

Knowledge and Intentions Regarding the Pap Smear Test Among Saudi Arabian Women

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Research

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Abstract

Background

The knowledge of Pap smear and uptake of preventive behaviors to prevent cervical cancer are the most important contributors to the advanced stage of the disease. Knowledge is one of the most leading factors to predict the health behaviors and a helpful factor in performing screening procedures. This study aimed to investigate Saudi Arabian women knowledge of Pap testing in relation to their intention to undergo the test.

Methods

An online cross-sectional study was conducted among 467 Saudi Arabian women, who aged 18 years and older, living in the city of Riyadh, Saudi Arabia. The participants asked to complete a self-administered questionnaire including three parts (demographic factors, knowledge about Pap smear, and intentions to uptake Pap smear). Data were analyzed through SPSS version 22, using descriptive statistics and correlation to measure the relationship between knowledge, demographic factors and intention.

Results

The study found that average level of knowledge was 1.3 which is between high and moderate knowledge, and the average score for the intention was 2.88, to indicate that the intentions to uptake Pap smear among the participants were above the average. The study revealed a significant correlation between demographic factors and intention.

Conclusion

Findings from the current study can inform health care providers about Saudi Arabian women knowledge of Pap smear and the intention to uptake the test. Strategies to motivate women to undergo Pap screening should be introduced.

Introduction

Cervical cancer is the fourth most common cancer in women worldwide¹. Globally, more than 570000 women were diagnosed with cervical cancer and about 311000 women died from the disease, a number that is expected to grow as the population ages¹. Cervical cancer is considered a major health problem in eastern, western, middle, and southern Africa² (Torre et al., 2012). In Saudi Arabia, cervical cancer incidence is low. In 2018, the number of cervical cancer cases is 316 and 158 deaths among Saudi Arabian women³. According to statistics, cervical cancer is the 9th most frequent cancer among women in Saudi Arabia and the 9th most frequent cancer among women between 15 and 44 years of age³.

Although the incidence of cervical cancer in Saudi Arabia is lower than that of many other countries, it has increased significantly over the last two decades⁴.

More than 40% of cervical cancer cases are diagnosed at advanced stages among Saudi Arabian women probably due to the lack of national screening programs in Saudi Arabia⁵. Cervical cancer is one of the most preventable cancers¹. Early screening and treatment of cervical cancer are important to decrease incidence and mortality. Early detection of cervical cancer can be obtained with Pap smear tests. Pap smear test is one of the effective methods to detect the cervical cancer⁶. The United States Preventive Services Task Force (USPSTF) recommends cervical cancer screening in women age 21 to 65 years with Pap smear every 3 years, or for women age 30 to 65 years with a combination of Pap smear and HPV testing every 5 years⁶. The USPSTF recommends against screening with HPV testing alone or with Pap smear in women younger than age 30 years. It also recommends against screening in women younger than age 21 years and in women older than age 65 years who had adequate prior screening and not at high risk for cervical cancer⁶. The mortality rates for cervical cancer in developed countries have decreased dramatically in the past 25 years, due largely to cervical cancer screening using Pap tests, which allows for detection and treatment of precancerous lesions⁷.

The knowledge of Pap smear and uptake of preventive behaviors to prevent cervical cancer are the most important contributors to the advanced stage of the disease. Knowledge is one of the most leading factors to predict the health behaviors and a helpful factor in performing screening procedures. However, knowledge alone is not sufficient since individual's intention to uptake the preventive measure is also an important element in adopting preventive behaviors. Thus, the knowledge of Pap smear and intentions to undergo screening for cervical cancer are critical to primary prevention. A previous study conducted pointed out that 80% United Arab Emirates women had no knowledge of precancerous lesions⁸. In a similar study⁹, examined the knowledge of Pap smear tests among Bahraini women in primary health care centers in Bahrain. The researchers found that of about 64% Bahraini women had never heard of a Pap smear procedure and only 40.7% had a Pap smear in their lifetime. Another study¹⁰ found that Omani women knowledge about symptoms of cervical cancer and Pap smear was low at 38.7%, 35.3% and 7.6% among outpatients, staff and students, respectively. Approximately half of the married outpatients had adequate overall knowledge as compared to none of the single women. Educational level was found to be significantly associated with outpatient knowledge, with the highest awareness levels among postgraduates and medical university graduates¹⁰. A research study among female health college students in Princess Nora University in Riyadh City, Saudi Arabia indicated that 95.7% of the students had a poor level of knowledge of cervical cancer¹¹. Also, the study found that Pap smear was poorly recognized as a screening tool by most of students and misconception regarding primary and secondary preventive measures¹¹. Generally, the studies in gulf countries and Saudi Arabia revealed low knowledge about Pap smear test and there is a need for more education and promotion programs to increase the awareness of cervical cancer and Pap smear test in the population. Moreover, health education programs

were recommended as an effective strategy in improving the level of knowledge on cervical cancer among the target population.

A research study examined the factors associated with the intention to undergo Pap testing, by level of sexual experience¹². Findings of the study revealed that the subjective norm was the most important predictor of intention to undergo Pap testing¹². However, there is no previous studies about the knowledge of Pap smear testing in relation to the intention to undergo Pap testing among Saudi Arabian women. This information would be will be crucial in developing interventions to educate Saudi Arabian women on cervical cancer prevention measures. This study aimed to investigate Saudi Arabian women knowledge of Pap testing in relation to their intention to undergo the test. The results of this study will support greater awareness and prevention of cervical cancer and create targeted areas for future health promotion and education efforts. Findings of the study will be helpful to use knowledge of Pap smear testing in the prediction of Saudi Arabian women prevent behavior in relation to undergo Pap testing. A better understanding of what Saudi Arabian women know about Pap testing in relation to their intentional behavior is essential to establish effective health promotion interventions.

The continuous rise in cervical cancer around the world necessitates health professionals to pay more attention to this prevented disease. Health care providers have the opportunity to be a great contributor in reducing cervical cancer rates by participating in research on this important issue and by providing effective preventive measures. Even though cervical cancer morbidity and mortality rates are increasing among Saudi Arabian women, understanding and awareness of the disease are low¹¹. This lack of knowledge and awareness combined with the low uptake of preventive measures could puts the women of Saudi Arabia at risk of having cervical cancer. These disturbing facts and statistics regarding the cervical cancer among Saudi Arabian women justify the need for the implementation of effective initiatives to prevent the disease.

This study may have an important impact on the focus of cervical cancer research in Saudi Arabia. Specifically, this study would be beneficial to future researchers studying the cervical cancer in Saudi Arabian. Emphasis should be given to implementing interventions aimed at increasing awareness of cervical cancer in relation to undergo screening for cervical cancer to encourage healthy preventive behaviors among Saudi Arabian women, thereby reducing the risk of cervical cancer. It is the goal of this study to examine the knowledge of Pap testing in relation to the intentions to undergo the test and make recommendations for educational programs to increase the knowledge of cervical cancer preventive measure in relation to intentions to uptake Pap testing so as to decrease the incidence of cervical cancer among the target population.

Methods

This cross-sectional study was conducted through online recruitment of Saudi Arabian women aged 18 years old and older in April 2018. The survey included information about demographic characteristics, about the knowledge of Pap smear, and the intentions of uptake Pap smear. The sample of study

included 467 women from Riyadh, Saudi Arabia. Eligible participants in this study included Saudi Arabian women, aged 18 years and older, speak Arabic, and lived in Riyadh. The online questionnaire composed of three sections.

The first section assessed socio-demographic data (age, marital status, and the level of education). The second section assessed knowledge of Pap smear as a screening test for cervical cancer. This section included thirteen items to measure the knowledge of Pap smear. The item response options included true and false responses which was adapted¹³. For example, participants were asked to answer yes or no with the statement: "Do you know when to start doing Pap smear". The items were scored as Yes = 1, No = 2. The total knowledge score was classified into three levels scores: 1 "High knowledge", 1.5 "Medium Knowledge", and 2 "Low Knowledge". The third section measured the behavioral intention to undergo Pap smear testing was adapted from¹⁴. with three items. For example, the question asked the participants to report how likely or unlikely the following statement applies to them: "In the coming three months, I intend to uptake Pap smear testing." To measure the intentions, a 5-point scale was used with (1) to indicate "Extremely likely" and (5) "Extremely unlikely" as endpoints. Higher composite scores on the overall scale indicated decreased intentions to obtain a Pap smear.

The survey was placed through the investigator's Google web page and then distributed through a link to social networks (Twitter, Instagram, WhatsApp). The data were collected after the study was approved by the Institutional Review Boards (IRB's) of King Saud University. Participants who met the inclusion criteria were asked to read the informed consent. Participants were notified that their participation in this study is voluntary and they may decline answering questions or withdraw from the study at any time

The data were entered and stored in a computer database on the principal investigator's computer. The data were checked for missing values and data entry errors. Statistical analysis was performed using SPSS Version 22. Descriptive statistical analysis was applied in the study with $p < 0.05$ considered significant. The independent variables in this study included knowledge of Pap smear and demographic characteristics. The dependent variable was the intentions to uptake Pap smear. Descriptive statistics were obtained for all the variables studied. The Pearson Correlation Coefficient was applied to specify how two variables vary together, the knowledge of Pap smear, demographic characteristics, and intentions. Frequencies were to identify participants' demographic characteristics including identification of age, educational level, and marital status.

Results

A total of 467 women were included in the study. A total of 467 surveys were usable for data analysis. None of the survey were excluded because all the data was completed through an online questionnaire that works by the mechanism of non-sending the questionnaire unless all answers are completed. Descriptive statistics, frequencies, and Pearson Correlation were used for statistical analyses. Ages ranged from 18 to 65 years. As shown in Table 1, most of the participants were aged 18-29 years and a low percentage were aged 50-65 years. More than half of the participants were divorced at the time of

survey, followed by married, widowed, and single (Table 2). Most of the study participants had received a bachelor's degree.

Table1 Frequency Distribution by Age Category (n=467)

Age Category	N	%
18-29	286	61.2
30-49	146	31.3
50-65	35	7.5
Total	467	100.0

Table 2 Marital Status(n=467)

Marital Status	n	%
Single	7	1.5
Married	200	42.8
Divorced	251	53.8
Widowed	9	1.9
Total	467	100.0

The average score of knowledge about Pap test was 1.3. The range of this score was 1–1.5. The participants' level of knowledge about Pap test was between high to medium. On the Behavioral Intention Scale, a score of 2.5 was considered average. The data analysis revealed that the average score was 2.88. The range of this scale score was 1–5. These findings indicated a consensus that the intentions to uptake Pap smear among the participants were above the average. Responses given by the participants in this study showed a positive correlation between knowledge about Pap test and intentions to uptake the test ($r = .63$). This correlation was not statistically significant ($p > 0.05$). This suggests that Saudi

Arabian women with high knowledge about Pap test are more likely to have an intention to take the test. Responses given by the participants in this study showed a moderate negative correlation ($r = -.50$, $p > 0.05$) between the knowledge about Pap test and age. This indicates that younger participants tend to have higher levels of knowledge. The study revealed a significant negative correlation ($r = -.83$, $p < 0.05$) between age and intention. This suggests that younger participants tend to have higher intention to perform Pap smear test. Also, the study found a significant positive correlation ($r = .93$, $p < 0.01$) between marital status and intention. Thus, the result of the study indicated that the demographic factors such as age and marital status are determinants of the intentions.

Discussion

This study was conducted to assess the knowledge of Pap smear among Saudi Arabian women over 18 years old and their intention to perform the test. Majority of participant were aged 18-29 and more than half of the respondent were divorced. Most of the respondents were educated with a bachelor's degree. The study found that average level of knowledge was 1.3 which is between high and moderate knowledge, and the average score for the intention was 2.88, to indicate that the intentions to uptake Pap smear among the participants were above the average. These findings suggest that study participants have levels of knowledge and intention to undergo Pap smear testing that are above average. Based on this study's findings, the current level of knowledge among the participants do not concur with previous study indicating a low level of Pap screening awareness among Korean students¹².

The major findings of this study showed a positive correlation between knowledge about Pap test and intentions to uptake the test, but not statistically significant. It is possible that, due to social desirability bias, most of the participants reported having higher knowledge and intention to doing the test than they actually had. Also, the study revealed a significant correlation between demographic factors (age and marital status) and intention. The result showed that there was a significant relationship between marital status and the intention, which could be attributed to high percentages of married and divorced participants in the study, who have been sexually active to consider doing the test. This result concurs with findings reported by a previous study that the intention to undergo Pap testing differed by level of sexual experience¹². Also, the results revealed a significant negative relationship between age and intention, suggesting that the intention of doing Pap smear decreased as people age.

However, the findings that there was no significant relationship between the knowledge of Pap smear test and age contradicted the literature that there was a positive relationship between demographic variables particularly 'age' and knowledge of Pap smear test^{15,16}. Overall, the findings of this study that no significant relationship was found between knowledge of Pap smear and the intention to perform Pap smear test means that knowledge can not be a predictor to perform Pap smear test. This result is consistent with a previous study indicating that the level of awareness can not be related to the intention to adopt the preventive behavior¹⁵.

Conclusion

This study examined the knowledge of Pap smear in relation to the intention to undergo Pap testing. It found that study participants have levels of knowledge and intention to undergo Pap smear testing that are above average. The study revealed a significant correlation between demographic factors (age and marital status) and intention. This study offers new insights applicable to health institutions and health professional practice. Findings from the current study can inform health care providers about Saudi Arabian women knowledge of Pap smear and the intention to uptake the test. These findings can help health educators to design appropriate programs, awareness messages, and community campaigns to increase the knowledge and health beliefs about cervical cancer and its preventive behaviors. Even though participants' levels of knowledge and their intentions to uptake Pap smear test were above average, these perceptions and intentions could be not reflected in adopting preventive behaviors. Therefore, there is a need to foster educational programs to increase the level of knowledge in women toward Pap smear test and influence their intention to adopt preventive behaviors. The results of this study indicate that continued research in this area is warranted. Future research could, for example, assess the knowledge and women's perceptions related to barriers, facilitators and resource information about the Pap smear test.

Declarations

Ethics approval and consent to participate

Ethical approval was obtained from the Ethics Committee Review Board of the College of Applied Medical Science of King Saud University, Riyadh, Saudi Arabia.

Consent for publication

Informed consent was obtained from all participants prior their participation in the study

Availability of data and material:

The datasets analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

The author certifies that there is no conflict of interest with any financial organization regarding the material discussed in the manuscript.

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Authors' contributions

Not applicable

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