Increasing Knowledge about Breast Cancer in Young Women with Word Square Model Education

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Abstract: As the third greatest cause of death globally, cancer is a malignant disease. Adolescents aged 11 to 24 are more likely to get breast cancer, and their survival rates are generally poorer. One of the things that contributes to the high prevalence of breast cancer because of ignorance is lack of awareness. Thus, steps must be taken to remedy this problem, one of which is introducing the word square model into the classroom. The purpose of the study is to examine how word square model teaching affects adolescent girls’ awareness of breast cancer in the classroom. A Pre-Experiment using the One Group Pretest Posttest Design technique was the study methodology employed. There were 136 female students in seventh grade at SMPN 03 Jember who made up the study’s population. With a sample size of 56 respondents, proportionate random sampling was used to choose the participants. The Wilcoxon test was employed in data analysis to assess the impact of word square model education on the degree of breast cancer knowledge. The study’s findings demonstrated that word square model instruction had an impact on teenage girls’ knowledge levels in the classroom, with the majority of them falling into the “good” category with \( p < 0.05 \). In conclusion, this study shows that teaching teenage girls about the word square model has an effect on their degree of breast cancer knowledge.

Keywords: Word Square Education, Knowledge Level, Breast Cancer
Introduction

Breast cancer is a malignant abnormal lump (tumor) that can spread to all surrounding organs due to cells that lose control, so that these cells form uncontrollably (Rahayuwati et al., 2020). The cause of breast cancer is due to the uncontrolled abnormality of breast cells, which can lead to cancer due to chronic irritation and inflammation (Airlangga, 2013).

Breast cancer data with new cases in Indonesia are 68,858 cases (16.6%) of the total 396,914 cases (Globocan, 2020). In 2020 in East Java Province with an amount of 1.6 per 1000 population has reached 13,073 cases of breast cancer and in Jember Regency is ranked 5th with 7,330 cancer cases (Timur, 2020). Based on these data, breast cancer cases are things that must be addressed immediately because they will have an impact on the biopsychosocial sufferers (Yulianarista & Suarya, 2020) (Damghanian, 2020). Prevention in reducing the incidence of breast cancer is to increase knowledge about breast cancer in adolescents, one of which is through education.

Health education is carried out in order to increase the level of public knowledge, one of which is education with the word square method. The word square method is a lecture method combined with play, so that students are able to be active when providing material and are trained to look for answers in boxes (Widiyanto et al., 2021). Some health education methods often make adolescents bored during learning or the message given is not conveyed properly (Kwok, 2022). This word square method is different from other studies because the education provided focuses on the activeness of students so that it will not make adolescents bored during learning and information can be conveyed properly (Masoudiyekta, 2018).

Efforts to improve health status are in line with the Health Promotion Model (HPM) theory introduced by Nola J. Pender. This theory states that health promotion and disease prevention are appropriate and easy to do (Yulanda et al., 2020). This HPM theory relates to health promotion which is carried out to increase knowledge, focusing on providing services to improve health and prevent disease (Dwi Astuti et al., 2020). This study aims to analyze the effect of word square model education on the level of knowledge about breast cancer in adolescent girls at school (Bonsu, 2018).

Methodology

This research is a study using a Pre-experimental design with a One Group pretest posttest design approach. This research was conducted in March 2023 (Omidi, 2020). The intervention was carried out in 1 time which was carried out at SMPN 03 Jember with a population of class VII students totaling 136 students. The number of samples used in this study was 56 samples.

The provision of word square model education was carried out once with a time of 50 minutes using Power Point media, containing topics ranging from understanding breast cancer, signs, causes of breast cancer, breast cancer stadium and breast cancer prevention (Pereira, 2020). For more details, please see Figure 1.

This study uses probability sampling type with proportionate random sampling technique. The data collection tools used include SAP (Counseling Event Unit) and a questionnaire containing 25 questions with multiple choice answers that have been tested
by researchers for validity and reliability (Sacca, 2020). All research data were processed using hypothesis testing, namely the Wilcoxon test. This research has passed the ethical test on the ethics commission of the Faculty of Health Sciences by NO. 0186/KEPK/FIKES/XII/2023.

**Table 1.** Frequency Distribution of Knowledge Levels About Breast Cancer Before Being Given Word Square Model Education to Young Women at School

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Frequency</th>
<th>Percentase (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Enough</td>
<td>11</td>
<td>19.6%</td>
</tr>
<tr>
<td>Not Enough</td>
<td>45</td>
<td>80.4%</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>100%</td>
</tr>
</tbody>
</table>

Based on Table 1, it shows that of the 56 respondents, 45 respondents were in the poor category with a percentage of 80.4%.

**Table 2.** Frequency Distribution of Knowledge Levels About Breast Cancer After Being Given Word Square Model Education to Young Women at School
Based on Table 2, it shows that after being given word square model education, 49 respondents were in the good category with a percentage of 87.5%.

**Tabel 3. The Effect of Word Square Model Education on the Level of Knowledge About Breast Cancer in Adolescent Girls at School with the Wicoxon Test.**

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Pretest</th>
<th>Posttest</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
</tr>
<tr>
<td>Knowledge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>0</td>
<td>0%</td>
<td>49</td>
</tr>
<tr>
<td>Enough</td>
<td>11</td>
<td>19.6%</td>
<td>7</td>
</tr>
<tr>
<td>Not Enough</td>
<td>45</td>
<td>80.4%</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>100%</td>
<td>56</td>
</tr>
</tbody>
</table>

Based on Table 3 shows that of the 56 respondents, the p result is 0.001 <0.05, thus it can be stated that Ho is rejected, which means that there is an effect of word square model education on the level of knowledge about breast cancer in adolescent girls at school (Kocaöz, 2018).

Based on the results of research on the effect of Word Square Model Education on the Level of Knowledge About Breast Cancer in Adolescent Girls at School, it is known that there are significant differences, which initially the level of knowledge of respondents is in the poor category, finally in the good category (Jalambadani, 2018). In the results of the questionnaire after being given education on the word square model, the level of knowledge was quite high on material related to the stages and prevention of breast cancer (Hoseini, 2021). Therefore, providing word square model education can affect the level of knowledge about breast cancer in adolescent girls at school.

Knowledge is a basis for a person to behave and make decisions so that knowledge can change a person’s behavior (So'o et al., 2022). In increasing knowledge, it is necessary to provide health education because health education is carried out to increase the level of knowledge by providing material according to needs and presented with interesting methods. This word square model is one of the educational media that makes students more active because it is a combination of lecture methods and also play methods so that the audience does not feel bored during learning (Mursini et al., 2017). The more interesting the way of providing education, the more it can be understood by respondents. Based on previous research, the level of knowledge of adolescents can increase when given education using the lecture method (Suasti, 2018). However, this method does not cause interaction between respondents and researchers and respondents are not active in the study.
In this study, the word square method is given through Power Point so that it will make all participants focus on finding answers and will remember the material provided, in accordance with the advantages of this word square model that students are required to be active so that they can be excited during the teaching and learning process and have an interest in learning (Nurmayani, 2018). Interest itself is a factor that can affect education because someone is interested in learning, it will be easy to understand and able to increase their knowledge (Sulisdiana, 2011). In addition, it also trains the focus of students so that with good concentration, the material will be easy to remember, in accordance with the level of knowledge that basic knowledge starts from remembering and then for the next stage of understanding, therefore this can increase the respondent’s level of knowledge to get to the stage of applying in everyday life (Irwan, 2017). When a person’s level of knowledge is good, it will also cause good things for health because they already know both from understanding to prevention and can change decision making in everyday life. This can be seen from previous research which states that the level of knowledge and attitudes affect physical activity in breast cancer survivors (Waluya et al., 2019).

Based on the theory from the Health Promotion Model that the need for support from various parties can help improve public health, one of which is support from health services by providing education according to the needs of the community or based on the facilities provided (Tan, 2018). This theory also explains that in increasing knowledge, there needs to be a contribution from the individual himself, because individual interest can be a factor in increasing knowledge and interest in finding a problem (Deveci, 2021). The situation that affects a person can also affect the provision of education, when someone is provided with educational material and given support in the form of facilities, it can indirectly increase the person’s level of knowledge. Personal factors that can be influenced by health services or the situation of a person so that a person has a commitment to planning daily changes and is able to control their behavior (Bower, 2019). Therefore, the results of the study are in line with this theory that to increase a person’s level of knowledge, education needs to be carried out, with material provided or according to the needs of the audience (Gol, 2020). In addition, the facilities provided by health services and support from schools that allow the provision of education are supporting factors in facilitating the provision of education in order to increase the knowledge of female students.

Based on the results of the study that the increase in knowledge comes from the provision of word square model education that is able to increase respondents’ knowledge, besides that the word square model is able to increase interest in learning and learning that is not boring and makes respondents easily remember the material that has been presented (Erenoğlu, 2020). The information obtained by respondents is easier to absorb than having to look for information on social media, where respondents are not necessarily looking for information about breast cancer because reproductive health is still taboo and adolescents are still new to their reproductive organs.
Conclusion

The results showed that the level of breast cancer knowledge before and after being given word square model education increased with a p result of 0.001 < 0.05. So it can be concluded that there is an effect of word square model education on the level of knowledge about breast cancer in adolescent girls at school.

References


