Factors associated with the achievement of early detection of breast cancer with the SADANIS method

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Abstract
Purpose: Breast cancer is one of the non-communicable diseases that contributes to the largest death rate for women in Indonesia. The purpose of this study is to find out the relationship between information exposure, family support and health care support with access to early detection of virgin breast cancer.

Research methodology: The research design used was cross-sectional or cross-sectional. The research population was all women of childbearing age who were selected as samples. This research was conducted in the working area of the Air Itam Community Health Center, Pangkalpinang City, Bangka Belitung Province. Data collection was carried out in June-August 2023.

Results: The results show that the development of a digital module for Islamic Religious Education is needed to improve students’ learning independence. Design or design produces a digital module of Islamic Religious Education, along with supporting devices and research instruments. The product developed is a digital module of Islamic Religious Education to improve students’ learning independence and instructions for using the digital module of Islamic Religious Education, lesson plans, and assessment sheets. The validation test results showed that the digital module was valid based on the experts' assessments.

Keywords: Clinical, Breast, Examination


1. Introduction
Breast cancer is one of the non-communicable diseases which is the largest contributor to the death rate for women in Indonesia, namely as many as 50% of patients with breast cancer in Indonesia are detected at an advanced stage (Taleghani, Kianpour, & Tabatabaiyan, 2019). Where in a prospective study conducted by the Obafemi Awolowo University Teaching Hospital (OAUTHC) in Nigeria which followed mostly women aged 40 years with symptoms of breast cancer, it was found that the highest risk of women with breast cancer were those with first degree relatives who had a history of cancer breast (Mango et al., 2022).

For this reason, it is important to have early awareness about the dangers of breast cancer so that women are able to detect every symptom so that before breast cancer enters an advanced stage, it can be detected and receive better treatment (Salih et al., 2024; Veitch et al., 2019). One early detection that can be done easily is a clinical breast examination by trained health workers, to detect the presence of breast tumors which can be followed by all women of childbearing age, namely in previous research on women aged 25-64 years (Dhimal et al., 2021). Apart from clinical breast examination, what can be done is breast self-examination, which is the easiest method or method that can be done by all groups starting from adolescence (Dhimal et al., 2021).
Research conducted by the University of Cambridge states that apart from clinical breast examination, mammography or ultrasonography methods have proven to be more effective and accurate in differentiating malignant and benign diseases (Taylor, Ames, & Wallis, 2013). In an analysis of retrospective case records of breast cancer at the Princess of Wales Hospital, England in 2006-2014, supporting data for breast cancer was obtained from the results of mammography, MRI, CT, biopsy and follow-up management (Ezeonu et al., 2015; McGroarty, Osadolor, Krupa, McKirdy, & McIlhenny, 2015). Breast cancer patients with follow-up care can undergo regularly scheduled physical examinations, which include clinical breast examinations carried out three to six months during the first three years (Beltran-Bless et al., 2023; Gao et al., 2005). Apart from that, for breast cancer sufferers, the main recommendation that can be made is to improve breast examinations and early detection, including developing clinical breast examinations and cancer screening for women (Ardahan, Dinc, Yaman, Aykir, & Aslan, 2015; Mensah et al., 2022).

Several factors are also one of the things that can be a way to solve the problem of the high morbidity and mortality rates of breast cancer, namely the role of health workers in providing counseling to women, mass media is the main means of disseminating information so that some women get information related to breast cancer (Bonsu, Ncama, & Bonsu, 2019; Tollens et al., 2022). According to research conducted at the first health service facility in Kuwait, health education can also be an alternative in introducing and improving the practice of breast examination in women (Al-Azmy et al., 2013; Znaor et al., 2023). This research aims to provide updated information regarding the results of screening obtained so that other non-communicable diseases can be prevented and controlled.

2. Research Methodology
The research design used was cross-sectional or cross-sectional (Farazmand, 2023). The research population was all women of childbearing age who were selected as samples. This research was conducted in the working area of the Air Itam Community Health Center, Pangkalpinang City, Bangka Belitung Province. Data collection was carried out in June-August 2023. The data collection instrument used was a questionnaire that had undergone reliability and validity (Apuku, 2017). The research respondents were all women of childbearing age and were selected using purposive sampling. Information exposure, family support, and health worker support are three independent variables. The dependent variable is women of childbearing age who do BSE (Apuku, 2017). Bias that may arise during the study is non-response bias from patients. To mitigate the impact of bias, we explained the aim and approach of the study through health workers. Cross-checking identified close contacts was carried out using information we obtained from various sources. 109 samples were used for research and all respondents proceeded to analysis. Meanwhile, data that cannot be analyzed is incomplete answers. Furthermore, in terms of statistical analysis using the Chi-square test, the dependent variable is women of childbearing age who do BSE (Yucel, Orgun, Tokem, Avdal, & Demir, 2014). The Chi-square test was used to determine the relationship between information exposure, family support, and health worker support and there was no relationship with a significance level of p<0.05. The final stage, based on whether the variable is most significantly related to committing sadism, is to choose the highest POR value (Gao et al., 2005).

3. Results and Discussions
The research location covers 4 working areas of the Air Itam Community Health Center, namely Air Itam, Temberan, Sinar Bulan, and Bacang sub-districts. Based on its position, the Air Itam Health Center is located in the eastern part of the Pangkalpinang city area and is located in the central government area of the Bangka Belitung Islands province, precisely in Bukit Intan District, and all areas can be reached by land. The population in the Air Itam Community Health Center area in 2022, according to data from the Pangkalpinang City Health Service, is 22,764 people. The highest population is in Air Itam Village, which is 6,453 people, while the lowest is in Temberan Village, namely 5,231 people.
The research result show:

Table 1. independent variable frequent

<table>
<thead>
<tr>
<th>Kategori</th>
<th>Frekuensi</th>
<th>Persentase</th>
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<tbody>
<tr>
<td>Information Exposur</td>
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<tr>
<td>Not Get</td>
<td>50</td>
<td>45,90%</td>
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<tr>
<td>Get</td>
<td>59</td>
<td>54,10%</td>
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<tr>
<td>Family Support</td>
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<tr>
<td>Not Good</td>
<td>38</td>
<td>34,90%</td>
</tr>
<tr>
<td>Good</td>
<td>71</td>
<td>65,10%</td>
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<tr>
<td>Health Worker Support</td>
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<tr>
<td>Not Good</td>
<td>47</td>
<td>43,10%</td>
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<tr>
<td>Good</td>
<td>62</td>
<td>56,90%</td>
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<tr>
<td>Achievement BSE</td>
<td></td>
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</tr>
<tr>
<td>Not Good</td>
<td>86</td>
<td>78,90%</td>
</tr>
<tr>
<td>Good</td>
<td>23</td>
<td>21,10%</td>
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<tr>
<td>Number</td>
<td>109</td>
<td>100%</td>
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</table>

Based on table 1, it shows that of the 109 WUS who had exposure to information in the never received information category, 50 WUS (45.9%), were less than the WUS who had exposure to information in the never received information category, who had family support in the less good category is 38 WUS (34.9%), less than the WUS who have family support in the good category, and those who have the support of health workers in the unfavorable category are 47 WUS (43.1%), less if Compared with WUS who have the support of health workers in the good category, those who have achieved early detection of breast cancer using the SADANIS method in the poor category are 86 WUS (78.9%), more than those who have achieved early detection of breast cancer using the SADANIS method. in the good category.

Table 2. Bivariate analysis

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Achievement BSE</th>
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<tbody>
<tr>
<td></td>
<td>Not Good</td>
<td>Good</td>
<td>Total</td>
<td>P value</td>
<td>POR (95% CI)</td>
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<tr>
<td>Information Exposur</td>
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<tr>
<td>Not get</td>
<td>48</td>
<td>96%</td>
<td>50</td>
<td>100%</td>
<td>0</td>
<td>13,263</td>
</tr>
<tr>
<td>Get</td>
<td>38</td>
<td>64.40%</td>
<td>21</td>
<td>35.60%</td>
<td>59</td>
<td>100%</td>
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<tr>
<td><strong>Family Support</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Not Good</td>
<td>35</td>
<td>92.10%</td>
<td>3</td>
<td>7.90%</td>
<td>38</td>
<td>100%</td>
</tr>
<tr>
<td>Good</td>
<td>51</td>
<td>71.80%</td>
<td>20</td>
<td>28.20%</td>
<td>71</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Health Worker Support</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Good</td>
<td>43</td>
<td>91.50%</td>
<td>4</td>
<td>8.50%</td>
<td>47</td>
<td>100%</td>
</tr>
<tr>
<td>Good</td>
<td>43</td>
<td>69.40%</td>
<td>19</td>
<td>30.60%</td>
<td>62</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>109</td>
<td>100%</td>
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</table>

Based on table 2, the information exposure variable shows that of the 109 WUS, those with exposure to information in the category of never getting more information, 48 WUS who had poor SADANIS achievements (96%), compared with WUS who had good SADANIS achievements. Meanwhile, WUS with exposure to category information received more information than WUS who had poor SADANIS achievements, amounting to 38 WUS (64.4), when compared to WUS who had good SADANIS achievements.

The results of the chi square test with a significance level of 5% obtained a p value of 0.000 so that the P value <0.05, then H0 was rejected and Ha was accepted, which means there is a significant relationship between exposure to information and the achievement of early detection of breast cancer using the SADANIS method in women of childbearing age, in the working area of the Air Itam Community Health Center in 2023. The results of the prevalence odds ratio value were 13.263 (95%) CI 2.925-60.132, meaning that WUS with exposure to information who had received information had a tendency to carry out SADANIS 13.2 times greater than WUS with exposure to no information never got the information.

The family support variable shows that out of 109 WUS, with family support in the poor category there are more WUS who have poor SADANIS achievements, amounting to 35 WUS (92.1%), when compared to WUS who have good SADANIS achievements. Meanwhile, there are more WUS with good family support than WUS who have poor SADANIS achievements, amounting to 51 WUS (71.8%), when compared to WUS who have good SADANIS achievements.

The results of the chi square test with a significance level of 5% obtained a p value of 0.026 so that the P value <0.05, then H0 was rejected and Ha was accepted, which means there is a significant relationship between family support and the achievement of early detection of breast cancer using the SADANIS method in women of childbearing age, in the working area of the Air Itam Community Health Center in 2023. The results of the prevalence odds ratio value were 4.575 (95%) CI 1.263-16.579, meaning that WUS with good family support had a tendency to do SADANIS 4.5 times greater than WUS with poor family support.

The health worker support variable shows that out of 109 WUS, those with health worker support in the poor category are more likely to be WUS who have poor SADANIS achievements, amounting to 43 WUS (91.5%) when compared to WUS who have good SADANIS achievements. Meanwhile, WUS with the support of health workers in the good category are more numerous among WUS who have poor SADANIS achievements, amounting to 43 WUS (69.4%), when compared to WUS who have good SADANIS achievements.

The results of the chi square test with a significance level of 5% obtained a p value of 0.010 so that the P value <0.05, then H0 was rejected and Ha was accepted, which means there is a significant relationship between support from health workers and the achievement of early detection of breast cancer using the SADANIS method in women aged Fertile in the working area of the Air Itam Community Health Center in 2023. The results of the prevalence odds ratio value were 4.750 (95%) CI 1.263-16.579, meaning that WUS with good health worker support had a tendency to do SADANIS 4.75 times greater than WUS with poor health worker support.
1.492-15.124, meaning that WUS with the support of good health workers had a tendency to carry out SADANIS 4.8 times greater than WUS with the support of health workers not good.

3.1 Discussion
3.1.1 The relationship between information exposure and BSE achievement
Validating Lawrence Green's idea that exposure to information is a key facilitator in initiating the process of healthy behavior modification. The level of influence a person experiences from information can be determined by their exposure to that knowledge (Yucel et al., 2014).

In addition, information sources are external influences that shape an individual's knowledge and direct his behavior to be in line with certain guidelines. The presence of information media, especially social media and print media, plays an important role in obtaining information (Mekuria, Nigusse, & Tadele, 2020). Breast cancer is an important public health issue in both developed and developing countries (Lera, Beyene, Bekele, & Abreha, 2020). Gaining further knowledge allows individuals to understand how to adopt healthy behaviors and prevent various diseases, such as breast cancer. Poor proficiency in BSE has also been reported in all high-risk subjects, including those who are first-degree relatives of breast cancer patients.

Breast self-examination (BSE) is an important and economical screening technique for early breast cancer detection. Routine inspections and examinations allow women to detect any changes that occur in the breasts (Karim, Sooi, & Mangantig, 2019). Breast cancer currently mostly attacks young women. There is a tendency for breast cancer in women aged 15-20 years; This means it is very important to start providing health education about breast self-examination (BSE) which is carried out 7-10 days after menstruation every month. Carrying out breast self-examination (BSE) will reduce the death rate from breast cancer by up to 20% (Patui, Yudiana, Wandira, & Aulia, 2023).

Early detection of breast cancer can reduce morbidity and mortality. Mammography, clinical breast examination (CBE), and breast self-examination (BSE) are considered effective strategies for early detection of breast cancer (BK & Kaphle, 2023). Based on research by Nurhadiyah (2020), the results of analysis using the Spearman Rank test, in table 5.3, the p-value is: 0.000, where the value of ρ <α 0.05, it can be concluded that H0 is rejected and H1 is accepted, meaning that there is a relationship between sources of information and conscious knowledge in adolescents. Daughter (Hadiyah, Dewi, & Sutrisni, 2020).

Sources of information are media that play an important role for a person in determining attitudes and determination to act (Soviadi & Hastono, 2023). Increasing someone's interest in always trying to find information in various forms. Sources of information can be obtained freely starting from peers, books, films, videos and even easily accessed via internet sites (Tollens et al., 2022).

3.1.2 The relationship between family support and BSE achievements
Women who have strong family support are more likely to undergo early detection of breast cancer due to the significant impact of close relationships between individuals, which serves to increase the individual's motivation. The support in question comes from help provided by a partner, offspring or parents (Fouzia, 2018). Family support includes more than just emotional and material assistance, it also includes the provision of information and assessments, which significantly impact an individual's behavior and actions (Parsa, Kandiah, & Parsa, 2011). Family support can yield emotional benefits and play an important role in increasing women's propensity or readiness to undergo early breast cancer screening tests (McGroarty et al., 2015).

Based on research by Despitatasari (2017), after carrying out the Chi-Square statistical test, the result was that the p value was 0.026 (p≤ 0.05), meaning that there was a relationship between family support and late examination of women with breast cancer at the surgical clinic at RSUP DR. M. Djamil Padang (Mastikana, Laga, & Adhyatma, 2021).
The family has a very important influence and role in forming self-concept (Mastikana et al., 2021). Breast cancer sufferers' views of themselves are a reflection of the sufferer's thoughts on how their family views them (Gao et al., 2005). If the family has a complete and consistent self-concept, then it can provide a longer environment for channeling love, attention and appreciation to breast cancer sufferers (Ezeonu et al., 2015).

3.1.3 The relationship between health worker support and BSE achievements
Lawrence Green argues that help from health care providers plays a reinforcing role in health behavior. Health workers have an important role in improving the quality of health services provided to the community, thereby enabling individuals to adopt a healthy lifestyle (Yuliatun, Saputriyana, Masitah, Astari, & Fevriasanty, 2023). Health workers have the duty and obligation to maintain the welfare of individuals, especially women, by being actively involved in early identification of breast cancer through the implementation of BSE (Hussen, Kumbi, Bedewi, Lette, & Nuriye, 2023).

The results of this study are in line with Taleghani's (2019) research that there is a relationship between support from health workers and breast self-examination, where there is a lack of training by health center staff (p = 0.016), which is significantly related to the area of residence (i.e., urban areas and rural) (Marlina & Waslia, 2021; Taleghani et al., 2019).

This research is also in line with research by Veith (2019) that there is a strong correlation between supervisors and conventional training evaluations in Clinical Breast Examination (CBE) patient assessment scores (=0.731) (Veitch et al., 2019). Based on Jayanti’s research (2022), the Chi-Square test results obtained a p.value of 0.004 < α = 0.05 in the Dana Mulya Health Center Work Area in 2021. So the hypothesis which states that there is a relationship between the role of medical personnel and early examination of breast cancer is statistically proven (Yuliatun et al., 2023).

The role of a health worker is an activity that is expected from a health worker who provides health services to the community to improve the level of public health (Fenton et al., 2005; Patui et al., 2023). According to Renata 2022 in the future, it is important to increase BSE knowledge and to target all age groups in BSE education programs. It is necessary to adopt or develop appropriate and proven education and capacity building measures to inform and educate women about BSE (Apatić & Lovrić, 2023).

4. Conclusion
The results of the study show that there is a significant relationship between exposure to information (p value 0.000), family support (p value 0.026) and support from health workers (p value 0.010) with the achievement of early breast cancer detection using the SADANIS method in WUS in the Air Itam Health Center working area and variables Exposure to information is the most dominant factor related to the achievement of early detection of breast cancer using the SADANIS method in WUS.

Acknowledgment
We would like to express our thanks to the Head of the Air Itam Community Health Center, Drg. Yandhi Kapriansya, and the sadist program manager at the Air Itam Community Health Center, Mrs. Lidia, AMd., Keb, along with all levels of the Air Itam Health Center, Pangkal Pinang City.

References


