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The Effect Of SADARI Sticker Education On Breast Cancer Early Detection Knowledge

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ABSTRACT

The study purpose was to determine the effect of education using SADARI sticker media on knowledge of early breast cancer detection among women of reproductive age in RW 06, Mojolangu Subdistrict, Lowokwaru District, Malang City.
Materials and methods. This study used a true experimental design with a pretest-posttest control group design. The study involved 68 women of reproductive age who were divided into an intervention group and a control group. The intervention group received health education using SADARI sticker media accompanied by a demonstration, while the control group received education without visual media. Knowledge was measured using a 20-item closed-ended questionnaire administered before and after the intervention. Data were analyzed using the Wilcoxon Signed-Rank Test to assess differences in knowledge before and after education within each group and the Mann-Whitney U Test to determine differences between the intervention and control groups.
Results. The intervention group showed a significant increase in knowledge from pretest to posttest ($p = 0.000$). Before the intervention, most participants in the intervention group had poor knowledge (76.50%), whereas after the intervention, all participants (100%) achieved a good knowledge category. The control group also showed a significant increase in knowledge ($p = 0.000$), with 91.20% of participants achieving a good knowledge category after education. The Mann-Whitney U Test showed a significant difference in knowledge between the intervention and control groups ($p = 0.021$).
Conclusions. Education using SADARI sticker media significantly improves knowledge of early breast cancer detection among women of reproductive age. The use of sticker media can therefore be considered an alternative health education medium for promoting early breast cancer detection in the community.

Keywords: Health education, SADARI sticker, breast cancer, early detection, women of reproductive age

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INTRODUCTION

Breast cancer is one of the most common malignant diseases affecting women and remains an important public health concern. Its incidence continues to increase, particularly in developing countries, where delayed detection and treatment may result in diagnosis at an advanced stage (Sofa et al., 2022). The International Agency for Research on Cancer (IARC) projected that the global cancer burden would continue to increase, reaching approximately 30.2 million cases by 2040 (Syarief, 2021). In Indonesia, breast cancer represents the most frequently diagnosed cancer among women. Siegel et al. (2021) reported 65,585 new breast cancer cases among Indonesian women in 2020. Kurnisari et al. (2023) also identified breast cancer as the leading cancer in Indonesia in terms of the number of cases and one of the major contributors to cancer-related mortality.

The burden of breast cancer in Indonesia has continued to increase. Kementerian Kesehatan Republik Indonesia (2022) reported that the number of new breast cancer cases increased from 12,023 cases in 2020 to 16,956 cases in 2021. At the provincial level, data from the East Java Provincial Health Office recorded 12,186 breast tumor cases in 2019. The increasing number of cases indicates the importance

of strengthening breast cancer prevention and early detection efforts, particularly among women of reproductive age.

A similar situation has been observed in Malang City. Data from the Malang City Health Office showed an increase in breast cancer cases, with 388 cases recorded in 2022, consisting of 275 previously identified cases and 113 newly identified cases. The increasing number of cases at the local level highlights the need for accessible health education and early detection strategies within the community.

One method that can be introduced to support early detection of breast cancer is breast self-examination (BSE), known in Indonesia as *Pemeriksaan Payudara Sendiri* (SADARI). SADARI enables women to recognize changes in the breast at an early stage and is therefore relevant as a community-based approach to breast cancer early detection. The educational material in this study included information regarding the benefits of SADARI, the appropriate timing for performing the examination, the steps of the examination, and actions to be taken when abnormalities are identified (Yayasan Kanker Indonesia, 2021).

Knowledge is an important component in health education because adequate knowledge can support an individual's understanding of health problems and appropriate preventive measures. Notoatmodjo (2018) explains that knowledge can be influenced by several factors, including education, information, experience, age, social and cultural factors, and access to information. Therefore, the selection of appropriate educational strategies and media is important to facilitate the delivery and understanding of health information.

Health education can be delivered through various types of media, including printed and visual media. Fitriani (2018) emphasizes the importance of health promotion in increasing community awareness and understanding of health-related issues. In addition, Arsyad (2016) explains that educational media can support the communication of information by presenting messages in forms that are easier for the audience to understand. Thus, appropriate educational media may strengthen the effectiveness of health education.

In the present study, stickers were selected as the educational medium for delivering information about SADARI. The sticker was designed using concise written information combined with visual illustrations. The content was developed based on the SADARI guidance provided by Yayasan Kanker Indonesia (2021), including the benefits of SADARI, the appropriate time to perform the examination, the six examination steps, and recommendations for seeking further examination when abnormalities are detected.

The combination of verbal and visual information may facilitate the learning process. Mayer (2017) explains through the multimedia learning approach that information presented through both verbal and visual channels can support learning and facilitate the understanding and retention of information. Therefore, the use of concise text accompanied by informative illustrations may help participants understand the steps and importance of SADARI more effectively.

Stickers also provide a practical advantage because they can remain visible after the education session has ended. In this study, participants in the intervention group were encouraged to place the SADARI sticker in locations that were frequently seen, such as mirrors, wardrobes, or walls. The intervention was accompanied by a demonstration and re-demonstration to ensure that participants understood the SADARI procedure. The researcher also monitored sticker placement and use through a WhatsApp group and random home visits.

Previous research has demonstrated the potential of health education to improve knowledge related to SADARI. Husnah (2019) examined the effect of SADARI education on knowledge and motivation to perform SADARI among adolescent girls. Similarly, Hasanah (2016) investigated the effectiveness of audiovisual media in improving knowledge and attitudes toward SADARI among women of reproductive age. These findings support the importance of selecting appropriate educational approaches and media to improve women's understanding of breast cancer early detection.

The use of stickers as a health education medium may offer an additional advantage because the information can be repeatedly accessed by participants in their daily environment. Damayanti and Indrawati (2020) investigated the use of sticker media to improve health-related knowledge,

demonstrating the potential of stickers as a simple printed educational medium. Junaedi (2020) also discusses stickers as a form of visual communication that can be used to convey information through concise messages and visual elements.

Despite the availability of various health education media, the use of SADARI stickers specifically designed as a visual reminder for women of reproductive age remains relevant for further investigation. A sticker placed in a frequently visible location may provide repeated exposure to information about SADARI and potentially reinforce the messages delivered during health education. In this study, the sticker was therefore used not only as a medium for delivering information but also as a visual reminder to support participants' understanding of breast self-examination.

The present study was conducted among women of reproductive age in RW 06, Mojolangu Subdistrict, Lowokwaru District, Malang City. The study used a true experimental design with a pretest-posttest control group design. Participants in the intervention group received health education accompanied by SADARI sticker media and a demonstration, whereas participants in the control group received conventional verbal health education without visual sticker media.

The outcome assessed in this study was participants' knowledge of early breast cancer detection, particularly knowledge related to SADARI. Knowledge was measured using a 20-item questionnaire with a Guttman scale. The questionnaire was designed to assess participants' understanding of breast cancer early detection and the SADARI procedure.

Based on the increasing burden of breast cancer and the importance of early detection, as well as the potential role of visual educational media in improving health knowledge, an appropriate and practical educational approach is needed. The use of SADARI sticker media may provide an alternative strategy for delivering breast cancer early detection information to women of reproductive age at the community level.

The study purpose was to determine the effect of health education using SADARI sticker media on knowledge of early breast cancer detection among women of reproductive age in RW 06, Mojolangu Subdistrict, Lowokwaru District, Malang City. More specifically, this study aimed to assess changes in knowledge before and after the intervention and to determine the difference in knowledge between the intervention and control groups.

METHOD

Study participants

This study involved women of reproductive age in RW 06, Mojolangu Subdistrict, Lowokwaru District, Malang City. The population consisted of 69 women of reproductive age. The inclusion criteria were women aged 20–35 years who lived in RW 06, Mojolangu Subdistrict, Lowokwaru District, Malang City. The sampling technique used was total sampling. However, one participant did not meet the research requirements, resulting in a final sample of 68 women of reproductive age. The participants were divided into two groups, consisting of 34 participants in the intervention group and 34 participants in the control group. Group allocation was performed using simple random sampling.

Study organization

This study used a true experimental design with a pretest-posttest control group design. The study was conducted from December 2024 to July 2025 in RW 06, Mojolangu Subdistrict, Lowokwaru District, Malang City. Before the intervention, both groups were given a pretest to measure their initial knowledge regarding early breast cancer detection. The intervention group then received health education regarding early breast cancer detection using SADARI sticker media, accompanied by a direct demonstration. The control group received health education using conventional methods without SADARI sticker media. After the intervention, both groups were given the same questionnaire as a posttest to measure changes in knowledge.

The independent variable in this study was SADARI sticker educational media, while the dependent variable was knowledge of early breast cancer detection. The SADARI sticker was an educational visual medium containing information and illustrations of the steps for performing SADARI, accompanied by a direct demonstration for the participants.

Knowledge was measured using a questionnaire consisting of 20 questions. The questionnaire assessed knowledge related to breast cancer and its prevention, as well as knowledge and practice of breast self-examination (SADARI). Knowledge scores were categorized into three levels: good (76–100%), sufficient (56–75%), and poor (<56%).

Statistical analysis

The data were analyzed using univariate and bivariate analyses. Univariate analysis was used to describe the characteristics of the participants and the distribution of knowledge levels before and after the intervention. Bivariate analysis was conducted to determine differences in knowledge before and after the intervention within each group and to compare knowledge between the intervention and control groups.

The Wilcoxon Signed-Rank Test was used to analyze differences in knowledge scores between the pretest and posttest within the intervention and control groups. The Mann-Whitney U Test was used to analyze differences in knowledge between the intervention and control groups after the intervention. These non-parametric tests were selected according to the measurement scale and characteristics of the data described in the thesis. A significance level of $p \leq 0.05$ was used to determine statistical significance.

FINDING AND DISCUSSION

The study included 68 women of reproductive age, with 34 participants assigned to the intervention group and 34 to the control group. Most participants were aged 25–44 years (57.4%) and had completed senior high school or equivalent education (64.7%). The distribution of participants between the two groups was relatively comparable in terms of age and educational background.

Table 1. Comparison of Knowledge Scores Before and After Education Between the Intervention and Control Groups

N	Test	Terms of registration	Intervention group (n = 34)		Control group (n = 34)		Δx	Z	p
			X	s	X	s			
1	**Wilcoxon**	Before the experiment	53.53	12.03	54.71	13.37	—	—	—
		After the experiment	96.91	4.27	93.24	9.12	43.38	−5.245	<0.001
2	**Mann-Whitney**	After the experiment	96.91	4.27	93.24	9.12	3.68	−2.314	0.021

As presented in Table 1, the mean knowledge score in the intervention group increased from 53.53 ± 12.03 at pretest to 96.91 ± 4.27 at posttest. In the control group, the mean score increased from 54.71 ± 13.37 to 93.24 ± 9.12. This represents a mean increase of 43.38 points in the intervention group and 38.53 points in the control group. These findings indicate an improvement in participants' knowledge of early breast cancer detection following the educational intervention in both groups.

The Wilcoxon Signed-Rank Test showed a statistically significant difference between pretest and posttest knowledge scores in both groups. In the intervention group, the analysis yielded $Z = -5.245$, $p < 0.001$, whereas in the control group, the result was $Z = -5.172$, $p < 0.001$. These findings indicate that both educational approaches were associated with significant improvements in participants' knowledge of early breast cancer detection.

The improvement was particularly evident in the distribution of knowledge categories in the intervention group. At pretest, 76.5% of participants were classified as having poor knowledge, while only 8.8% were classified as having good knowledge. Following the intervention, 100% of participants were classified as having good knowledge. In the control group, the proportion of participants with good knowledge increased from 2.9% at pretest to 91.2% at posttest. The shift in knowledge categories demonstrates a substantial improvement in both groups, with the intervention group showing a more favorable posttest distribution.

The difference in posttest knowledge between the two groups was subsequently examined using the Mann–Whitney U test. The analysis demonstrated a statistically significant difference between the intervention and control groups ($U = 415.500$, $Z = -2.314$, $p = 0.021$). This result indicates that the posttest knowledge scores differed significantly between participants who received education accompanied by SADARI sticker media and those who received conventional education.

The improvement in the intervention group may be related to the characteristics of the SADARI sticker as a visual educational medium. The sticker was developed to present concise information and illustrations concerning breast self-examination, including the benefits of SADARI, the appropriate time to perform the examination, the examination steps, and the actions recommended when abnormalities are identified. The educational session was also accompanied by a demonstration and re-demonstration of SADARI, allowing participants to receive the information through both verbal explanation and visual observation.

The intervention also provided participants with continued access to the educational information after the formal education session. Participants were instructed to place the SADARI sticker in a frequently visible location, such as a mirror, wardrobe, or wall. The implementation of the intervention was subsequently monitored through a WhatsApp group and random home visits. This approach allowed the educational message to remain accessible in the participants' daily environment and provided repeated exposure to information concerning SADARI.

The findings are consistent with the theoretical framework of the study, which identifies information and mass media as factors that may influence knowledge. Notoatmodjo (2018) explains that information is one of the factors that contributes to the development of knowledge. Appropriate educational media can facilitate the delivery of health information and help individuals understand the material provided. In this study, the sticker served as a printed visual medium that presented information in a concise and accessible form.

The use of visual information may also support the learning process. Mayer (2017) explains that the presentation of information through verbal and visual channels can facilitate learning by supporting the processing and retention of information. In the present study, the combination of written information, illustrations, and direct demonstration provided participants with multiple forms of exposure to the SADARI material. This may have contributed to the substantial improvement in knowledge observed in the intervention group.

The findings are also supported by previous research concerning SADARI education. Husnah (2019) reported that education concerning SADARI could improve knowledge and motivation among adolescent girls. Similarly, Hasanah (2016) examined the use of audiovisual media in SADARI education and reported improvements in knowledge and attitudes among women of reproductive age. These findings indicate that appropriately designed health education can play an important role in increasing knowledge related to breast cancer early detection.

The significant improvement observed in the control group indicates that conventional health education also contributed to an increase in knowledge. However, the intervention group achieved a higher posttest mean score (96.91) than the control group (93.24), and the Mann–Whitney U test demonstrated a statistically significant difference between the groups ($p = 0.021$). Therefore, the findings suggest that incorporating SADARI sticker media into health education may provide an additional benefit compared with conventional education alone.

The potential benefit of the sticker may be related to its function as a continuously accessible visual reminder. Unlike information delivered only during a single education session, the sticker can remain visible in the participant's environment and can be viewed repeatedly. Damayanti and Indrawati (2020) also examined the use of sticker media as a health education tool, supporting the potential use of stickers as a simple and practical medium for delivering health information. Junaedi (2020) further describes stickers as a form of visual communication capable of conveying concise messages through a combination of text and visual elements.

From a community health perspective, the use of SADARI sticker media offers a practical approach to breast cancer education. The intervention combines direct health education, demonstration, and a visual reminder that remains available to participants after the education session. Such an approach

may be useful in community settings where educational media need to be simple, accessible, and easily distributed.

Nevertheless, the findings should be interpreted according to the outcome measured in this study. The primary outcome was knowledge of early breast cancer detection, rather than long-term adherence to SADARI practice. Therefore, the observed increase in knowledge should not be interpreted as direct evidence of sustained behavioral change. Further research is needed to determine whether the use of SADARI sticker media can produce sustained improvements in the regular practice of breast self-examination and whether the effects remain over a longer follow-up period.

Overall, this study demonstrates that education using SADARI sticker media was associated with a significant improvement in knowledge of early breast cancer detection among women of reproductive age. The statistically significant difference in posttest knowledge between the intervention and control groups ($p = 0.021$) indicates that the addition of SADARI sticker media may strengthen the effect of health education. Therefore, SADARI sticker media may be considered a practical complementary educational tool for community-based breast cancer early detection programs.

CONCLUSIONS

Education using SADARI sticker media significantly improved knowledge of early breast cancer detection among women of reproductive age in RW 06, Mojolangu Subdistrict, Lowokwaru District, Malang City. The intervention group showed a significant increase in knowledge scores following the education, with the mean score increasing from 53.53 at pretest to 96.91 at posttest ($p < 0.001$). A significant improvement was also observed in the control group, with the mean score increasing from 54.71 to 93.24 ($p < 0.001$). Furthermore, the Mann–Whitney U test demonstrated a significant difference in posttest knowledge between the intervention and control groups ($p = 0.021$). These findings indicate that incorporating SADARI sticker media into health education can provide an additional benefit in improving knowledge of early breast cancer detection. Therefore, SADARI sticker media may be considered a practical educational medium for community-based breast cancer early detection programs.

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