

The Influence Of Social Media On Breast Self-Examination (BSE) Knowledge In Adolescent: Scoping Review

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ABSTRACT

Background: The leading cause of death for women is breast cancer because they realize too late that they have cancer. This situation is usually only realized after cancer has entered an advanced stage, so there is no early detection process that slows down or even cures cancer from an early age. Purpose: This scoping review aimed to examine the evidence on the impact of social media on adolescents' understanding of BSE. Inclusion criteria: Articles published in Indonesia and English within the last ten years meet the requirements for this review(2014-2023). These articles focus on social media's influence on adolescent Breast self-examination (BSE) knowledge. Method: According to Arksey and O'Malley, the written format of this scoping review follows the PRISMA-ScR Checklist, which has five stages.. An article search was conducted on January 20, 2023, using several databases, including PubMed, the Wiley Online Library, ScienceDirect, and Proquest. Results: Of the 706 articles obtained, 31 were possibly relevant, and 6 articles met the inclusion criteria, presented with two themes: the influence of adolescents on breast cancer and social media as a means of increasing adolescent knowledge about BSE. Conclusion: Based on the six articles discovered during the search, it is known that social media affects adolescents' knowledge, but not all social media are widely used. WhatsApp and Instagram are often used, and there are many variations of other social media, namely: TikTok, Youtube, Snapchat, line, Facebook, Twitter, zoom meeting, etc.

Keywords: Adolescent, Knowledge of Breast Self-Examination, BSE, Breast Cancer, Social Media

ABSTRAK

Latar belakang: Kanker payudara menjadi penyebab utama kematian pada kaum wanita karena keterlambatan menyadari bahwa mereka menderita kanker. Biasanya, kondisi ini baru disadari ketika kanker sudah mencapai stadium lanjut. Akibatnya, tidak ada upaya deteksi dini yang dapat memperlambat maupun menyembuhkan kanker sejak tahap awal. **Tujuan:** Scoping review ini bertujuan untuk meninjau basis bukti mengenai dampak media sosial terhadap pengetahuan remaja tentang SADARI. **Kriteria inklusi:** kriteria yang termasuk dalam review ini adalah artikel bahasa Indonesia dan bahasa Inggris dengan publikasi 10 tahun terakhir (2014-2023), artikel yang berfokus pada pengaruh media sosial terhadap pengetahuan Pemeriksaan Payudara Sendiri (SADARI) terdapat remaja. **Metode:** struktur penulisan scoping review ini menggunakan PRISMA-ScR Checklist dengan 5 tahapan menurut Arksey dan O'Malley. Pencarian artikel dilakukan pada tanggal 20 Januari 2023 menggunakan beberapa database antara lain PubMed, perpustakaan Wiley Online, Scienedirect, dan Proquest. **Hasil:** Dari 706 artikel yang diperoleh, 31 artikel kemungkinan relevan, 6 artikel memenuhi kriteria inklusi. disajikan dengan dua tema yaitu. Pengaruh remaja tentang kanker payudara dan media sosial sebagai sarana peningkatan pengetahuan remaja tentang SADARI. **Kesimpulan:** Berdasarkan 6 artikel yang didapatkan saat pencarian diketahui bahwa media sosial berpengaruh terhadap pengetahuan remaja namun tidak semua media sosial banyak digunakan, yang sering digunakan adalah whatsapp dan instagram, dan masih ada banyak variasi media sosial lainnya yaitu : tiktok, youtube, snapchat, line, facebook, twitter, zoom meeting, dll.

Kata kunci: Remaja Putri, Pengetahuan Pemeriksaan Payudara Sendiri, SADARI, Kanker Payudara, Sosial Media

INTRODUCTION

Breast cancer is the second greatest cause of death in women. This situation is usually only realized after the cancer has entered an advanced stage. Thus the treatment given is too late (Dewi dkk, 2021).

Based on data obtained from the World Cancer Research Fund International (2020) that number of new breast cancer cases among women in the world has increased by 25.8%. Based on the projections of the Global Cancer Registry (Globocan), in 2020, there will be 396,914 new cancer cases in Indonesia, of which 68,858 are breast cancer. At the same time, the death toll surpassed 22,000. Yogyakarta has the largest incidence (4.86 cases per 1000 population), followed by West Sumatra Province (2.47 cases) and Gorontalo Province (2.44 cases). Due to the country's alarming prevalence of breast cancer, the Indonesian government has prioritized implementing promotion and prevention campaigns.

Breast self-examination (BSE) is advised for early breast cancer detection (Indonesian Cancer Foundation, 2012). According to research by Sinaga & Ardayani (2016), Breast self-examination (BSE) can begin as early as 15 years old. Due to the cancer patients incidence at Hope Clinic Medan, out of 76 cases, 6 cases (7.8%) were experienced by people aged 15-25 years. The 7-10th day after menstruation is the right time to do monthly BSE. According to Etwiory (2013), mortality from breast cancer can be reduced by 20% if BSE is carried out every month.

Adolescence is a transition from infancy to adulthood characterized by some significant developmental phases in her life. Teenagers have unique challenges when trying to adopt a cancer-prevention lifestyle. Lack of awareness among adolescents about breast cancer and its symptoms contributes to its prevalence (Irawan et al., 2017).

According to Fatmawati (2010), the Internet can be a persuasive communication tool to encourage early detection of breast cancer and prevent its spread. In 2022, 191 million people in Indonesia actively use social media compared to 2021, as many as 170 million. We Are Social (2022) reports that the social media frequently used in Indonesia is WhatsApp at 88.7%, Instagram at 84.8%, Facebook at 81.3%, TikTok at 63.1%, and Telegram at 62.2%. Most of today's youth rely on social

media to share and get information quickly. Commonly used forms of social media include Whatsapp, Instagram, TikTok, Facebook, and others. This scoping review aims to analyze the social media influence on adolescents' understanding of BSE by reviewing and mapping scientific data from published papers.

METHOD

The research method was scoping review. Scoping reviews taken are international and national journals about the influence of social media on BSE knowledge in adolescents. Data was collected by electronically searching international and national journals in the PubMed, Wiley Online Library, ScienceDirect, and Proquest databases. This scoping review used the PICO framework. The keywords used were Adolescent AND Education OR Knowledge OR Science AND Breast Self-Examination OR BSE AND Social Media. Articles selected as research material are those that meet the inclusion criteria. Inclusion criteria were all types of research methods, original articles, full text, and open access, articles in English and Indonesian, articles that were relevant and discussed the influence of social media on BSE knowledge in teenage girls, as well as articles published in the last 10 years 2014-2023. The exclusion criteria were review articles, commentary articles, report documents, books, and proceedings.

In selecting articles, the authors used Mendeley software which made it possible to check for duplicates, and used Rayyan software to select titles and abstracts according to the inclusion criteria and read the full text. 6 articles met the review's inclusion criteria. Reporting of article reviews carried out using the PRISMA Flowchart is as follows:

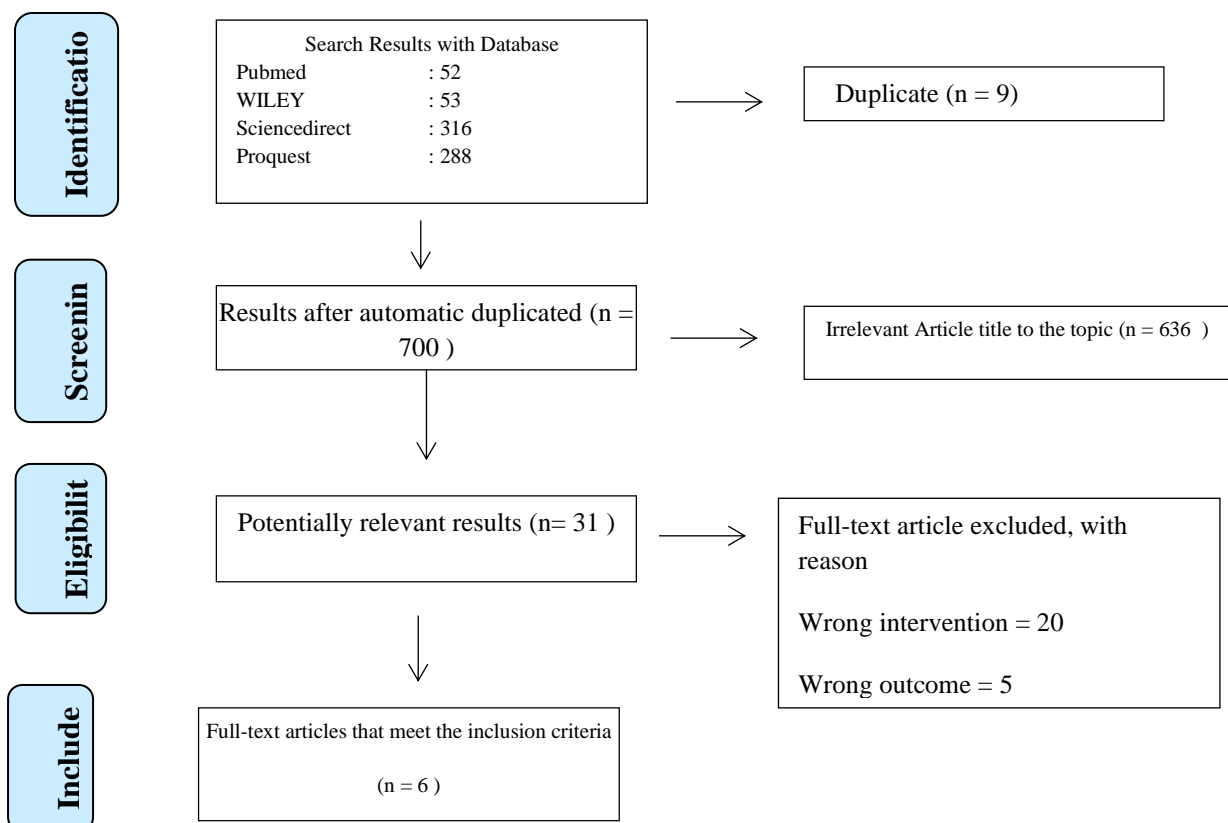


Figure 1. PRISMA Flow Chart

After data filtering, a Critical Appraisal was conducted to evaluate the quality of the articles in terms of methodology and the extent to which the studies addressed potential design bias. The JBI

Checklist is utilized for implementation and analysisCritical Appraisal applied a quantitative research design to six articles. The following are the findings of the researcher's critical appraisal

Table 1.
Data Charting

No	Title/Author/Year/Grade	Country	Aim	Type of Research	Data collection	Participant/ sample size	Result
A1	“Efektivitas Penyuluhan Berbasis Whatsapp Terhadap Pengetahuan dan Praktek SADARI Saat Pandemi Covid-19” Ani Nur Fauziah, Siti Maesaroh, dan Sri Suparti (2022)	Indonesia	<i>to evaluate the impact of BSE health recommendations delivered via Whatsapp on patient awareness and behavior during the Corona outbreak.</i>	Quantitative Cross-sectional	Accurate and reliable questionnaires were used for data collection. In addition, the SPSS program was used to conduct a paired t-test on the data, comparing respondents' level of awareness and BSE behavior before and after receiving WhatsApp-based BSE counseling.	Overall, 37 participants from the S1 Pharmacy Study Program of STIKES Mamba'ul Ulum Surakarta, whom women dominated, were included in this study.	<i>During the Corona outbreak, the findings showed that BSE health education delivered through the WhatsApp application significantly increased BSE knowledge and practice (= 0.000). Conclusion: During the Covid19 outbreak, BSE knowledge and practice increased with Whatsapp-based health education.</i>
A2	“Efektivitas Instagram Dalam Meningkatkan Pengetahuan SADARI Sebagai Pencegahan Dini Kanker Payudara”	Indonesia	intends to study how well Instagram works to disseminate information about BSE education for breast cancer prevention among young people in Kudus Regency.	A pre-experimental study using “One Group Pretest-Posttest Design” was carried out.	This study uses a pretest and posttest, as well as Instagram posts with AISAS as the instrument. We used univariate analysis to assess knowledge with Instagram with AISAS, and the Wilcoxon test used bivariate analysis.	This research was conducted in various educational institutions based in Kudus Regency. The dates for conducting this research were April 1-6, 2020. There were 90 participants in this study, all senior high school students ages 15 to 18 years in the Kudus Regency area.	The research results found that the average knowledge of adolescents about BSE increased from 47.78 before the intervention to 74.50 after the intervention, with a very good understanding of 51.1% and sufficient knowledge of 48.9%, as indicated by the Wilcoxon test score of 0.0001 (p 0.05). The average knowledge score increased from pre to post-health promotion using Instagram by

Ervi Rachman, dan Lutfi Nihayani (2021)		A cluster sampling strategy was used in this study.	55.92%, indicating the platform's efficacy in disseminating educational content.			
A3 “Comparison of the Effects of Face-to-Face and WhatsApp Based Training on Adolescent Girls' Health Beliefs about Breast Cancer and Breast Self- Exam Sefika Dilek Guven” Nazan Cakirer Calbayram & Sefika Dilek Guven (2021)	Turkey	It aims to ascertain face-to-face training and WhatsApp-based instruction affect adolescents' perceptions of BSE implementation.	The research type is a quantitative study using a pre- experimental design with two-group pretest- posttest design.	The research instrument used the CHBMS (Champion's Health Belief Model Scale), and the pre- test-post test instrument used a questionnaire. Using the analysis of T-Test, Mann-Whitney U Test, Wilcoxon.	The population in this study were adolescents who had graduated from high school in the central region of Anatolia in the Turkey Province from 1-29 December 2017. There were 133 participants consisting of 72 face-to- face participants and 61 via WhatsApp.	Students with 26.4% FFTG and 37.7% WBTG have a family history of cancer. Meanwhile, 6.9% of FFTG and 13.1% of WBTG students had a family history of breast cancer. Judging from the data, the average score in the perception of vulnerability, seriousness, benefit, self-confidence, and health motivation in WBTG is higher than in FFTG. Meanwhile, the average score in WBTG barriers is lower than FFTG.

<p>A4 “Effects of mobile text messaging on breast cancer and breast self-examination (BSE) knowledge, BSE self-efficacy, and BSE frequency: a randomized controlled trial.”</p> <p>Leodoro J. Labrague PCCR, CHSE, DM, Jolo R. Galabay MSN, RM, Angeline L. Anastacio MAN, Denise M. McEnroe-Petitte PhD, dan Konstantinos Tsaras PhD. (2020)</p>	<p>Philipina</p>	<p>It aims to investigate the impact of text messages on women's understanding about BSE and breast cancer.</p>	<p>The research type is a quantitative study designed using a randomized control trial with a group receiving scheduled cellular text messages and a control group not receiving text messages.</p>	<p>A breast self-examination self-efficacy scale, a breast cancer knowledge scale, and the frequency of breast self-examination were utilized in the data collection.</p>	<p>This population consisted of a group of childbearing-age women with a sample of 128 women of childbearing age, each group (experiment and control) consist of 64 participants from 2 communities in the Philippines from August to October 2018.</p>	<p>Women who received mobile text messages had greater breast cancer knowledge ($F=21.756$, $P= 0.001$) and breast self-examination behavior ($F=6.776$, $P= 0.010$) than those in the control group. However, BSE self-efficacy did not increase significantly ($F = 1.446$, $P = 0.69$).</p>
<p>A5 “Effect of Whatsapp Reminder Messages on knowledge and Practices Regarding Breast Self-Examination</p>	<p>Egypt</p>	<p>To evaluate the influence of the WhatsApp application on Breast Self-examination knowledge and practice.</p>	<p>The research used a Quasi-experimental pretest and posttest</p>	<p>The data collection used a structured interview questionnaire, pre and posttest assessment sheets, BSE observation checklists, and satisfaction sheets</p>	<p>Purposive sampling technique with a total population of 750 students attending secondary schools for the sample, 300 Teenage girls were chosen from Fayoum's two female secondary schools. After that, simple random</p>	<p>There was a statistically significant difference between the knowledge of teenage girls students before and after the application reminder message about BSE. The media is a major source of information about breast cancer and has discovered a statistically significant increase</p>

	among Adolescent Female Students”			related to WhatsApp influence reminders.	sampling was used to choose 10% students from two secondary schools.	regarding the BSE checklist before and after application message reminder. After a month of implementing the application reminder message, there is a statistically significant positive correlation (P = 0.004, P = 0.005) between overall knowledge and practice score. .	
	Heba Ahmed Osman Mohames, dkk (2022)						
A6	"Understanding of Breast Cancer and SADARI Through Audiovisual Health Education for Adolescent of Mutiara 2 High School Bandung"	Indonesia	To deliver audiovisual health education so that adolescents have a better understanding of BSE.	The research used a Quasi-experimental design with one group pretest-posttest design approach.	Data collection used a pretest and posttest questionnaire sheet.	The population involved students from Mutiara 2 Bandung Senior High School during the academic year 2020–2021 consisting of 60 students in class X, 58 in class XI, and 54 in class XII.	After receiving health education, respondents' knowledge increased, with audiovisual (80%) in the good category, compared to the previous one only (13.3%) and the sufficient category (40%), and the category was not bad.
	Oryza Tri Novita (2022)						

RESULTS AND DISCUSSION

Selection of Evidence Sources

Rayyan screens based on the keyword searches results in 4 databases using the PICO framework. The phases of article screening are described using the AIUr Prisma diagram. 6 articles fulfilled the inclusion criteria and were considered suitable after undergoing a Critical Appraisal using The Joanna Briggs Institute (JBI). (Peters et al., 2015).

Characteristics of Evidence Sources

The characteristics derived from the six selected articles are primarily based on country groups and research methodology.

a. Characteristics of articles based on country groups

Articles derived from the country group-based selection results included 1 article from the developed country group, namely Turkey (A3), and 5 from the developing country group, namely Phipiphina (A4), Egypt (A5), and Indonesia (A1, A2, A6) which shown in diagram 1.

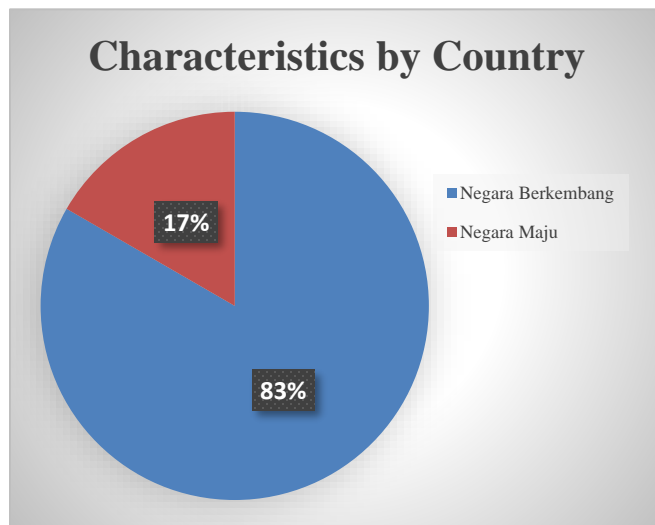


Diagram 1 article characteristics by country group

b. Article Characteristic based on research methodology

Judging from the research method, found 4 research methods, namely the Quasy Experimental research method (A2, A3, A5, A6), Cross-Sectional (A1), and Randomized Control Trial (A4), shown in diagram 2.

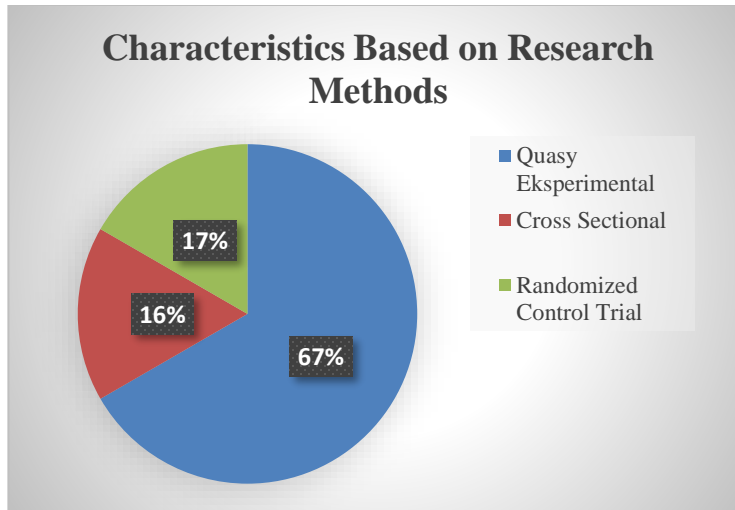


Diagram 2. Characteristics based on research methodology

Individual Evidence Sources' Result

In this review, the articles reviewed were classified into 2 main themes, namely the influence of adolescents on breast cancer and social media to increase adolescent knowledge about BSE. The theme of adolescents' influence on breast cancer is found in the articles (A1, A2, A4, A5, A6). While the theme of social media as a means of increasing adolescents' knowledge about BSE is found in articles (A1, A2, A3, A4, A5, A6).

Summary of Evidence

It is known that the article is pertinent to the scoping review purpose based on the 6 selected articles, which is to discuss the influence of adolescent knowledge about breast cancer and social media to increase adolescent knowledge about BSE.

Theme 1: The Effect of Adolescent Knowledge About Breast Cancer (A1, A2, A4, A5, A6)

Breast cancer is a severe health issue with an increasing frequency, including in Indonesia (Alfalah, 2022). More and more people with cancer are young women, around 14 years old. It begins with the slow growth of breast tumors that develop into breast cancer. Therefore it is necessary to have breast cancer early detection. Adolescence is a period of individual transition from childhood to adulthood. Usually, this transitional period occurs at the age of 13-20 years, and there are 3 phases in adolescence, namely early adolescents, aged 11-14 years, mid-teens aged 15-17 years and the last is late adolescence, aged 17-20 years (Permana Indra, 2012). During this teenage period, female hormones begin to function properly. These hormones in some women are associated with the breast cancer incidence.

Adolescents' limited understanding of breast cancer is a barrier to early detection and treatment. Many women with breast cancer realize late that they have breast cancer after experiencing severe symptoms. Therefore, recognizing breast cancer earlier is very important in preventing this disease from developing to a more dangerous stage (article 1). People are less likely

to be aware of their breast cancer risk if they do not know to do a breast self-examination. As the world's number one killer of women, people need to have an adequate understanding of breast cancer (Rachmasari, 2018).

The level of one's knowledge strongly influences a person's behavior. Notoadmodjo (2012) identified six stages (or "levels") of knowledge, namely: knowing, understanding, applying, analyzing, synthesizing, and evaluating. According to Maier (2007), knowledge can be seen as many things people experience and learn through observation. Introspective to demonstrate knowledge, a person must be able to mentally identify items or events that were previously unseen or made no sense. Knowledge can reduce the effects of experience, activity, and environment regarding health behavior. In (article 4) health promotion is also used extensively for breast cancer prevention.

Activities or efforts to convey health messages to individuals or groups of adolescents are inseparable from health promotion. The message is addressed to adolescents and youth groups in the hope that they will learn more about health issues, including breast cancer and BSE (article 2). (Article 5) outlines a set of criteria for assessing a person's level of knowledge about breast cancer in the areas of the definition, types, risk factors, symptoms, treatments, prevention, early detection, and diagnosis of breast cancer. Knowledge about BSE is in the form of BSE concepts, benefits, goals, and the right time for BSE.

From the interviews with five female students, four often complained of breast pain during menstruation and did not know about BSE examinations. One female student felt a hard and small lump on top of her breast and never went to a health worker (article 6). It can be said that adolescents' knowledge about health is very influential with the mindset of adolescents, especially about health so that their present and future lives remain healthy. This knowledge makes it necessary to socialize BSE for young women.

Theme 2: Social Media as a Means of Increasing Adolescent Knowledge About BSE (A1, A2, A3, A4, A5, A6)

Education level, exposure to mass media/social media, economic status, experience, and social status can influence an individual's degree of knowledge on a subject. In this era, it is easy to get and find information using a smartphone, and most teenagers have it. Adolescents tend to have a greater curiosity about new things than adults (Widyahapsari dkk., 2021).

Marketing strategies that use social media are popular because they are considered low-cost and easy to implement. Forty teenagers were surveyed about their use of social media in Kudus District, and the results indicated that all of them use at least one platform, with Facebook usage of 7.5% and Instagram usage of 92.5% (article 2). For Whatsapp, it reaches 88.7%, TikTok 63.1%, and Telegram 62.8% (we are Social, 2022). The results of the review found that most teenagers most often use social media in the form of Instagram (article 2) and WhatsApp (articles 1, 3, 4, 5, and 6).

Based on research conducted in (article 3) says that students with FFTG (face-to-face) 26.4% and WBTG students (by WhatsApp) 37.7% have a cancer family history. 6.9% of FFTG students and 13.1% of WBTG students have breast cancer family history. This phenomenon

further strengthens that counseling regarding BSE based on the Whatsapp application effectively increases BSE knowledge and practice in adolescents during the Covid-19 pandemic (article 1). According to (article 6), there was an improvement in respondents' understanding in the experimental group before and after receiving health education with audiovisuals in the good category (60%) which previously had not been given intervention only (13.3%), the sufficient category after being given intervention (40%) and the less category after being given the intervention became (0%) which was before (6.7%). The audiovisual media used is sent using the WhatsApp application line with (article 4) in which the WhatsApp application can help and facilitate the dissemination of knowledge about breast cancer and its prevention, followed by (article 5) which says that the WhatsApp application reminder message has a significant effect on increasing adolescents' knowledge of BSE. There is a significant difference between adolescent students' knowledge before and after receiving a WhatsApp application reminder message about BSE. In (article 2), there is a significant effect before and after being given BSE knowledge interventions to adolescents using the Instagram application with the Instagram AISAS method in providing BSE knowledge information to adolescents.

Increased participant knowledge about preventing non-communicable diseases, one of which is breast cancer, after being given health education using application-based social media, there has been an increase in understanding and positive behavior in society (E. Y. Mulyani, et al, 2020). The social media used is the WhatsApp application group media because this media is very effectively used in discussions and interactions between resource persons and other participants in obtaining more comprehensive information about the prevention of non-communicable diseases. Whatsapp is a smartphone instant messaging program that is functionally very similar to an SMS application; the main difference is that instead of using credit, Whatsapp uses the user's available Internet or wifi data plan.

Women of Reproductive Age between the ages of 15 to 49 showed a statistically significant increase in their knowledge of breast cancer after receiving social media-based information education interventions in the form of the Instagram application (Anggraini et al., 2021). Instagram is a more efficient way to provide information because it relies heavily on visual assets such as photos and videos. Previous studies (Ayudia Fardila Sari, 2019) found that non-health students at Andalas University showed different changes in knowledge, attitudes, and perspectives on health promotion on Instagram before and after BSE. Instagram is one of the most popular social networking sites. As part of a campaign to raise awareness and prevent breast cancer in Indonesia, it can spread important information about BSE.

LIMITATIONS OF THE STUDY

The limitation of this assessment is that data collection was not carried out directly because the authors were involved in analyzing other research articles, and the search for articles was limited to between 2014-2023, so searches could not be widespread. The researchers, in this case, the scoping review was only concerned with addressing research goals. and analyzing the influence of social media on adolescents' understanding of BSE.

CONCLUSIONS AND SUGGESTIONS

In the scoping review results, the authors argue that social media is also very influential in increasing adolescents' BSE and breast cancer knowledge. The social media that are in great demand and are often used by teenagers in disseminating BSE and breast cancer knowledge are the WhatsApp application and the Instagram application compared to other social media applications they also use.

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ETHICAL CONSIDERATIONS

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Conflict of Interest Statement

The authors declare no conflict of interest in this research.

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