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Relationship of Health Belief Model (HBM) with VIA Test Behavior in Women of Childbearing Age

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Abstract

Introduction: Cervical cancer ranks second as the most cancer cases in women. This is due to ineffective early detection programs. Early detection of cervical cancer that can be done is the VIA test, but women's involvement is still minimal. This is because Health Belief in cervical cancer and VIA tests are lacking so that women don't feel vulnerable and threatened to cervical cancer, don't feel cervical cancer as a severe disease, don't know the benefits of IVA tests and don't feel able to do. The aim of this study was to analyze the relationship between HBM and the behavior of VIA test examination. **Methods:** This type of research was correlational with a cross sectional approach. The study population was women of childbearing age. Samples of 51 people were taken using the purposive sampling method. The instrument used is a questionnaire. The results of the study were analyzed with the Spearman test. **Results:** The Health Belief Model among respondents was almost entirely in the moderate category (78.4%). Behavioral VIA test examination was mostly in the positive behavior category (70.6%). There is a relationship between the HBM and VIA test behavior with p value = 0.011 (p value < α (0.05))**. Conclusions:** Based on the study results, it can be concluded that there is a relationship of Health Belief Model with VIA Test Behavior in Women of Childbearing Age.

Keywords: Health Belief Model, behavior, VIA Test, women of childbearing age

Introduction

Cervical cancer affects numerous women and is the second most prevalent cancer in women, following breast cancer (Globocan, 2020). The surge in cervical cancer cases is attributed to the ineffectiveness of early detection programs (Veridiana et al., 2020). The government implements free and regularly scheduled VIA (Visual Inspection with

Acetic Acid) examinations, a crucial part of early cervical cancer detection, across all public health centers in Indonesia (Rohmah & Anggraeni, 2021). Despite this initiative, there is still a low level of awareness among women regarding the importance of undergoing VIA tests (Kalia & Muhani, 2020).

In accordance with Regulation No. 21 of 2020 by the Minister of Health of the Republic of Indonesia, the target for early detection of cervical cancer is set at ≥80 percent of the designated population. However, data from the 2021 Indonesian Health Profile report revealed that the percentage of cervical cancer early detection examinations using VIA from 2019 to 2021 was only 6.83% (KEMENKES RI, 2021). In East Java province, the VIA examination percentage in 2021 was 8.5% (Dinas Kesehatan Provinsi Jawa Timur, 2021). Specifically, in Jember Regency, the percentage of women who underwent VIA tests in 2021 was 4.6%, while in the Mangli Health Center's jurisdiction, the percentage of women who underwent VIA tests in 2022 was 17.3% (Dinas Kesehatan Kabupaten Jember, 2022).

The inclination towards undergoing VIA test examinations for early detection of cervical cancer is shaped by an individual's beliefs and perceptions about health (Widjayanti, 2020). The decision to engage in a preventive or diagnostic program is influenced by factors such as perceived vulnerability, the impact or severity of the disease, perceived program benefits, and perceived barriers (Veridiana et al., 2020). Women who abstain from VIA tests often express a lack of awareness regarding their susceptibility to cervical cancer due to their age and a perceived state of good health. Additionally, they lack understanding about the advantages of VIA tests and harbor negative assumptions, which stem from a limited comprehension and hindrances posed by examiners, including issues related to the availability of tools, access, and insufficient healthcare personnel (Kalia & Muhani, 2020).

The consequence of limited VIA test examinations is that a significant number of cervical cancer cases are identified at advanced stages, leading to escalated treatment costs, increased complexity in acquiring specialized healthcare professionals and support staff, and a rise in mortality rates (Cholifah & et al., 2017). Consequently, the recommended course of action for public health centers is to intensify efforts in publicizing and educating the community about the significance of VIA tests and cervical cancer. This approach aims to enhance public comprehension and awareness, encouraging more individuals to undergo VIA tests. Motivated by these challenges and supported by various data and sources, the researchers are undertaking a study titled

"Relationship of Health Belief Model with VIA Test Behavior in Women of Childbearing Age."

Methods

This research employed a quantitative methodology, specifically adopting a correlational research approach and utilizing a cross-sectional research design. The study was conducted in the operational area of the Mangli Health Center, specifically in RW 07 Mangli Kaliwates Village, during April-May 2023. The research population included all women of childbearing age residing in RW 07 Mangli Kaliwates Village, totaling 59 individuals. A sample of 51 participants was selected using a non-probability sampling technique, specifically the purposive sampling method.

Inclusion criteria for participants were as follows: women of childbearing age (15–49 years old) residing in RW 07 Mangli Village, married, not diagnosed with cervical cancer or psychosocial disorders, literate, and willing to participate as respondents. Exclusion criteria included women who declined to complete the consent form, those who had undergone a pap smear, and individuals with unmarried or widowed status.

The variables in this study included the Health Belief Model (HBM) and VIA test behavior. Research instruments comprised a questionnaire for HBM and another for VIA test behavior. Data analysis utilized the Spearman test. Ethical considerations in this research prioritized respecting human dignity, justice, beneficence, and non-maleficence, adhering to ethical guidelines numbered (No. 160/KEPK/UDS/V/2023).

Results

The characteristics of respondents in this study were described as including age, recent education, occupation and income. The characteristic of respondents can be seen in the following table.

Table 1 Description of respondent's characteristic

No	Characteristic of respondents	Frequency (f)	Percentage(%)
1	**Age**		
	≥ 20 years – 35 years	29	56,9%
	>35 years	22	43,1%
	Total	51	100%
2	**Recent education**		
	Primary education (SD & SMP Equivalent)	11	21,6%
	Secondary education (SMA Equivalent)	33	64,7%
	Higher education	7	13,7%
	Total	51	100%
3	**Occupation**		

	Goverment employees	3	5,9%
	Housewife	31	60,8%
	Self employed	17	33,3%
	Total	51	100%
4	**Income**		
	< Rp. 1.500.000	25	49%
	Rp. 1.500.000 – Rp 2.500.000	8	15,7%
	Rp. 2.500.000 – Rp. 3.500.000	13	25,5%
	> Rp 3.500.000	5	9,8%

Table 1 shows frequency distribution of respondents' characteristics by age are mostly ≥ 20 years–35 years old as many as 29 people (56.9%), have the most recent education namely secondary education as many as 33 people (64.7%), the work of most respondent namely housewives as many as 31 people (60.8%) and almost half of the income of respondent which is <Rp. 1,500,000 as many as 25 people (49%).

Table 2 Frequency distribution of HBM in VIA test examination behavior in respondent

Health Belief Model (HBM)	**Frequency(f)**	**Percentage (%)**
High	7	13,7%
Medium	40	78,4%
Low	4	7,8%
Total	51	100%

Table 2 shows the distribution of the frequency of the Health Belief Model (HBM) in VIA test examination behavior in respondet was almost entirely in the medium HBM category, namely in 40 respondents (78.4%).

Table 3 Frequency distribution of VIA test behavior in respondent

	VIA test behavior	**Frequency**	**Percentage (%)**
Positive behavior		36	70,6%
	Negative behavior	15	29,4%
Total		51	100%

Table 3 shows the frequency distribution of VIA test behavior in respondent mostly has positive behavior, namely in 36 people (70.6%).

Table 4 Result of analysis of the relationship between HBM with VIA test behavior in respondent

		Behavior VIA tes					
		Positive behavior		Negative behavior			
		f	%	f	%	Total	p value score
Health Belief Model (HBM)	High HBM	6	11,8	1	2	7	0,011
	Medium HBM	30	58,8	10	19,6	40	
	Low HBM	0	0	4	7,8	4	
	Total	36	70,6	15	29,4	51	

Table 4 shows respondents who had medium HBM category with positive behavior interms

of VIA test examination as many as 58.8% (30 people). The results of the analysisusing the Spearman test obtained a p value = 0.011 (p value < α (0.05)), so it can be concluded there is a relationship between the Health Belief Model (HBM) and VIA test examination behavior in women of childbearing age.

Discussion

Health Belief Model (HBM) in VIA Test Behavior in Women of ChildbearingAge

The results of research on HBM found that the HBM level in respondents was almost entirely in the medium category, which was 40 respondents (78.4%). HBM is said to be medium if respondents get a total score of 64 – 96 after filling out the questionnaire. HBM means that respondents have a low perception of one of the indicators in the HBM questionnaire (Rohmah & Anggraeni, 2021).

HBM is an individual's beliefs or perceptions about a disease and the strategies available to reduce the occurrence of that disease. HBM is a subjective assessment of an individual regarding his susceptibility to disease, the severity of the disease, the benefits and what the individual perceives in carrying out behavior (Wardana, 2022). A person's HBM level of a disease is influenced by seven indicators including perceived vulnerability, perceived severity, perceived threat, perceived benefit, perceived barriers, action cues and self-confidence (Glanz et al., 2002).

HBM levels in individuals regarding cervical cancer and VIA test examinationcan be influenced by population data, reproductive status, beliefs about the cause of cervical cancer and willingness to take cervical cancer prevention efforts (Rohmah & Anggraeni, 2021). Population data can be in the form of education and employment levels. The higher a woman's education, the more knowledge she has and women whowork as housewives have a lot of free time so they have more time to do VIA tests. Reproductive status can increase HBM because good reproductive status will increase susceptibility, severity, benefits and barriers and reasons for wanting to do VIA tests. Lastly, the belief in the causes of cervical cancer and the willingness to do cervical cancer prevention can affect HBM because women who have knowledge about the causes of cervical cancer will prevent themselves from increasing the risk of cervical cancer. As well as women who are willing to do prevention will show awareness of making good cervical cancer prevention efforts.

According to the researchers' analysis, the level of HBM is medium in respondents because the education level of respondents is mostly secondary education, so knowledge

about cervical cancer and VIA tests still needs to be improved. And the reproductive status possessed by respondents is still bad because most of the respondents' age is relatively young so that the perception of vulnerability felt is less because they feel they are not vulnerable to cervical cancer. Finally, confidence about the causes of cervical cancer and willingness to prevent cervical cancer is still lacking, this is because there is still a lack of information obtained by women of childbearing age about the definition of cervical cancer, symptoms of cervical cancer and behaviors at risk of cervical cancer.

VIA Test Behavior in Women of Childbearing Age

According to the results of research on VIA examination behavior, tests on respondents were mostly positive, namely positive behavior as many as 36 people (70.6%). It is said to be a positive behavior if respondents are able to answer questions on the VIA test behavior questionnaire and get a median total score of ≥ (13.5). Positive behaviors in respondents include good knowledge about cervicalcancer and VIA tests, good attitudes about VIA tests and good behavior regarding VIA tests.

The behavior of VIA test examination is influenced by several factors including age, education level, occupation and income (Yulita et al., 2022). In accordance with Octaliana's research (2022) which states that there is a relationship between age and VIA test participation (Octaliana, 2022). According to Notoadmodjo's explanation (2012) states that the higher the age of the individual, the higher the knowledge possessed because knowledge is influenced by the individual's experience (Notoadmodjo, 2012). There is a relationship between education level and VIA test participation (Octaliana, 2022). The relationship between education levels is caused because the higher the level of education of the individual, the easier it is for the individual to receive information and tend to have a more developed and logical mindset (Purwanti, 2020). There is a relationship between occupation and VIA test examination (Purwanti, 2020). This is because work has a role in the decision-making of an individual (Purwanti, 2020). According to Notoadmodjo (2012) working individuals will have broader knowledge compared to people who don’t work becausethey will get information and experience so that positive behavior will arise (Notoadmodjo, 2012). There is a relationship between income and VIA test examination. Income is money received in return for services provided by individuals (Jessica et al., 2017). Family income is influential because a good family income and sufficient for daily needs will encourage the individual to participate in an activity (Jessica et al., 2017).

According to the researcher's analysis, the incompatibility of the research results with theory is because there are still many factors that can influence the behavior of VIA examination tests from respondents. Not only about age, education level, occupation and income but can be in the form of receiving information about cervical cancer and VIA tests from the nearest health worker or from any source.

Relationship of Health Belief Model (HBM) with VIA Test Examination Behavior in Women of Chidlbearing Age

According to the results of research on the relationship between HBM andVIA examination behavior tests on respondents obtained statistical test results with Spearman, namely p value 0.011 (p value < α (0.05)) which means there is a relationship between the Health Belief Model (HBM) and VIA test examinationbehavior in women of childbearing age.

This research is in line with research conducted by Widjayanti (2020) which states that there is a relationship between the perception of health beliefs (Health Belief) and the behavior of women of childbearing age towards VIA examination testsas early detection of cervical cancer (Widjayanti, 2020). This is because HBM emphasizes individual attitudes and beliefs that underlie the individual's behavior, the beliefs of the individual will cause an action plan in him and the individual will behave in accordance with his beliefs (Pakpahan, 2021). Based on HBM theory, individuals will behave by assessing several things including perceived vulnerability, perceived severity, perceived threat, perceived benefits, perceived obstacles, action cues and self-confidence (Glanz et al., 2002). The combination of several things will affect a person's behavior to behave healthily (Laili, 2023).

A person will take action to prevent the disease if he feels that he is vulnerableto the cervical cancer. The perception of the severity of cervical cancer will make individuals seek information and then be willing to do VIA tests because they do not want to be exposed to the disease. The perceived threat will encourage individuals to take preventive or healing measures for the disease (Pratiwi, 2018). Individuals who know the benefits of VIA screening will cause increased interest in doing so (Kalia & Muhani, 2020). The existence of obstacles felt by individuals in doing VIA tests will make the individual reluctant to do it (Pratiwi, 2018). The presence of action cues in VIA test examinations will make individuals more easily encouraged to do so as well.

Individuals who think that they are unable to perform the VIA test behavior even though they already know the benefits, then most likely the individual will not perform the

behavior (Sahr & Kusumaningrum, 2018).

According to the researchers' analysis, HBM is one of the factors that can influence the behavior of VIA test examination because an individual's confidence in cervical cancer and VIA tests will lead to an action plan that will be carried out by theindividual, whether to do a VIA test or not. The Health Belief held by respondents regarding cervical cancer and VIA test examination is sufficient so that positiveknowledge and attitudes have been formed in respondents. The formation of positive knowledge and attitudes is because respondents feel that cervical cancer is a severe disease, respondents know the benefits of VIA test examination and feel able to do it. However, the presence of low perceived susceptibility indicators leads to a lack of behavioral formation to perform VIA tests.

Conclusion

Health Belief Model (HBM) in VIA examination behavior test in women of childbearing age is almost entirely in the medium category. The behavior of VIA test examination in women of childbearing age is mostly showing positive behavior. The results of the analysis using Spearman obtained p value < α which means that there is a relationship between the Health Belief Model (HBM) and VIA testexamination behavior in women of childbearing age.

Author Contributions

First author: designing the whole concept of the study, collecting and analyzing the data, and writing the manuscript

Second and third author: giving a guidance for the researcher during the process of research preparation and implementation, supervising and ensuring that research project is carried out in accordance with the methodology research.

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Conflict of Interest

The authors have reported no conflicts of interest.

Data Availability Statement

The data that support the findings of this research are available by an appropriate request to the corresponding author.

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