



Journal Homepage: - www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/14624

DOI URL: <http://dx.doi.org/10.21474/IJAR01/14624>



RESEARCH ARTICLE

ASSESSMENT OF THE AWARENESS TOWARD CANCER CERVIX, EARLY DETECTION AND PREVENTION OF RISK FACTORS AMONG SAUDI FEMALES IN TAIBAH UNIVERSITY, AL-MADINAH AL-MUNAWARAH, KSA 2021

Dr. Ahmed Awad Shamlan and Dr. Zainab Alharbi

Manuscript Info

Manuscript History

Received: 28 February 2022

Final Accepted: 30 March 2022

Published: April 2022

Abstract

Copy Right, IJAR, 2022,. All rights reserved.

Introduction:-

Background:

Cervical cancer is globally the second most common cancer among women [1]. Every year nearly half a million women are newly diagnosed with invasive cervical cancer and a number of them have never been tested for the disease [2]. About 80% of cases of cervical cancer occur in low socioeconomic countries where it is the most common form of cancer. In Saudi Arabia, cervical cancer ranks 12th most commonly among women [3]. Approximately 90% of deaths from cervical cancer occurred in low- and middle-income countries [4].

Cervical cancer is caused by some types of human papillomavirus (HPV) due to the sexually acquired infection. The primary cause is a type 16 and 18 HPV infection. HPV 16 and 18 are responsible for 70 per cent of cervical cancers and cervical lesions [5]. Although most HPV infections resolve spontaneously on their own and most pre-cancerous lesions, all women are at risk of becoming chronic with HPV infection and pre-cancerous lesions advance to invasive cervical cancer [5].

The large-scale morbidity and mortality due to cervical cancer is totally unwarranted not only because the definitive cause of cervical cancer is now established, but also because after initial infection with high-risk human papillomavirus (HPV) the disease takes a long time to develop [6].

In general, symptoms do not occur until abnormal cervical cells become cancerous and invade nearby tissue. Copious foul-smelling vaginal discharge, abnormal bleeding or inter-menstrual bleeding, postcoital bleeding, postmenopausal bleeding or backache is the most common symptoms [7].

Cervical cancer is highly treatable if diagnosed in its early stages. The primary reasons of delay in treatment are lack of proper awareness and education on screening in communities, limited number of health workers, and lack of affordable preventive services. Some of the individual barriers were reported to be cultural norms, embarrassment, poor access to health posts, fear of cancer, lack of knowledge and the prohibition of gynecological testing among unmarried women. In addition, insufficient qualified health personnel, tools and access to proper laboratories are other barriers to cervical cancer screening related to the healthcare system [8, 9].

The level of knowledge of the general population is very important in determining the right strategy in planning an effective intervention against cervical cancer. WHO reported that cervical cancer screening coupled with immediate management leads to early detection of precancerous and cancerous cervical lesions, thus preventing serious morbidity and mortality due to the disease [10].

Rationale:

1. The level of knowledge of university students is very important in determining the right strategy in planning an effective intervention against cervical cancer.
2. Knowing the obstacles that affect the awareness level toward cancer cervix, early detection and prevention of risk factors will allow researchers to formulate awareness campaigns.
3. Guideline to raise the awareness and screening of cancer cervix will decrease its incidence in Saudi Arabia.
4. With knowledge, awareness and screening, number of cervical cancer patients is significantly decreasing and the level of public health awareness is increasing.

General Objective:

To determine awareness level toward cancer cervix, early detection and prevention of risk factors among Saudi males and females in Taibah University, Al-Madinah Al-Munawarah.

Specific Objective:

1. To assess the relationship between educational level and cancer cervix awareness among college students in Al-Madinah Al-Munawarah, KSA
2. To determine the proportion of participants' aware of various factors associated cancer cervix and prevention.
3. Identify the influential factors affecting awareness toward cancer cervix detection and prevention.

Literature Review:-

A cross-sectional study was done to assess the socio demographic profile and KAP for cervical cancer and its screening of community health workers of Varanasi district, Uttar Pradesh observed that despite of good knowledge and perception less than 10 percent of workers have undergone screening. Significant association was seen between level of knowledge and practice of screening [11].

Another paper is aimed to assess and increase the awareness toward cancer cervix, early detection and prevention of risk factors among Saudi males and females found that; the participants 446 (60.3%) females and 294 (39.7%) males were included in the study. Majority of the participants (n= 547, 73.9%) have heard about cervical cancer but most of them didn't know that it is a preventable disease (n= 359, 48.5%). They also found that; only 17.6% of the study group has heard about HPV Vaccine. It could be attributed to low level of knowledge about the virus itself, since only 19.9% of the population knew about the virus [12].

A cross-sectional study was conducted among 100 professional college female students to obtain information about their knowledge and attitudes on cervical cancer screening and prevention reported that results indicate that most of the students participated in our study were not aware about the cervical cancer screening and prevention. Deaths resulting from cervical cancer are tragic as this type of cancer develops slowly, which is treatable and can be prevented through screening. Therefore, it is important that negative attitudes and gaps in knowledge should be addressed early before the women reach suitable ages for screening and vaccination [13].

A previous study is to assess the knowledge, attitudes and practices related to HPV prevention and cervical cancer screening among women living in the city of Sousse, Tunisia reported that; four hundred fifty-two questionnaires were completed and included in the analysis. The awareness of a sexually transmitted infection as an etiological agent for cervical cancer was expressed by 175 (38.7%) participants, the correct finality of the Pap Smear test by 308 (68%) and its recommended frequency by 176 (38.9%) respondents. Among all participants, 125 (27.7%) had undertaken the Pap Smear test at least once in their lifetime, 363 (80.3%) were interested in receiving the anti-HPV vaccine for themselves, 387 (86%) for their daughters and 405 (90%) approved the introduction of the anti-HPV vaccine in the Tunisian national program of vaccination [14].

A cross-sectional community-based survey to determine the current state of knowledge of cervical cancer and its risk factors in the Buea Health District of the South West Region of Cameroon found that fifty eight percent (58%) of the participants had good knowledge of cervical cancer. 58.99% (95%CI = 54.30-63.52) had good knowledge on

the risk factors of cervical cancer. 40% knew at least one of the following risk factors; cigarette smoking, many sexual partners, family history of cervical cancer, being HIV/AIDS positive and giving birth 5 or more times. There was a significant association between having heard of cervical cancer and having "good" knowledge of cervical cancer among women in Buea [15].

Another cross-sectional study was conducted on 506 randomly selected Saudi female secondary school teachers in Al Hassa, Saudi Arabia to assess their level of knowledge about risk factors and signs of CC in relation to perceived risk and to characterize CC screening compliance using a self-administered questionnaire included female Saudi teachers, 65.4% and 63.4% were considered less-knowledgeable about CC risk factors and early signs and symptoms respectively. Only 17.2% reported being previously examined for CC. The majority of participants perceived themselves to be at an average or below average risk of CC. Residing in urban areas was the strongest predictor of CC screening (Odds ratio 'OR'= 3.39; 95% confidence intervals' CI= 1.76-6.46; P=0.001). Awareness of risk factors was significantly associated with higher awareness of signs of CC (OR 2.5; 95% CI=, P=0.001). Exploratory factor analysis showed that personal fears (of screening being embarrassing) was the major factor that hindered CC screening with a high loading eigenvalue of 4.392, explaining 30.8% of the barriers toward utilization, followed by health care related factors [16].

Methodology:-

Study design:

Cross sectional Study

Study Area:

Al-Madinah Al-Monawarah is a city in the Hejaz region of western Saudi Arabia, and serves as the capital of Al-Madinah Province. It is the second holiest in city in Islam, Medina currently has a population of more than 1300000 people (2019). Medina is 210 mi (340 km) north of Mecca and about 120 mi (190 km) from the Red Sea Coast. Area measure total 589 km² (227 sq. mi).

Study population:

Female students of Taibah University in Al-Madinah Al-Monawarah in KSA

Inclusion Criteria

female students of Taibah University

Exclusion Criteria

1. Non-students
2. Students out Taibah University
3. male

Sample size: 385

We will calculate our sample size using standard online tools through the following formula ($N=(Z\alpha)^2 \times ([p(1-p)]/d^2)$)

Where:

n = estimated sample size.

Z α at 5% level of significance = 1.96

d = level of precision and is estimated to be 0.05

p = High awareness levels in two previous studies (30%).

Actual sample size = (Primary sample size \times design effect (estimated to be 1.5))

The expected response rate is estimated to be 80%.

Sampling Technique:

Data will be collected by offline questionnaire until the sample size will be covered by using a self-administered questionnaire after taking the acceptance from the administration to distribute the questioner to all eligible participants. The questionnaire should be completed and returned to data collectors in the same session.

Study Tool:

Sociodemographic and clinical data will be obtained from interviews performed by data collectors with participants to fill out the questionnaire.

A structured questionnaire designed to assess awareness of cervical cancer, early detection, and prevention of risk factors in both male and females. Pre-testing of the questionnaire would be on 10 respondents, after which necessary changes will be made, and the questionnaire will be re-administered.

The questionnaire is a measure of awareness of cervical cancer, early detection, and prevention of risk factors among participant. Questionnaire is composed of sociodemographic questions about sex, age, and educational status. Questions about study of work field and questions regarding knowledge about cancer cervix were included.

Data Analysis:

Data entry and statistical analyses will be performed with (SPSS version 25). In all performed analyses, a significance difference equal to, or smaller than 0.05 will be used to determine statistical significance.

Descriptive statistics by simple table will be presented as frequency and percent of categorical data, numerical data for continuous outcome will be presented as mean and standard deviation, and the score will be presented as median. The chi-square test will test the relation between (age, occupation, marital status, educational level).

Results:-

Table 1:- Awareness toward cancer cervix, early detection and prevention of risk factors among Saudi females in Taibah University, Al-Madinah Al-Munawarahin relation to their demographic data.

Students' demographic characteristics (N = 308)	
N%	Variable
Age	
69 (22.4%)	< 20 years
219 (71.1%)	20-30
20 (6.4%)	> 30 years
Gender	
0 (0%)	Male
308 (100%)	Female
Maritalstatus	
43(13.9%)	Married
265(86.1%)	Single
Do you work or study in the medical field?	
284(92.2%)	Yes
24(7.7%)	No
IF (yes) which field :	
42 (13.6%)	Biology
17 (5.5%)	Clinical labs
27 (8.76%)	Dentistry
21 (6.8%)	Genomics and biotechnology
33 (10.7%)	Laboratory
5 (1.6%)	Laboratory technician
9 (2.9%)	Medical resident
56 (18.2%)	Medical student
38 (12.3%)	Nursing
8 (2.59%)	Pharmacy
18 (5.8%)	Physiotherapy student
Have you ever heard about cervical cancer?	
239 (77.5%)	Yes
69 (22.5%)	No
Do you know that cervical cancer is preventable (e.g., vaccination and cervical smearing)?	

225 (73.0%)	Yes
38 (12.3%)	No
45 (14.7%)	A little bit
Have you ever heard about human papillomavirus and its relation to the cancer cervix?	
220 (71.4%)	Yes
41 (13.3%)	No
47 (15.2%)	A little bit
Have you heard about a vaccine that can prevent cervical cancer?	
216 (70.2%)	Yes
43 (13.9%)	No
49 (15.9%)	A little bit
Do you know early detection of cervical cancer is curable?	
200 (64.9%)	Yes
50 (16.2%)	No
58 (18.8%)	A little bit

Table 2:- Awareness Toward Cancer Cervix, Early Detection And Prevention Of Risk Factors Among Saudi Females In Taibah University, Al-Madinah Al-Munawarah In Relation To Their Clinical Data.

Characteristic	Total no (%)	Assessment (%)	P value	Odds ratio	95% CI
Clinical data					
Food intake pattern of participants					
Junk food like pizza, burgers and fries	255 (82.7%)	243 (78.8%)	0.0007	r	(2.15-3.57)
Fruits and vegetables Grilled, barbecued and smoked food	53 (17.2%)	65 (21.1%)	0.002	4.41	(1.75-4.47)
Doing physical exercise					
Never	65 (21.1%)	189 (61.3%)	0.015	0.91	(0.75-3.97)
Once a week	187 (60.7%)	25 (8.11%)	0.089	r	(3.95-6.97)
Rarely	56 (18.1%)	94 (30.5%)	0.02	3.48	(1.85-4.97)
Father, mother or siblings have cancer					
Yes	154 (50%)	155 (50.3%)	0.021	1.56	(1.25-3.29)
No	132 (42.8%)	35 (11.3%)	0.043	4.66	(1.65-4.07)
I don't know	22 (7.1%)	18 (5.8%)	0.0332	r	(1.35-2.55)
Family history of cancer					
Yes	119 (38.6%)	199 (64.6%)	0.0551	r	(3.25-5.81)
No	189 (61.3%)	109 (35.3%)	0.0931	3.17	(2.95-2.97)
Have physical activity					
Less	155 (50.3%)	76 (24.6%)	0.071	r	(2.85-4.07)
More	82 (26.6%)	154 (50%)	0.006	3.56	(1.49-2.57)
Enough	71 (23.0%)	88 (28.5%)	0.051	2.84	(3.25-5.62)
Had hormones replaced therapy in past					
Yes	109 (35.3%)	188 (61.0%)	0.061	1.34	(2.77-8.97)
No	199 (64.6%)	120 (38.9%)	0.032	r	(3.15-5.10)
Mammography in past					
Yes	62 (20.1%)	176 (57.1%)	0.081	R	(1.35-2.37)
No	246 (79.8%)	132 (42.8%)	0.0061	2.56	(6.35-6.97)

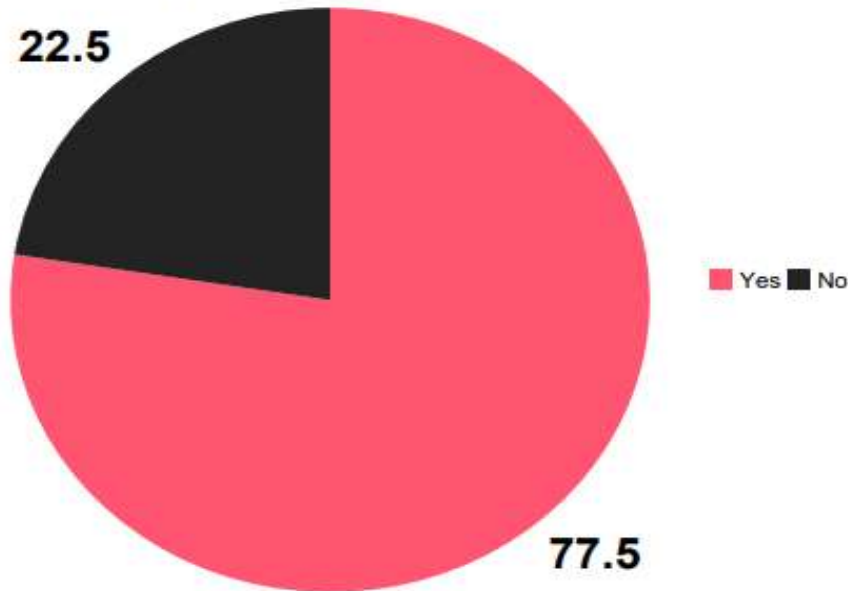
Table 3:- Predictor risk factors Toward Cancer Cervix, Early Detection And Prevention Of Risk Factors Among Saudi Females In Taibah University, Al-Madinah Al-Munawarah.

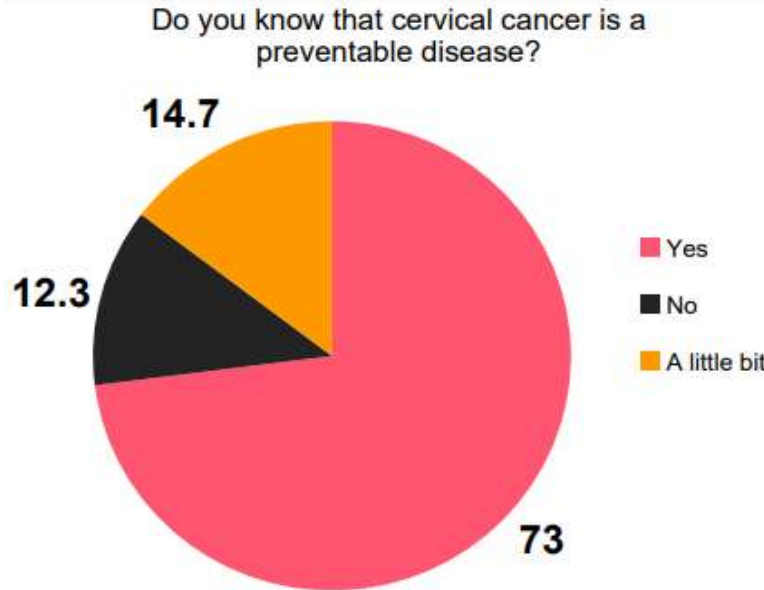
Predictors	B	S.E	Sig	Exp(B)	Lower	Upper
Social status	-0.346	0.128	0.006	5.285	2.866	4.276
Family history of cancer	-1.187	0.991	0.002	2.485	1.428	2.387
Lack of exercise	-1.166	0.290	0.072	1.396	0.298	1.586
Benign breast cancer	-0.153	0.936	0.0039	2.547	0.585	1.965
Lack of balanced diet	-1.338	0.197	0.0186	0.475	3.766	5.657
Ionizing radiations	-0.261	0.497	0.073	2.378	1.638	2.386
Wearing tight bra	-0.191	0.496	0.486	3.588	0.648	2.686
Mutation in genes	-1.849	0.196	0.038	0.468	2.586	4.997
Drinking alcohol	-0.281	0.576	0.041	2.593	5.9861	6.555
Smoking cigarettes	-1.014	0.285	0.093	1.368	0.0911	1.3369

Discussion:-

The demographic data of participants are presented in Table 1. All the participants are female students of Taibah University, Al-Madinah Al-Munawarah. This research is based on an extensive questionnaire to assess the awareness of female students towards cancer cervix, early detection, and risk factors. The age of 71% of female participants is between 20-30 years. At the same time, only 6% of females are more than 30 years of age. All the participants are females of the university; males are excluded. 14% of participants are married, while 86% are unmarried. Most of the participants belong to a medical field such as biology, nursing or medical students. At the same time, a few are related to a non-medical field as most of the participants are from a medical background. Hence, they already know cervical cancer, human papillomavirus, and vaccines.

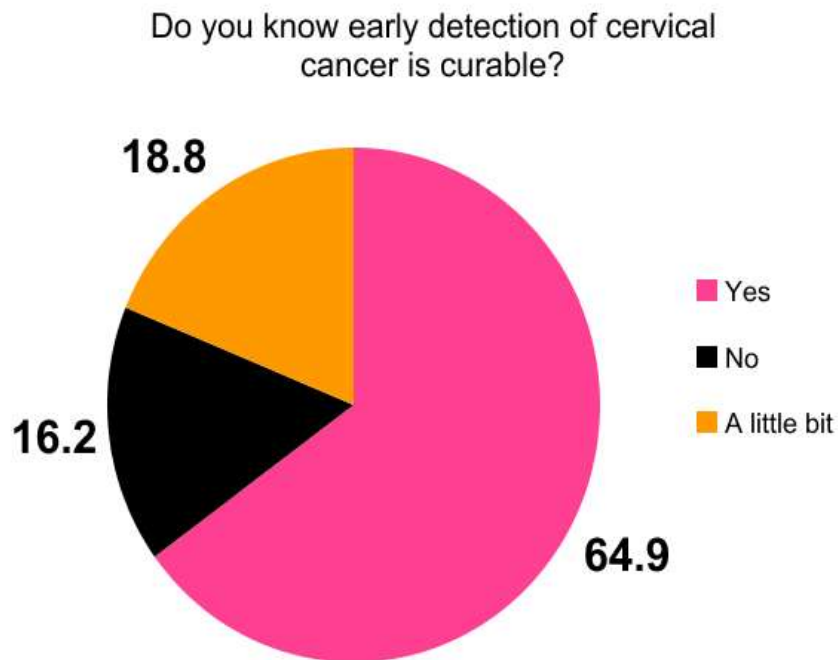
Have you ever heard about cervical cancer?





This graph represents the percentage of awareness level of female participants about cervical cancer as most of the participants are from a medical background, so the awareness level is high. Only 22.5% of participants had not heard about cervical cancer.

This graph also represents the awareness level of female participants about the prevention of cervical cancer. By knowing the risk factors, females can prevent cancer, but 12.3% of participants don't know about it. 70% of female participants know that they can prevent cervical cancer, while 14.7% know a little bit about prevention.



This graph represents the awareness of female participants about the treatment of cervical cancer. 64.9% of participants know that early detection can cure cervical cancer, while 16.2% don't know. In contrast, 18.8% know a bit little that early detection of cervical cancer is curable.

In table 2, the clinical data of the female participants are presented. 82% of female participants used junk food like pizza, burgers, and fries, while only 17% ate fruits and vegetables. 60% of participants do the physical exercise once

a week, while 21% never tried it. 50% of participants have fathers, mothers or siblings with cancer. 42% don't have any cancerous patients in their family, while 7% don't know. 35% of patients experienced hormone replacement therapy in the past, while 64% didn't. 20% of participants had mammography in the past 80% didn't. Questionnaires obtained this clinical data. The purpose of this data is to estimate the risk of cervical cancer in these females soon so that it can be diagnosed in the early stage to cure it as soon as possible.

In table 3, the predictor risk factors of cervical cancer are given. Social status such as lifestyle, family history, lack of exercise, lack of balanced diet, benign breast cancer, ionizing radiation, wearing a tight bra, smoking, drinking and mutation in Gene's can lead to cervical cancer. These risk factors are elaborated so that if females have any of these risk factors, they can have detection to diagnose it early. So that it can be treated.

Ethical Considerations:

The informed consent will be obtained verbally from all participants before their participation, and acquired data will be kept confidential and private.

Research assistants explained the purpose and procedure of the study to all participants and obtained individual written informed consents before conducting interviews. Participants will be informed of their freedom to decline participation if they choose to and or join the study and withdraw at any point without fear of retribution from the study team. After the interviews, about 5–10 min will allow participants to ask questions related to cervical cancer.

Limitations:

For convenience, the researcher has chosen the population.
Shortage of time and resources are important limitations

Service:

The researcher hopes to increase awareness toward cancer cervix, early detection and prevention of risk factors among Saudi females in Taibah University.

Conclusion:-

Cervical cancer is preventable if vaccination and early detection are applied effectively and timely. The current study revealed low to moderate awareness of female university participants in Al-Madinah about cervical cancer. Females from medical backgrounds have significant knowledge about the risk factors of cervical cancer and are treatable if detected early. But, females from non-medical backgrounds don't know about cervical cancer. A huge awareness campaign should be undertaken in schools, universities, healthcare centers, and shopping malls to expand awareness about cervical cancer, primarily the diagnostic method, its availability, and vaccine. This is the first study of its kind to analyze cervical cancer awareness and practices among women at TAIBAH UNIVERSITY, AL-MADINAH AL-MUNAWARAH.

References:-

1. Anantharaman VV, Sudharshini S, Chitra A. A cross-sectional study on knowledge, attitude, and practice on cervical cancer and screening among female health care providers of Chennai corporation. *J Acad Med Sci.* 2013;2:124–8.
2. Varughese J, Richman S. Cancer care inequity for women in resource-poor countries. *Rev Obstet Gynecol.* 2010;3:122–32.
3. SCR Report(2007): www.chs.gov.sa/.../HealthRecords/CancerRegistry/CancerRegistryReports/Incidence%20
4. WHO Cervical Cancer, Cancer. [(accessed on 23 October 2019)];2018 Available online: <http://www.who.int/cancer/prevention/diagnosis-screening/cervical-cancer/en/>
5. WHO Screening for Cervical Cancer, Cancer. [(accessed on 23 October 2019)];2019 Available online: https://www.who.int/cancer/detection/cervical_cancer_screening/en/
6. Saslow D, Runowicz CD, Solomon D, Moscicki AB, Smith RA, Eyre HJ, et al. American Cancer Society guideline for the early detection of cervical neoplasia and cancer. *C.A. Cancer J Clin.* 2002;52(6):342–62.
7. Mishra GA, Pimple S.A., Shastri S.S. An overview of prevention and early detection of cervical cancers. *Indian J Med PaediatrOncol.* 2011;32(3):125–132. doi:10.4103/0971-5851.92808

8. Nepal Network for Cancer Treatment & Research (NNCTR) Cervical and Breast Cancer Screening Activities in Nepal. [(accessed on 10 March 2019)];2010 Available online: <https://www.globalgiving.org/pfil/6686/projdoc.pdf>.
9. Darj E., Chalise P., Shakya S. Barriers and facilitators to cervical cancer screening in Nepal: A qualitative study. *Sex. Repro Healthc.* 2019;20:20–26. doi: 10.1016/j.srhc.2019.02.001.
10. World Health Organization . WHO guidelines for screening and treatment of precancerous lesions for cervical cancer prevention: supplemental material: GRADE evidence-to-recommendation tables and evidence profiles for each recommendation. World Health Organisation; 2013.
11. Khanna D, Khargekar N, Budukh A. Knowledge, attitude, and practice about cervical cancer and its screening among community healthcare workers of Varanasi district, Uttar Pradesh, India. *J Family Med Prim Care.* 2019;8(5):1715–1719. doi:10.4103/jfmpc.jfmpc_143_19
12. Almajnuni, A., Balubaid, A., Alzhrani, A., Alkayyal, M., Alghamdi, A., allam, H., Abdou, A., Sheba, M. (2018). Assessment of The Awareness toward Cancer Cervix, Early Detection and Prevention of Risk Factors among Saudi Males and Females. *The Egyptian Journal of Hospital Medicine*, 70(4), 699-702. doi: DOI: 10.12816/0043827
13. Manikandan S, Behera S, Naidu NM, Angamuthu V, Mohammed OFB, Debata A. Knowledge and Awareness Toward Cervical Cancer Screening and Prevention Among the Professional College Female Students. *J Pharm Bioallied Sci.* 2019;11(Suppl 2):S314–S320. doi:10.4103/JPBS.JPBS_21_19
14. Gamaoun R. Awareness and knowledge about cervical cancer prevention methods among Tunisian women. *J Prev Med Hyg.* 2018;59(1):E30–E35. Published 2018 Mar 30. doi:10.15167/2421-4248/jpmh2018.59.1.709
15. Nkfusai NC, Cumber SN, Anchang-Kimbi JK, Nji KE, Shirinde J, Anong ND. Assessment of the current state of knowledge and risk factors of cervical cancer among women in the Buea Health District, Cameroon. *Pan Afr Med J.* 2019;33:38. Published 2019 May 21. doi:10.11604/pamj.2019.33.38.16767
16. Salem MR, Amin TT, Alhulaybi AA, Althafar AS, Abdelhai RA. Perceived Risk of Cervical Cancer and Barriers to Screening among Secondary School Female Teachers in Al Hassa, Saudi Arabia. *Asian Pac J Cancer Prev.* 2017;18(4):969–979. Published 2017 Apr 1. doi:10.22034/APJCP.2017.18.4.969.