison to the pre-test, P-value ≤0.001. The mean score for the Pre-test knowledge's level was low (29.99±3.44) with the majority were in the moderate score levels (81.7%), but it was (2.99±0.091) in the post-test knowledge scores with the vast majority (99.2%) were in high scores level.

Table 4: Women Level's Knowledge Scores Before and After the Educational session.

Women's levels of Knowledge	Before Program		After Program		P-value
	No.	(%)	No.	(%)	
Low ≤ (Score 16-26)	18	(15.0)	0	(0.0)	≤ 0.001*
Moderate (Score 27-37)	98	(81.7)	1	(0.8)	
High ≥ (Score 38-48)	4	(3.3)	119	(99.2)	
Mean ±SD	29.99±3.44		2.99±0.091		

*Chi square test

Discussion

Cancer is fast turning into the disease of the century, notably CC, which is now the forth most frequent gynecologic malignant tumor in the world after breast cancer in terms of

fatalities among females. The cervical canal's squamocolumnar junction is the site of the disease's inception. It most frequently occurs in a region where significant alterations are known to occur throughout late fetal life, adolescence, and first pregnancy [18].

The aim of the current study was to evaluate the effect of a women's educational session on CC and PS. Findings of this study confirmed the hypothesis that educational intervention would raise the knowledge levels of the tested women. Pre-test results on the examined women's knowledge of CC showed that the majority of them had inadequate understanding, which was lower than that found in the Ghana study by Ebu, et al., (2014), it revealed that only 30.6% of those had heard of CC [19]. In contrast, a descriptive study which was conducted in 2020 at different levels of development in the North West/ Ethiopia about the knowledge and attitude toward CC showed that (65.1%) of the participants had heard of CC, (62%) believed it was possible to prevent CC and it was avoidable in (78%) [20]. These findings were in the line with researches conducted in Qatar by Al-Meer, et al., (2011) [21] and Ghosh (2021) [9], in which more than (85%, and 72%) claimed to be aware of CC, respectively.

In brief, one third of the female respondents knew that “vaginal bleeding during or after sex is an indication of cervical cancer”, and about half of them knew that “the symptom as persistent foul-smelling vaginal discharge”, and “weight loss is a sign for CC”, which was less than the study Singh et al., (2018), provided in India[22].

The health education increased women's performance in terms of their knowledge about Pap tests and CC. In term to the current study, the majority of women had inadequate knowledge scores about the prevention of CC prior to the session, but these scores significantly improved after it. This may be connected to how the educational session affects knowledge. The study's conclusions helped women learn more about prevention of CC, which will raise their knowledge ratings in this area. These results are going with Naz et al. research in (2018)[14], which found that knowledge about Pap smears and CC was poor prior to the educational intervention but statistically significantly increased following it. This study was also similar to one in Egypt, which found that Egyptian students' understanding of cervical carcinoma and how to prevent it was lacking. This might be connected to the requirement of educational initiatives to raise people's understanding and awareness of cervical cancer[23].

The study's findings point to a rise in knowledge about CC between the pre- and post-tests, as seen by higher scores than the pre-test. This outcome might be described by the possibility that the participants pre-test acquired some knowledge after learning about this problem. This backs up the findings of health education and programs studies on CC which carried out in Nigeria by Abiodun et al., (2014)[24], and in Egypt by Ahmed et al., (2018) [23].

Women who lack adequate cancer education will be more likely to disregard Pap tests and other screening procedures. This may be a result of a dearth of knowledge, instruction, and communication regarding cervical cancer and cancer screening in public health initiatives. Numerous research indicate that women with less understanding about cervical cancer receive screenings at lower rates than do women with more information. For instance, in the studies on the subject, Women in the research group said that "Lack of information on where to receive the services" and "No physician or other health experts' advise" were the greatest deterrents to performing CC screening. Additionally, there is no official mechanism in place to remind women to get frequent PS tests. Every woman gets access to her health records in developed nations. So, they will get in touch with her if they neglect to take the test. Because people are inherently lazy, no one will take the test if there is no incentive to do so. It was proposed that primary health centers and hospitals' nurses and doctors may have a substantial impact on women's propensity to undergo the test. The majority of respondents claimed that healthcare professionals lacked to describe for them the time of doing PS, why it was required, and what its advantages. Similar to studies conducted in Erbil/Iraq by Rasul et al., (2015) [25], by Getachew, et al., (2019) in Ethiopia [26], and by Koз, et al., (2019) in Turkey [27].

This study found that all of the women had inadequate knowledge scores about CC prevention prior the training, but these scores significantly improved after the program. This

may be connected to how the educational program affects knowledge. The results of this study supported the idea that an educational campaign aimed at preventing cervical cancer would raise awareness levels. According to K, et al. (2020) [28], the accurate training and proper interventions appear to be crucial in raising the level of knowledge scores in women and supporting the participation in the screening Pap smear tests to avoid CC.

Evidence suggested that education can increase the need for preventative health services by increase the level of awareness, facilitating access to services, encourage the personal effectiveness, and giving the women more control over their future decisions.

Conclusion and recommendations

There is a significant difference in the knowledge scores between pre and posttest of the education session about pap smear and cervical cancer, like this session should be performed for all the different women's ages in Duhok city.

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