

THE INTENTION OF WOMEN TO UNDERGO CERVICAL CANCER SCREENING BASED ON THE THEORY OF PLANNED BEHAVIOR

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ABSTRAK : INTENSI WANITA DALAM MELAKUKAN SKRINING KANKER SERVIKS BERDASARKAN THEORY OF PLANNED BEHAVIOR

Latar Belakang: Kanker serviks merupakan kanker dengan urutan kedua yang mengancam kesehatan wanita Indonesia dengan angka kesakitan dan kematian yang tinggi. Namun tingkat intensi wanita dalam melakukan skrining kanker serviks masih rendah karena berbagai alasan.

Tujuan: Mengetahui faktor-faktor yang mempengaruhi intensi wanita usia subur dalam melakukan skrining kanker serviks berdasarkan Theory of Planned Behavior.

Metode: Penelitian ini merupakan penelitian observasional dengan tipe studi analitik menggunakan desain Cross Sectional, populasi penelitian wanita usia subur berdasarkan kriteria inklusi dan eksklusi dengan teknik random sampling besar sebanyak 44 wanita. Penelitian dilakukan selama pada bulan Maret 2023 dan analisa data menggunakan software komputer dengan uji statistik Chi-Square.

Hasil: Hasil penelitian menunjukkan adanya hubungan yang signifikan antara norma subjektif ($p=0.036$) dan persepsi kontrol perilaku ($p=0.002$) dengan intensi wanita usia subur dalam melakukan skrining kanker serviks. Sementara itu tidak ada hubungan yang signifikan antara sikap ($p=0.180$) dengan intensi wanita usia subur dalam melakukan skrining kanker serviks.

Kesimpulan: Terdapat hubungan antara norma subjektif dan control perilaku terhadap intensi Wanita usia subur dalam melakukan skrining kanker serviks.

Saran: Perlu dilakukan upaya untuk meningkatkan sikap wanita dengan melibatkan orang-orang berpengaruh, sehingga dapat meningkatkan intensi wanita untuk melakukan skrining kanker serviks.

Kata Kunci: intensi, kanker serviks, skrining, *theory of planned behavior*

ABSTRACT

Background: Cervical cancer is the second cancer threatening Indonesian women's health with high morbidity and mortality rates. However, women's intention in cervical cancer screening is still low for various reasons.

Purpose: This research aims to determine the factors influencing the intention of women of childbearing age in screening for cervical cancer based on the theory of planned behavior.

Methods: This study is observational with an analytical study type using a cross-sectional design. Forty-four women who were suitable for inclusion criteria were enrolled in this study. The study was conducted in March 2023, and data was analyzed through a Chi-Square statistical test using a computer program.

Result: There is a significant relationship between subjective norms ($p = 0.036$) and perceptions of behavioral control ($p = 0.002$) with the intention of women skrinning cervical cancer. At the same time, there is no relationship between attitudes ($p = 0.180$) and intentions of women of childbearing age in cervical cancer screening.

Conclution: There is correlation between subjective norms and perceptions of behavior control with the intention of women skrinning cervical cancer.

Suggestion: Efforts are needed to improve women's attitudes by involving influential people to increase women's intentions to do cervical cancer screening.

Keyword: Intention, screening, cervical cancer, theory of planned behavior

INTRODUCTION

The incidence of cancer in Indonesia is recorded at 396,914 cases, with the highest incidence among women being breast cancer, followed by cervical cancer, which accounts for 36,633 new cases and 21,003 deaths due to cervical cancer (The Global Cancer Observatory, 2020). In 2019, the prevalence of tumors or cervical cancer in Indonesia was 23.4 per 100,000 population, with an average mortality rate of 13.9 per 100,000 population. Semarang City is one of the cities in Central Java Province with the highest cancer cases. The number of cancer cases in Semarang City increased from 5,155 in 2015 to approximately 68,638 cases in 2018. Specifically for cervical cancer, data indicate 406 cases (Dinas Kesehatan Provinsi Jawa Tengah, 2020).

Cervical cancer is caused by infection with the Human Papillomavirus (HPV), with HPV type 16 accounting for 47% and type 18 accounting for 40% of cases in Indonesia (Information Centre on HPV and Cancer, 2023). The high incidence of cancer can actually be prevented through various measures, including avoiding high-risk sexual behavior, delaying early sexual activity, receiving vaccination before becoming sexually active, and undergoing screening for women who are already sexually active (Information Centre on HPV and Cancer, 2023). The high mortality rate of cervical cancer in Indonesia is attributed to late detection, resulting in 90% of patients being unable to receive optimal treatment. Nevertheless, the coverage of cervical cancer screening among women of reproductive age in Indonesia remains far below the target, with a national screening rate of only 6.8% in 2021 (Pangribowo, 2019).

According to (Maryati, 2023), there are four determinants of early cervical cancer detection: (1) demographic and biological factors, (2) psychological, cognitive, and emotional factors, (3) social and cultural factors, and (4) the availability of facilities and ease of access to information. For example, in the psychological aspect, factors such as attitudes toward early detection, feelings of embarrassment, and perceptions of the disease play a role. Cultural aspects, such as support from healthcare workers, family members, and health cadres, also influence women of reproductive age in undergoing early cervical cancer detection.

According to the Theory of Planned Behavior (TPB) by Ajzen, as cited in (Rahmawati, 2021) study, an individual's behavior can be influenced by intention indicators. Intention is defined as the cognitive representation of a person's readiness to perform a particular behavior and serves as a sign or

indication of their preparedness to engage in that behavior. It is considered an antecedent that precedes behavior. Intention is directly influenced by three factors: attitude, subjective norms, and perceived behavioral control.

Based on a preliminary study conducted in the Genuksari subdistrict, the researcher approached 10 women of reproductive age through direct interviews. All participants were aware of cervical cancer screening; however, the majority (80%) hesitated to undergo the procedure due to fear of the results and the perception that screening was not yet necessary. In light of the above findings, this study aims to analyze the factors influencing the intention of women of reproductive age to undergo cervical cancer screening using the Theory of Planned Behavior.

RESEARCH METHODS

This study employs an observational research design with an analytical study type using a cross-sectional approach. The population consists of all women of reproductive age residing in the Genuksari subdistrict, totaling 1,875 individuals. A sample of 44 respondents was selected based on proportional calculations from previous research and determined according to inclusion and exclusion criteria. The sampling method utilized was proportionate random sampling. The study was conducted in the Genuksari subdistrict in March 2023.

Data collection was carried out using a self-administered questionnaire completed by respondents. Prior to data collection, the questionnaire underwent validity and reliability testing, yielding valid results with a correlation coefficient (r) of ≥ 0.444 and reliable results with a Cronbach's alpha of ≥ 0.6 . Before completing the questionnaire, respondents were asked to sign an informed consent form, after which the researcher explained the questionnaire completion procedure.

Quantitative data analysis was performed using univariate and bivariate analysis. Univariate analysis was conducted to describe respondents' characteristics, presented in frequency distribution tables. Bivariate analysis was used to examine the relationship between attitude, subjective norms, and perceived behavioral control with the intention of women of reproductive age to undergo cervical cancer screening. The Chi-Square statistical test was employed with the aid of a computer program.

This study received ethical approval from the Ethics Committee of the Faculty of Medicine, Sultan Agung Islamic University, with approval number 133/III/2023/Komisi Bioetik.

RESEARCH RESULTS

Based on the table above, the reproductive history of women of reproductive age is as follows: The majority of respondents (77.3%) were married for the first time between the ages of 21 and 35, accounting for 34 individuals. Regarding the number of sexual partners, all respondents (100%) reported having only one partner (44 individuals). In terms of

abnormal vaginal discharge, the majority (65.9%) had never experienced it, totaling 29 individuals. Concerning contraceptive use, most respondents (47.7%) used hormonal contraception, amounting to 21 individuals. As for postcoital bleeding, the majority (93.2%) had never experienced it, comprising 41 individuals.

Table 1
Distribution of Reproductive History in Women of Reproductive Age

Reproductive History Variables	Categories	n	%
Age at First Marriage	≤ 20 years	10	22.7
	21 – 35 years	34	77.3
Number of Sexual Partners	1 partner	44	100
History of Abnormal Vaginal Discharge	Never	29	65.9
	Ever	15	34.1
Use of Contraception	Hormonal	21	47.7
	Non-hormonal	14	31.8
	None	9	20.5
Postcoital Bleeding	Never	41	93.2
	Ever	3	6.8

Table 2
Relationship Between Attitude and Intention of Women of Reproductive Age to Undergo Cervical Cancer Screening in Genuksari Subdistrict

Attitude	Intend to Screen		Total [n (%)]	P value
	(Yes) [n (%)]	(No) [n (%)]		
Positive	21 (47.7%)	10 (22.7%)	30 (68.2%)	0.180
Negative	6 (13.6%)	7 (15.9%)	14 (31.8%)	

Source: *Chi - Square test*

Based on the Chi-Square test results, a p-value of 0.180 ($p > 0.05$) was obtained, indicating that there is no significant relationship between

attitude and the intention of women of reproductive age to undergo cervical cancer screening.

Table 3
Relationship Between Subjective Norms and Intention of Women of Reproductive Age to Undergo Cervical Cancer Screening in Genuksari Subdistrict

Subjective Norms	Intend to Screen		Total [n (%)]	P value
	(Yes) [n (%)]	(No) [n (%)]		
Supportive	21 (47.7%)	8 (18.2%)	29 (65.9%)	0.036
Not Supportive	6 (13.6%)	9 (20.5%)	15 (34.1%)	

Source: *Chi - Square test*

Based on the Chi-Square test results, a p-value of 0.036 ($p < 0.05$) was obtained, indicating that there is a significant relationship between

subjective norms and the intention of women of reproductive age to undergo cervical cancer screening.

Table 4
Relationship Between Perceived Behavioral Control and Intention of Women of Reproductive Age to Undergo Cervical Cancer Screening in Genuksari Subdistrict

Perceived Behavioral Control	Intend to Screen		Total [n (%)]	P value
	(Yes) [n (%)]	(No) [n (%)]		
Supportive	23 (52.3%)	7 (15.9%)	30 (65.9%)	0.002
Not Supportive	4 (9.1%)	10 (22.7%)	14 (34.1%)	

Source: Uji Chi – Square

Based on the Chi-Square test results, a p-value of 0.002 ($p < 0.05$) was obtained, indicating that there is a significant relationship between perceived behavioral control and the intention of women of reproductive age to undergo cervical cancer screening.

DISCUSSION

The data from Table 1 shows that among 44 respondents, the majority of women (77.3%) were married for the first time at the age of 21-35 years, while a smaller proportion (22.7%) were married before the age of 21 years. A study by (Hidayah et al., 2021) showed that in the case group, 57.9% of women were married before 20 years old (22 respondents), which was higher than the control group, where only 21.1% (8 respondents) had married before 20 years old. The statistical analysis resulted in a p-value of 0.02 (< 0.05) and an Odds Ratio (OR) = 5.156, indicating a significant association between early marriage and cervical cancer incidence. Women who married before the age of 20 years had a five times higher risk of developing cervical cancer compared to those who married at >20 years.

The results of this study indicate that all respondents (100%) had only one sexual partner (44 women). Cervical cancer is closely related to sexual behavior. A meta-analysis has shown an increased risk of cervical cancer among women with multiple sexual partners. Other studies also indicate that engaging in sexual activity at a young age increases the risk of cervical cancer (Zhang et al., 2020), while first sexual intercourse after the age of 20 serves as a protective factor against cervical cancer (Delam et al., 2020).

A review study also emphasized that not only women should limit their number of sexual partners. If a male partner engages in sexual activity with multiple women, he may transmit infections to his primary partner. Men can act as high-risk vectors for pathogens that cause infections (Delam et al., 2020).

Among the 44 respondents, the majority of women (65.9%) had never experienced abnormal

vaginal discharge, while a smaller proportion (34.1%) had experienced it. Abnormal vaginal discharge is one of the signs of genital infections. Infections caused by *Trichomonas vaginalis*, *Chlamydia trachomatis*, and other genital infections have been identified as risk factors for cervical cancer (Delam et al., 2020).

The results of this study indicate that the majority of women (47.7%) used hormonal contraception (21 respondents), while a smaller proportion (9.1%) used natural contraception (4 respondents). A systematic review and meta-analysis found that long-term use of oral hormonal contraception increases the risk of cervical cancer, with an Odds Ratio (OR) of 1.77 for adenocarcinoma, 1.29 for squamous cell carcinoma, and 1.7 for carcinoma in situ (Asthana et al., 2020). The hormonal effects of these contraceptives inhibit ovulation, leading to a decrease in progesterone levels, which subsequently prevents endometrial shedding. In response to estrogen, endometrial cells may undergo hyperplasia, a condition that can increase the risk of cancer, particularly adenocarcinoma.

Among 44 respondents, the majority (93.2%) had never experienced post-coital bleeding (41 respondents), while a smaller proportion (6.8%) had experienced it (3 respondents). A study by (Cohen et al., 2019) found that compared to the control group, patients with PCB had a significantly higher likelihood ($P = 0.04$) of being diagnosed with CIN 1 or a more severe pathology (OR 1.82, 95% CI 1.02-3.33).

Relationship Between Attitude and Intention of Women of Reproductive Age in Undergoing Cervical Cancer Screening

An analysis of the relationship between attitude and the intention of women of reproductive age in undergoing cervical cancer screening yielded a p-value of 0.180, indicating no significant relationship between attitude and intention.

According to Ajzen in (Rahmawati, 2021) attitude is defined as an individual's feelings toward

accepting or rejecting a behavior, measured using a procedure that places two opposing perspectives, such as good versus bad or agree versus disagree. If an individual believes that a behavior will yield positive outcomes, they are likely to develop a positive attitude, and vice versa. Ajzen also states that the relative influence of each component in the Theory of Planned Behavior (TPB) may vary depending on the specific behavior and population under study.

This study aligns with the findings of (Roncancio et al., 2015), where statistical analysis yielded a probability (p-value) of 0.295 ($p > 0.05$), indicating no significant relationship between attitude and the intention of women to undergo cervical cancer screening. In Roncancio's study, attitudes toward cervical cancer screening were influenced by perceptions of pain, anxiety, and embarrassment that might be experienced during the procedure. Similarly, a study on women's intentions to undergo mammography screening revealed that those who had never undergone screening were more likely to hold negative attitudes due to the perception that the procedure is painful and embarrassing compared to those who had previous screening experience (Salinas et al., 2018).

Attitude formation is influenced by information received, personal perspectives, and past experiences. Incorrect or misleading information can impact an individual's knowledge and contribute to the development of negative attitudes (Rahmawati, 2021). However, contrary findings have been reported in studies by (Abamecha et al., 2019), (Dsouza et al., 2021), and (Xin et al., 2023), which established a significant relationship between attitudes toward screening and the intention to undergo cervical cancer screening.

In conclusion, the negative attitudes of women of reproductive age toward cervical cancer screening may be influenced by fear of the procedure itself. Additionally, negative attitudes can be shaped by the information they receive from their surroundings. If this information is inconsistent with scientific evidence, it may contribute to the formation of negative perceptions about undergoing cervical cancer screening.

The Relationship Between Subjective Norms and the Intention of Women of Reproductive Age in Undergoing Cervical Cancer Screening

The analysis of the relationship between subjective norms and the intention of women of reproductive age to undergo cervical cancer screening revealed a p-value of 0.036, indicating a

statistically significant association between these variables.

According to Ajzen, as cited in (Rahmawati, 2021), subjective norms refer to an individual's perception of social pressures or beliefs held by others that influence their decision to engage in a particular behavior. These social influences may stem from significant individuals such as spouses, family members, relatives, colleagues, or others relevant to the behavior in question. Individuals often use these social referents as a basis for shaping their own behavioral intentions.

The findings of this study align with research conducted by (Wollancho et al., 2020), which reported a statistically significant association between subjective norms and the intention to undergo cervical cancer screening (p-value = 0.008, OR = 2.87). Their study found that 80.9% of respondents in Ethiopia acknowledged the role of social referents—such as husbands, parents, neighbors, traditional healers, and healthcare providers—in raising awareness about cervical cancer screening.

Similarly, research by (Xin et al., 2023) corroborates these findings, indicating a significant relationship between subjective norms and screening intention (p-value = 0.000, OR = 2.80). Their study identified subjective norms as the strongest predictor of screening intention, with 64.7% of respondents emphasizing the importance of family support—particularly from female relatives—in fostering confidence and overcoming barriers to screening. In the Chinese context, where health is highly prioritized, younger women frequently seek advice from older women, further reinforcing the role of social influence in health-related decision-making.

Subjective norms play a crucial role in shaping behavioral intentions by providing motivation and reinforcement from individuals within one's social environment. According to Ajzen, an individual's behavioral choices are significantly influenced by the expectations and encouragement of those around them (Rahmawati, 2021).

However, contrasting findings were reported by (Ogilvie et al., 2016), who found no significant association between subjective norms and cervical cancer screening intention. Their study suggested that the frequency of screening recommendations by healthcare providers—shifting from every four years to annual screenings—may have influenced women's perceptions of the necessity of screening.

In conclusion, when social referents serve as key influences in guiding behavior, they act as reference points or sources of motivation. These

referents, including family, friends, and partners, contribute to the perception that individuals are valued and cared for, ultimately fostering stronger screening intentions through social support and encouragement.

The Relationship Between Perceived Behavioral Control and the Intention of Women of Reproductive Age to Undergo Cervical Cancer Screening

The analysis of the relationship between perceived behavioral control and the intention of women of reproductive age to undergo cervical cancer screening yielded a p-value of 0.002, indicating a statistically significant association between these variables.

According to Ajzen, as cited in (Rahmawati, 2021), perceived behavioral control refers to an individual's perception of the ease or difficulty of performing a particular behavior. The presence of facilitating factors plays a crucial role in strengthening an individual's sense of control over their behavior. Conversely, a lack of supportive factors can lead to difficulties in carrying out the intended behavior.

The findings of this study align with research conducted by (Wollancho et al., 2020), which found a statistically significant relationship between perceived behavioral control and cervical cancer screening intention (p-value = 0.002, OR = 4.85). Their study reported that 59.6% of respondents in Ethiopia perceived cervical cancer screening as an intimidating and difficult process due to concerns such as childcare responsibilities while undergoing screening. Similarly, a study by (Getahun et al., 2020) supports this relationship, reporting a significant association between perceived behavioral control and screening intention (AOR 7.105). Their findings suggest that women responsible for household duties face challenges in accessing cervical screening services. This difficulty arises because such services are often unavailable on weekends, which is the only time they may be able to visit a clinic. With regard to cervical cancer screening intentions, perceived behavioral control allows individuals to take the initiative to undergo screening based on their own awareness. This implies that women of reproductive age recognize the risks associated with cervical cancer and understand the importance of screening in detecting early cellular changes in the cervix. In conclusion, perceived behavioral control plays a critical role in determining a woman's intention to undergo cervical cancer screening. Women who perceive themselves as having the ability to undergo screening are more

likely to do so, particularly when they acknowledge both the risks posed by cervical cancer and the benefits of early detection through screening.

This study has several limitations that need to be considered. One of the main limitations is the limited number of respondents, which may prevent the findings from fully representing a broader population. This limitation could affect the generalizability of the results, particularly in interpreting the relationship between the factors studied and the intention of women of reproductive age to undergo cervical cancer screening. Therefore, further research with a larger sample size and a wider geographical scope is recommended to obtain more representative results and enhance the external validity of the findings.

CONCLUSION

This study's findings indicate that there is no significant association between attitude and the intention of women of reproductive age to undergo cervical cancer screening. However, subjective norms and perceived behavioral control demonstrate significant associations with screening intention. Despite these findings, the study is subject to certain limitations, particularly the relatively small sample size, which may affect the generalizability of the results. Future research incorporating a larger and more diverse sample is recommended to further validate these findings. Nonetheless, this study contributes to the existing body of knowledge and provides a foundation for the development of health education interventions aimed at enhancing the uptake of cervical cancer screening, in alignment with the Theory of Planned Behavior.

SUGGESTION

Integrating social influence and empowerment strategies into cervical cancer screening education by involving not only women but also their social referents like husbands, family members, and community leaders to reinforce subjective norms. They can also improve women's perceived behavioral control by increasing access to screening services (e.g., through extended hours, mobile clinics, or community-based initiatives) and offering clear, encouraging information that increases confidence and lowers barriers to action.

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