



Analysis of the relationship between the health belief model to bse behavior in women of reproductive age

Fina Nanda Fantio¹, Heru Subaris Kasjono², Ana Kurniati³, Sujiyatini^{4*}

^{1,2,3,4} Ministry Health Polytechnic Yogyakarta

ARTICLE INFO

Article history:

Received 19 March 2023

Accepted 15 June 2023

Published 30 June 2023

Keyword:

Health Belief Model

BSE behavior

Women of reproductive age

ABSTRACT

Breast cancer is a serious and frightening threat to women. Breast self-examination (BSE) is a healthy behavior for detecting breast cancer. However in reality, awareness of performing BSE is still lacking. In fact, many women seek healthcare facilities when breast cancer has reached an advanced stage. According to the Health Belief Model (HBM), healthy behavior can be determined by perceptions of severity, susceptibility, benefits, and barriers. Therefore, the HBM theory can identify perceptions supporting women's behavior change. This study aims to determine the relationship between perceived severity, perceived susceptibility, perceived benefits, and perceived barriers to BSE behavior in women of reproductive age in the Wirogunan Sub-District. This study used an analytic cross-sectional design. This research was conducted in February-March 2023. Subjects were selected using the cluster sampling technique as many as 94 women of reproductive age. The results showed that 59.6% of the respondents did not do BSE. The results of data analysis using Chi Square showed that there was no relationship between the perceived severity of BSE behavior with a p-value of $0.77 > 0.05$, there was no relationship between the perceived susceptibility to BSE behavior with a p-value of $0.64 > 0.05$, there was a relationship between the perceived benefits of BSE behavior with a p-value of $0.02 < 0.05$, there was a relationship between perceived barriers to BSE behavior with a p-value of $0.00 < 0.05$. In conclusion, there is a significant relationship between perceived benefits and perceived barriers to BSE behavior.

This open access article is under the [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



Kata kunci:

Health Belief Model

Perilaku SADARI

Wanita Usia Subur

**) corresponding author*

Dr. Sujiyatini, S.SiT., M.Keb

Midwifery Department of Ministry Health
Polytechnic Yogyakarta

Jl. Tatabumi No.3 Banyuraden, Gamping,
Sleman, Yogyakarta

Email: sujiyatini@yahoo.com

DOI: 10.30604/jika.v8i2.2092

Copyright 2023 @author(s)

ABSTRAK

Kanker payudara merupakan ancaman serius dan menakutkan bagi kaum wanita. Pemeriksaan payudara sendiri (SADARI) merupakan perilaku hidup sehat untuk mendeteksi kanker payudara. Tetapi dalam kenyataannya kesadaran untuk melakukan SADARI masih kurang, faktanya masih banyak wanita yang datang ke fasilitas kesehatan dalam keadaan stadium lanjut kanker payudara. Menurut teori Health Belief Model (HBM), perilaku sehat dapat ditentukan oleh persepsi keseriusan, kerentanan, manfaat dan hambatan. Oleh karena itu teori HBM ini dapat mengetahui persepsi yang dapat mendukung perubahan perilaku pada wanita. Penelitian ini bertujuan untuk mengetahui hubungan persepsi keseriusan, persepsi kerentanan, persepsi manfaat, persepsi hambatan terhadap perilaku SADARI pada wanita usia subur di Kelurahan Wirogunan. Penelitian ini menggunakan desain cross-sectional analitik. Penelitian ini dilaksanakan pada bulan Februari-Maret 2023. Subjek dipilih menggunakan Teknik cluster sampling sebanyak 94 wanita usia subur. Hasil penelitian menunjukkan bahwa sebanyak 59,6% responden tidak melakukan SADARI. Hasil analisis data menggunakan Chi Square menunjukkan bahwa tidak ada hubungan antara persepsi keseriusan terhadap perilaku SADARI dengan nilai p-value $0,77 >$

0,05, tidak ada hubungan antara persepsi kerentanan terhadap perilaku SADARI dengan nilai p-value $0,64 > 0,05$, ada hubungan antara persepsi manfaat terhadap perilaku SADARI dengan nilai p-value $0,02 < 0,05$, ada hubungan antara persepsi hambatan terhadap perilaku SADARI dengan nilai p-value $0,00 < 0,05$. Kesimpulannya terdapat hubungan yang signifikan antara persepsi manfaat dan persepsi hambatan terhadap perilaku SADARI.



This open access article is under the [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.

INTRODUCTION

The World Health Organization (WHO) reports that breast cancer is the most common cancer suffered by women in both developed and developing countries (Masturo et al., 2020). Breast cancer still ranks first as the cause of death for women in Indonesia (Setyaningrum et al., 2021). The Global Cancer Observatory reports that in 2020 the number of new cases of breast cancer among Indonesian women reached 65,858 cases (30.8%) among cancer cases, such as cervical cancer 36,633 cases (17.2%), ovarian cancer 14,896 cases (7%), thyroid cancer 9,053 cases (4.2%) and others. If this cannot be controlled, it is estimated that in 2030 there will be an increase of 82.8 thousand cases and 29.6 thousand people will die from breast cancer in Indonesia (International Agency for Research on Cancer, 2020).

The Province of the Special Region of Yogyakarta has a relatively high prevalence of cancer, from 4.1% in 2013 to 4.86% in 2018. According to data from the Yogyakarta City Health Office 2020, the highest incidence of breast lumps was found in the Mergangsan Health Center area, namely 16 cases (29.6%) of the 54 who carried out the examination. The number of Women of Reproductive Age in the Special Region of Yogyakarta, including in the Mergangsan Community Health Center which conducts early detection of breast cancer, is still low (Dinas Kesehatan Kota Yogyakarta, 2021).

Breast cancer is a serious and frightening threat to women because breast cancer is one of the most malignant types of disease (Satiatava, 2015). The Global Breast Cancer Screening Program which was introduced in 2012 recommends breast self-examination (BSE) as one method that has been proven effective for breast cancer screening (Didarloo et al., 2017). Breast Self Examination (BSE) is a very simple method because it is easy and can be done alone at home (Amelia & Susanti, 2021).

The Indonesian government has carried out efforts to control breast cancer specifically through an early detection program for breast cancer for Indonesian women for breast cancer in the framework of the early detection program for cervical cancer (Depkes RI, 2015). Even though the potential benefits of screening in detecting breast cancer have been very well proven, many women still do not undergo the recommended screening tests (Duman et al., 2013). Understanding and improving factors related to women's behavior regarding breast cancer screening examinations will be beneficial in breast cancer prevention. Identifying these factors also helps researchers to design and implement appropriate interventions for behavior change (Didarloo et al., 2017).

The Health Belief Model (HBM) is one of the most important behavior change models and has been widely used to examine beliefs related to preventive health behaviors such as BSE (Skinner CR et al., 2015). The belief Model Has four perceptions, namely perceived severity, perceived susceptibility, perceived benefits, and perceived

barrier. Each of these perceptions both individually and in combination can be used to explain health behavior (Putri, 2015).

The main concept of HBM is a healthy behavior that is determined by individual beliefs or perceptions about the disease to avoid the occurrence of the disease (Rahayu et al., 2020). HBM is used as a systematic way to identify, explain, and predict preventive health behavior (Khiyali et al., 2017). According to this model, the individual must believe that even without symptoms, any disease may be present. When people find themselves at perceived susceptibility and realize that the disease has potentially serious consequences and believe that healthy behavior will provide positive benefits and the obstacles to the behavior are less than the benefits obtained, triggered by cues to action and believe that they have the ability to perform healthy behaviors, it will be more likely for them to achieve this behavior (Maheri et al., 2017).

The results of research conducted in Iran explained that there was a significant relationship between HBM and BSE behavior (Masoudiyekta et al., 2018). While the results of research on female students in Malaysia found that the treatment group who were given education about BSE behavior and breast health in accordance with HBM had high self-efficacy and the frequency of performing BSE was higher than the group who did not receive treatment (Akhtari-Zavare et al., 2016).

Based on a preliminary study conducted at the Mergangsan Health Center, secondary data was obtained in 2021 showing that there were 117 cases of breast cancer, and most of them came from the Wirogunan sub-district, namely 51 cases (43.58%). The results of the interviews that the researchers conducted with women of reproductive age in the Wirogunan Sub-district, only two out of ten women of reproductive age did BSE. Based on the description above, the researcher is interested in conducting further research on "Analysis of the Health Belief Model on Breast Self-Examination Behavior (BSE) in Women of Reproductive Age"

METHODS

Study design and participants

The research was conducted to analyze the relationship between the Health Belief Model and BSE behavior in women of productive age using an observational analytic research design. The dependent variable in this study is BSE behavior while the independent variables are perceived severity, perceived susceptibility, perceived benefits, and perceived barriers. The research was conducted from February to March 2023 in the Wirogunan Sub-District, Mergangsan District, Yogyakarta City.

Sampling procedures

The sampling technique used was cluster sampling, namely women of reproductive age in the Wirogunan Sub-District, totaling 94 people.

Data Collection

Data collection uses primary data by distributing questionnaires to respondents to obtain distribution characteristics and research variables.

Procedure

The researcher explained the research procedure, then gave the respondent a letter of informed consent. Respondents who agreed were then given a questionnaire to fill out.

Data analysis

The data analysis used was univariate analysis to explain or describe the characteristics of each research variable and bivariate to see the relationship between the variable's perceived severity, perceived susceptibility, perceived benefits, and perceived barriers to BSE behavior using the chi-square test.

RESULTS AND DISCUSSION

Table 1. Characteristic Frequency Distribution

Characteristic of Respondents	Frequency (n)	Percentage (%)
Education		
a. Primary-Secondary	4	4,2
b. High School	59	62,8
c. University	31	33,0
Working Status		
a. Working	29	30,9
b. Not Working	65	69,1
History of Breast Cancer in Family		
a. Yes	11	11,7
b. No	83	88,3

Based on Table 1 shows that the number of respondents in the Wirogunan Village is 94 people. Based on the characteristics of the respondents studied, namely the

education level of the majority (62.8%) with secondary education, the majority (69.1%) did not work, and the characteristics of the respondents were seen from a family history of breast cancer, the results were 88.3% admitted that they had no history families with breast cancer.

Table 2. Frequency Distribution of Research Variables

Variable	Frequency (n)	Percentage (%)
Perceived Severity		
High perceived value	64	68,1
Low perceived value	30	31,9
Perceived Susceptibility		
High perceived value	46	48,9
Low perceived value	48	51,1
Perceived Benefits		
High perceived value	54	57,4
Low perceived value	40	42,6
Perceived Barriers		
High perceived value	48	51,1
Low perceived value	46	48,9
BSE behavior		
Yes	38	40,4
No	56	59,6

Based on table 2, shows that of the 94 respondents, the majority have a high perceived value of severity, namely 64 respondents (68.1%), in the perceived value of susceptibility, the majority have low susceptibility, namely 48 respondents (51.1%), then on the perceived of benefits the majority of respondents, namely as many as 54 respondents (47.4%) had a high perceived benefit and on perceived barriers the majority had high perceived barriers of as many as 80 respondents (85.1%), then based on variables on the behavior of performing BSE the majority respondents, namely as many as 56 respondents (59.6%) said they did not do BSE.

Based on the results of research on BSE behavior in women of productive age in the Wirogunan sub-district, it was shown that the majority did not perform BSE, namely 56 respondents (59.6%), while those who did BSE were 38 respondents (40.4%). The division of groups can be seen from the behavior of doing and not doing BSE. This explains that awareness of the practice of BSE among women of productive age in the Wirogunan sub-district is still low. This result is in line with the results of research by Sultana et al. in Bangladesh, only 38.1% of the women of productive age do BSE and the rest do not do BSE (Sultana et al., 2022). The study by Anya et al. also shows that from the data obtained, only 28% of women do BSE (Anya & Alfian, 2022)

Table 3. Results of Analysis of the Relationship between HBM Perceptions and BSE Behavior

Variable	BSE Behavior				Total	Value
	Yes	%	No	%		
Perceived Severity						
High perceived value	27	71,1	37	66,1	51	0,77
Low high perceived value	11	28,9	19	33,9	43	
Perceived Susceptibility						
High perceived value	17	44,7	29	51,8	46	0,64
Low perceived value	21	55,3	27	28,6	48	
Perceived Benefits						
High perceived value	28	73,7	26	46,4	54	0,02
Low perceived value	10	26,3	30	53,6	40	
Perceived Barriers						
High perceived value	7	18,4	41	73,2	48	0,000
Low perceived value	31	81,6	15	26,8	46	

Relationship between Perceived Severity and BSE Behavior

Based on Table 3 it is known that the perceived severity variable shows the proportion of respondents with a perceived severity of 27 respondents (71.1%) who did BSE, higher than the respondents who did not do BSE, namely 37 respondents (44.6%). Meanwhile, the perception of respondents with a low perceived severity 11 respondents (28.9%) who did BSE, lower than those who did not do BSE, namely 19 respondents (33.9%). Chi-Square test results showed a p-value of 0.77. Because the p-value is $0.77 > \alpha 0.05$, it can be concluded that there is no relationship between perceived severity and BSE behavior.

The results of research on perceived severity show that there is no significant relationship between perceived severity and BSE behavior. The results of this study are similar to a study conducted by Darvishpour et al. on women in the city of East Guilan, Iran which shows that there is no significant relationship between perceived severity and BSE behavior (Darvishpour et al., 2018). Research conducted by Nursyamsiah et al on women aged 20-60 years in the Work Area of the Tangerang Health Center also showed that there was no relationship between perceived and BSE behavior (Nursyamsiah et al., 2022).

This is not in line with the HBM theory related to preventive health behavior, which argues that if the individual has a high perception of the perception of breast cancer then the individual will take action in this case BSE behavior (Sharma & Romas, 2016). Researchers argue that there is no relationship between perceived severity and BSE behavior in this study, namely in groups who have high perceived but do not do BSE, possibly due to insufficient knowledge about BSE, as said in theory that knowledge is an important factor that can influence Health Belief Model (Bayat et al., 2013).

Nursyamsiah et al. also argue that even though a person has the perceived that breast cancer will greatly impact their life, a person will not be able to do BSE if that person has never received adequate education about BSE (Nursyamsiah et al., 2022). This can be proven by research from Sari et al. that women who have never previously received education about the severity of breast cancer will not realize the importance of doing BSE (Sari et al., 2020).

The results of this analysis have also been supported by several previous studies where the perceived severity of breast cancer is the weakest predictor of BSE behavior because almost all women perceive breast cancer as a serious disease (Herman & Hinga, 2019).

Relationship between Perceived Susceptibility and BSE Behavior

Based on the perceived susceptibility variable, it can be seen that the proportion of respondents with a high perceived susceptibility of 17 respondents (44.7%) who performed BSE was lower than those who did not perform BSE, namely 29 respondents (51.8%), while those with a low perceived of the proportion who did BSE as many as 21 respondents (55.3%), higher than those who did not do BSE, namely as many as 27 respondents (48.2%). The results of the Chi-Square test showed a p-value of 0.645. Because the p-value is $0.64 > \alpha 0.05$, it can be concluded that there is no relationship between perceived susceptibility to BSE.

The results of research on perceived susceptibility showed no significant relationship between perceived breast cancer susceptibility and BSE behavior. Research by Kirag and Kizilkaya conducted in Turkey stated that there was no

significant relationship between perceived vulnerability and BSE behavior (Kirag & Kizilkaya, 2019). A study by Davirshpour et al. conducted on women in the city of Guilan East Iran also showed similar results (Darvishpour et al., 2018).

The results of the research on the group that did BSE showed that the majority of respondents had low perceptions. The theory of perceived susceptibility in HBM also says those who are classified as having a low perceived deny that they are at risk for disease (Bayat et al., 2013). Researchers suspect that there is no relationship between perceived susceptibility and BSE behavior in this study because the majority of respondents (88.3%) do not have a family history of breast cancer so that respondents do not feel vulnerable to breast cancer. This is also supported by the HBM theory on perceived susceptibility which states that every individual has his own perception of the possibility of experiencing a condition that will harm his health, those who consider themselves at low risk deny the possibility of getting an adverse condition (Putri, 2015).

In a study conducted by Osei et al. on women in Ghana it was found that respondents with high perceived tended to do BSE and high values of perceived susceptibility were also influenced by a family history of breast cancer (Osei et al., 2021). This is because individuals feel vulnerable to breast cancer, so they want to do BSE behavior.

Relationship between Perceived Benefits and BSE Behavior

Based on the variable perceived benefits, the results showed that the proportion of respondents with high perceived benefits for those who performed BSE was higher, namely 28 respondents (73.7%) compared to those who did not perform BSE, namely as many as 26 respondents (46.4%). Meanwhile, the proportion with low perceived benefits for those who performed BSE was lower, namely 10 respondents (26.3%) compared to those who did not perform BSE, as many as 30 respondents (53%). The results of the Chi-Square test showed a p-value of 0.02. Because the p-value is $0.02 < \alpha 0.05$, it can be interpreted that there is a relationship between perceived benefits and BSE behavior.

The results showed that those who had high perceived benefits with the highest proportion were in the BSE group. This condition is in line with the theory of the Health Belief Model (HBM) which states that perceived benefit is a belief in the efficacy of suggested actions to reduce health risks. Someone tends to adopt healthier behavior when that person believes that behavior can reduce the chances of new diseases arising in him, for example, doing BSE as an early detection of breast cancer (Putri, 2015).

Based on the results of the analysis of the relationship in this study, the statistical test results show that there is a significant relationship between the perceived benefits of BSE and BSE behavior. These results are consistent with the HBM theory which states that there is a relationship between perceived benefits and health behavior, in this case BSE (Hayden, 2013). Research conducted by Kirag and Kizilkaya conducted in Turkey also shows that there is a significant relationship between perceived benefits and BSE behavior (Kirag & Kizilkaya, 2019).

The HBM theory states that perceived benefits are beliefs related to the effectiveness of various behaviors in an effort to reduce the threat of disease or perceived virtues of individuals in displaying healthy behaviors (Hayden, 2013). So that according to this theory, from the results of this study, respondents who did BSE already have the perception

that doing BSE behavior has good benefits for reducing the threat of breast cancer.

Relationship between Perceived Barriers and BSE Behavior

Based on the variable perceived barriers, it can be seen that the proportion of respondents with high perceived barriers to those who performed BSE was lower, namely 7 respondents (18.4%) compared to those who did not perform BSE, namely as many as 41 respondents (73.2%), while the proportion with the perceived of low barriers was 31 respondents (81.6%), higher than those who did not, namely 15 respondents (26.8%). The results of the Chi-Square test showed a p-value of 0.000. Because the p-value is $0.000 < \alpha 0.05$, it can be concluded that there is a relationship between perceived barriers and BSE behavior.

The results showed that the proportion of respondents with high perceived barriers to those who did not perform BSE was much higher than those who did BSE. After statistical tests were carried out, the results showed that there was a significant relationship between perceived BSE obstacles and BSE behavior. The results of this study are in line with the HBM theory on perceived barriers which states that a person will adopt a behavior if the perceived barriers are low or even non-existent (Hayden, 2013).

There is a relationship between perceived barriers and health behavior, but it is also in line with research conducted by Guilford et al. on female students in the United States that there is a relationship between perceived barriers and BSE behavior, Individuals who feel barriers decrease, the level of BSE practice increases (Guilford et al., 2017). Research conducted by Dewi et al. also stated that the perceived barriers have a relationship with BSE behavior (Dewi et al., 2019).

Researchers argue that the perceived high barriers will cause a person to be unable to perform BSE, this can also be caused by influences such as knowledge about BSE. According to Sharman and Romas, the barriers to doing BSE can be caused by the psychological influence, knowledge, and cultural conditions of a woman so that she feels difficulty or discomfort when doing BSE (Sharma & Romas, 2016). In addition, research from Darvishpour et al. also shows that high perceived barriers will reduce a person's chances of doing BSE (Darvishpour et al., 2018).

LIMITATION OF THE STUDY

This study looks for the relationship between perception variables from the theory of the Health Belief Model studied, while there are likely to be many other variables that can influence a person's BSE behavior, such as predisposing factors according to Lawrence Green's theory, namely attitudes, knowledge and individual characteristics such as age, level of education and employment, It's just that due to the limitations of the researchers, they only examined the perceptions of the theory of the Health Belief Model.

CONCLUSIONS AND SUGGESTIONS

Based on the results of the research and discussion of the research, it shows that there is a significant relationship between the two variables in the Health Belief Model theory that influence BSE behavior, namely the perceived benefits and perceived obstacles where both perceptions influence

individuals in performing BSE behavior. The results of this study can be an illustration for health workers, namely, they are expected to be able to increase the scope of information through health promotion in carrying out an approach with the perceived pressure of each woman's barriers to changing BSE behavior. Thus, obtaining perceived benefits and changes in BSE behavior occur.

Acknowledgment

Acknowledgments to the Health Polytechnic of the Yogyakarta Ministry of Health, especially the midwifery department, which has provided support in carrying out this research. We also thank the respondents who participated in this research activity.

ETHICAL CONSIDERATIONS

This research has passed the research ethics test of the Health Polytechnic Ethics Committee of the Yogyakarta Ministry of Health with the number DP.04.03/e-KEPK.1/039/2023.

Funding Statement.

The author states that the financing in connection with the authorship and publication of this article is borne by the writing team.

Conflict of Interest Statement

The author declares that there is no potential conflict of interest concerning the authorship and publication of this article.

REFERENCES

- Akhtari-Zavare, M., Juni, M. H., Said, S. M., Ismail, I. Z., Latiff, L. A., & Ataollahi Eshkoor, S. (2016). Result of randomized control trial to increase breast health awareness among young females in Malaysia. *BMC Public Health*, 16(1). <https://doi.org/10.1186/s12889-016-3414-1>
- Amelia, C., & Susanti, R. (2021). Hubungan Pengetahuan Tentang Kanker Payudara Dengan Tindakan Melakukan Sadari Pada Wanita Usia Subur Di Wilayah Kerja Puskesmas Kabil Kota Batam. *Zona Kebidanan*, 2(1), 21–28.
- Any, N., & Alfian, I. N. (2022). Hubungan Health Belief Model dengan Perilaku Pemeriksaan Payudara Sendiri (SADARI) di kalangan Mahasiswi. *Buletin Riset Psikologi Dan Kesehatan Mental*, 2(2), 750–759.
- Bayat, F., Shojaezadeh, D., s, M., Heshmat, R., Baikpour, M., & Hosseini, M. (2013). The effects of education based on extended health belief model in type 2 diabetic patients: A randomized controlled trial. *Journal of Diabetes and Metabolic Disorders*, 12(1). <https://doi.org/10.1186/2251-6581-12-45>
- Darvishpour, A., Vajari, S. M., & Noroozi, S. (2018). Can health belief model predict breast cancer screening behaviors? *Open Access Macedonian Journal of Medical Sciences*, 6(5), 949–953. <https://doi.org/10.3889/oamjms.2018.183>
- Depkes RI. (2015). *Buku Pendoman Kesehatan Jiwa*.

- Dewi, T. K., Massar, K., Ruiter, R. A. C., & Leonardi, T. (2019). Determinants of breast self-examination practice among women in Surabaya, Indonesia: An application of the health belief model. *BMC Public Health*, 19(1). <https://doi.org/10.1186/s12889-019-7951-2>
- Didarloo, A., Nabilou, B., & Khalkhali, H. R. (2017). Psychosocial predictors of breast self-examination behavior among female students: An application of the health belief model using logistic regression. *BMC Public Health*, 17(1). <https://doi.org/10.1186/s12889-017-4880-9>
- Dinas Kesehatan Kota Yogyakarta. (2021). *Profil Kesehatan Tahun 2021 Kota Yogyakarta*.
- Duman, N. B., Algier, L., & Pinar, G. (2013). Health Beliefs of the Female Academicians About Breast Cancer and Screening Tests and the Affecting Factors. *UHOD - Uluslararası Hematoloji-Onkoloji Dergisi*, 23(4), 233–241. <https://doi.org/10.4999/uhod.13021>
- Guilford, K., McKinley, E., & Turner, L. (2017). Breast Cancer Knowledge, Beliefs, and Screening Behaviors of College Women: Application of the Health Belief Model. *American Journal of Health Education*, 48(4), 256–263. <https://doi.org/10.1080/19325037.2017.1316694>
- Hayden, J. (2013). *Health Behavior Theory* (2nd ed.). Jones & Bartlett.
- Herman, I. V. L., & Hinga, I. A. T. (2019). Gambaran Perilaku Mahasiswi dalam Pemeriksaan Payudara Sendiri (SADARI). *Health Journal*, 3(2).
- International Agency for Research on Cancer. (2020). *Global Cancer Observatory*.
- Khiyali, Z., Aliyan, F., Kashfi, S. H., Mansourian, M., & Jeihooni, A. K. (2017). Educational intervention on breast self-examination behavior in women referred to health centers: Application of health belief model. *Asian Pacific Journal of Cancer Prevention*, 18(10), 2833–2838. <https://doi.org/10.22034/APJCP.2017.18.10.2833>
- Kirag, N., & Klzllkaya, M. (2019). Application of the Champion Health Belief Model to determine beliefs and behaviors of Turkish women academicians regarding breast cancer screening: A cross-sectional descriptive study. *BMC Women's Health*, 19(1). <https://doi.org/10.1186/s12905-019-0828-9>
- Maheri, A., Tol, A., & Sadeghi, R. (2017). Assessing the effect of an educational intervention program based on Health Belief Model on preventive behaviors of internet addiction. *Journal of Education and Health Promotion*, 6, 63. https://doi.org/10.4103/jehp.jehp_129_15
- Masoudiyekta, L., Rezaei-Bayatiyani, H., Dashtbozorgi, B., Gheibizadeh, M., Malehi, A., & Moradi, M. (2018). Effect of education based on health belief model on the behavior of breast cancer screening in women. *Asia-Pacific Journal of Oncology Nursing*, 5(1), 114–120. https://doi.org/10.4103/apjon.apjon_36_17
- Masturo, U., Agustin, Y. D., & Kholisotin. (2020). Efektifitas Penyuluhan Kesehatan tentang SADARI dengan Metode Diskusi Kelompok dan Metode Demonstrasi terhadap Perilaku WUS dalam Melakukan SADARI. *Jurnal Ilmiah STIKES Citra Delima Bangka Belitung*, 3(2), 141–154. <https://doi.org/10.33862/citradelima>
- Nursyamsiah, I. E., Kurniawati, D., & Septiyono, E. A. (2022). The Correlation Between Health Belief and Breast Self-Examination Practice in Women Aged 20-60 Years. *Idea Nursing Journal*, XIII(1).
- Osei, E., Osei Afriyie, S., Oppong, S., Ampofo, E., & Amu, H. (2021). Perceived Breast Cancer Risk among Female Undergraduate Students in Ghana: A Cross-Sectional Study. *Journal of Oncology*, 2021. <https://doi.org/10.1155/2021/8811353>
- Putri, D. I. (2015). *Gambaran Perilaku Pemeriksaan Payudara Sendiri (SADARI) pada Mahasiswi Fakultas Kedokteran dan Ilmu Kesehatan UIN Syarif Hidayatullah Jakarta Tahun 2015*.
- Rahayu, S. P., Fauziah, S. N., & Nurbaiti. (2020). Efektivitas Penyuluhan Tumor Payudara dengan Pendekatan Teori Health Belief Model Terhadap Persepsi dan Perilaku Sadari yang Benar pada Siswi Remaja di SMAN 1 Lemahabang. *Tunas MedikaJurnal Kedokteran & Kesehatan*, 6(1), 25–32.
- Sari, P., Sayuti, S., Ridwan, M., Rekiaddin, L. O., & Anisa, A. (2020). Hubungan antara Pengetahuan dan Dukungan Tenaga Kesehatan dengan Perilaku Pemeriksaan Payudara Sendiri (SADARI) pada Wanita Pasangan Usia Subur (PUS). *Perilaku Dan Promosi Kesehatan: Indonesian Journal of Health Promotion and Behavior*, 2(2), 31. <https://doi.org/10.47034/ppk.v2i2.4132>
- Satiatava, R. P. (2015). *Buku Lengkap Kanker Payudara*. Laksana.
- Setyaningrum, A., Purwitaningtyas, R. Y., & Anggari, R. S. (2021). Peran Simulasi SADARI Sebagai Upaya Meningkatkan Pengetahuan Remaja Putri Akan Resiko Kanker Payudara. *Jurnal Ilmiah Kesehatan Rustida*, 08(02), 141–148.
- Sharma, M., & Romas, J. (2016). *Theoretical Foundations Of Health Education And Health Promotion* (Massachusetts, Ed.; 3rd ed.). Jones and Barlett Publisher.
- Skinner CR, Tiro J, & Champion VL. (2015). *The health belief model. Health behavior: Theory, research, and practice*. <https://www.researchgate.net/publication/332446988>
- Sultana, F., Marjan, S., Islam, Md. S., Islam, A. K. M. N., Alam, N.-E., Mohiuddin, A. K. M., & Khatun, Mst. M. (2022). A cross-sectional study and awareness of breast self-examination of Bangladeshi women at Dhaka Medical College Hospital. *Annals of Oncology*, 33, S519. <https://doi.org/10.1016/j.annonc.2022.05.256>