

PROCEEDING SRIWIJAYA INTERNATIONAL 4<sup>th</sup>

"Health and Nutrition Innovation for Better Life Style in Digital Era" September 21<sup>st</sup>, 2023 | The Zuri Hotel, Palembang

# LITERATURE REVIEW : THE INFLUENCE OF HEALTH PROMOTION MEDIA ON THE KNOWLEDGE AND ATTITUDE OF THE PROSPECTIVE BRIDE REGARDING PRECONCEPTIONAL NUTRITION

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#### ABSTRACK

Stunting remains a major nutritional problem faced by Indonesia. Addressing this issue should begin before marriage and pregnancy planning by bride, taking into account the nutritional status during the preconception period. However, according to studies, bride in Indonesia have low knowledge of preconception nutrition. Therefore, enhancing knowledge and attitudes is crucial to improve health and ensure healthy offspring. This study aims to examine the influence of health promotion media on the knowledge andattitudes of prospective bride regarding preconception nutrition. Through a literature review, this study will summarize the results of related studies over a five-year period, namely 2019-2023, using the narrative method. The data search utilizes the PICOTS framework to determine keywords andinclusion/exclusion criteria. The literature review yielded 11 journals related to the impact of health promotion media on the knowledge andattitudes of prospective bride regarding preconception nutrition. There are 7 different media (flipchart, leaflets, booklets, animated videos, social media, short film videos, andAndroid-based educational applications) with different health education methods. Booklet and social media can be an effective choice in increasing the knowledge and attitudes of the prospective bride bride and groom regarding preconception nutrition.

Keywords: Bride, Media, Knowledge, Attitudes

# Introduction

The Indonesian Ministry of Health identified malnutrition as a major issue in Indonesia, causing *stunting* with a prevalence of 30.8%<sup>1</sup>. Based on Presidential Regulation Number 72 of 2021, the government has set a target to reduce prevalence *stunting* to 14% by 2024. SSGI 2022 results show decreased prevalence *stunting* from 24.4% (2021) to 21.6% (2022), although it is still considered a chronic problem because it is still above the WHO standard of 20%. *Stunting* Impact on intelligence, disease resistance, and productivity of children in the future<sup>2</sup>. *Stunting* it also increases the risk of adult non-communicable diseases such as obesity and diabetes, potentially burdening the country's economy with high health costs<sup>3</sup>.

*Stunting* is a risk of long-term malnutrition starting from the preconception period to the First 1000 Days of Life<sup>4</sup>. Some factors influencing the occurrence *stunting* In children, namely parenting, basic immunization, basic sanitation and hygiene, diarrheal diseases, smoking habits, and respiratory infections, which are closely related to lack of parental knowledge<sup>5</sup>. The main solution against *stunting* involves nutrition-sensitive interventions before marriage and planning pregnancy, focusing on the nutritional status of the bride and groom (CATIN) in the preconception period<sup>4</sup>.

Preparation and enhancement of CATIN knowledge about preconception nutrition is key in preventing *stunting*, as well as helping CATIN health and offspring quality through optimal pregnancy preparation<sup>6</sup>. Many brides-to-be lack understanding about preconception nutrition, indicated by the high prevalence of Chronic Energy Deficiency (CED) and anemia in expectant mothers. Riskesdas 2018 data shows 14.5% of CED in non-pregnant women and 48.9% of anemia in pregnant women. Siregar (2023) Discovering nutritional knowledge (balanced nutrition, preconception, prevention *stunting*) CATIN in Indonesia is still low, impacting nutritional intake during pregnancy.

WHO  $(2012)^8$  linking nutrition promotion and education to increased knowledge and attitudes to reduce health risks. Dewi Susanti *et al.* (2018) Mentioning preconception education has a significant effect on increasing the knowledge and attitudes of brides-to-be through nutrition education media. This factor is largely due to the role of media in nutrition education, which helps CATIN in understanding the problem as well as increasing one's knowledge and changing attitudes about preconception nutrition <sup>10</sup>.

Previous research has looked at the influence of media on increased knowledge and attitudes, with variations in effectiveness outcomes depending on the media used. In this study, a literature survey was conducted to analyze the influence of health promotion media on the knowledge and attitudes of brides-to-be related to preconception nutrition. These media include *booklets, flyers*, Android-based pocket books, modules, and *presentation slides*. The difference in media used also shows variations in the effectiveness and acceptability of the knowledge of the bride and groom. The effectiveness factor is important as a measure of the success of the influence of the media on increasing the knowledge and attitudes of prospective brides, which will be discussed in this study through a comparison of the influence of the media used, the effectiveness of the media, advantages and disadvantages, and methods of use. This study generally aims to examine the influence of health promotion media in increasing knowledge and changing attitudes of brides-to-be about preconception nutrition.

### Methods

This study uses the literature review *method with a narrative approach, aiming to explore information from previous studies that discuss the influence of health promotion media on the knowledge and attitudes of brides-to-be regarding preconception nutrition This study uses* national literature sources in the last five years, namely 2019 to 2023. The data collection process uses literature search tools such as Google Scholar and Scilit.net. The literature search strategy uses the PICOTS approach *(population, intervention, comparison, outcome, time, study) as* well as literature assessment criteria to determine keywords and parameters of inclusion and exclusion in literature selection.

PICOTS	Inclusion	Eksclusion
Population	Bride-to-be age 19, unmarried women of	The bride-to-be is <19 years old, WRA is
	reproductive age (WRA) age 19≥≥	married
Intervension	Preconception nutrition education (iron	Not using health promotion media
	supplements, obesity, CED, stunting, optimal	
	nutritional status, and balanced nutrition	
	guidelines) using health promotion media for	
	brides-to-be and WRA	
Comparation	Whether or not there is a comparison group	-
Output	There is an influence on knowledge and	No influence on knowledge and attitude
	attitudes and the level of effectiveness	
Time	Year 2019 - 2023	-
Study	a. Quantitative	-
	b. Experimantal research design	
	Data collection instruments using pre-test and	
	post-test questionnaires	
Kriteria	a. It is a journal accessed from the Google	a. Is a thesis or thesis
literatur	Scholar database and Scilit.net	b. Results of <i>literature review</i>
	b. Journal in <i>fulltext</i> and can be downloaded	
		Journal not accredited by SINTA (Science
	Accredited journal categories between SINTA	and Technology Index)
	1 – SINTA 5	

#### **Table 1. PICOTS**

First, the researcher conducted literature identification through Google Scholar and Scilit.net, resulting in 665 pieces of literature. Subsequently, the researcher performed screening and criteria suitability, resulting in 11 pieces of literature. Afterward, the researcher assessed the quality of the literature using the JBI Critical Appraisal Checklist. Out of the 11 research literatures, all of them scored above 50%, indicating that these literatures met the criteria for the review process. Figure 1 presents the PRISMA diagram illustrating the flow of literature selection.

# Results

The results of this literature review study are presented narratively to describe the findings from 11 journals that focus on the influence of health promotion media on improving the knowledge and attitudes of prospective brides and grooms regarding preconception nutrition. All of the studies utilized a quasi-experimental design. The sample characteristics in the reviewed studies exhibited variations. The research's scope encompassed preconception nutrition issues, including stunting, malnutrition, anemia, balanced nutrition, and reproductive health. The samples included women of childbearing age, men about to get married, and couples. A majority of the sample members were above 16 years old and unmarried. Education and occupation characteristics also varied, reflecting diverse social backgrounds. The research locations' characteristics were also diverse; some places had limited internet access, affecting the community's ability to access online-based media. Literature analysis revealed that many samples lacked knowledge about preconception nutrition, particularly related to stunting.

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The media used included print media (such as flip charts, booklets, leaflets) and electronic media (animated videos, social media, short films, Android applications). The methods of health education were also diverse, encompassing lectures, discussions, counseling, as well as education and questionand-answer sessions. The findings from the 11 research journals indicated that health promotion media significantly influenced the knowledge and attitudes of prospective brides and grooms regarding preconception nutrition. The intervention duration until post-test ranged from one to two weeks, encouraging participants to seek additional information. Furthermore, in interventions involving video media, a duration of 30 minutes was required.

Journal Biography	Population	Intervention	Compare	Outcome
The Effect of Health Education with Media Turning Sheets on Stunting Prevention in Brides-to-be <sup>11</sup>	A total of 144 respondents were women.	The intervention group received a counseling sheet on stunting prevention which included the definition, causes, impacts, prevention, and intervention of stunting.	The intervention group received a return sheet and measured post-test results after 2 weeks. The control group was only measured pre-test and post-test, and given an explanation after the post-test.	The intervention group showed an increase in knowledge (from 11.93 to 13.69) and attitudes (from 7.40 to 10.61) with a value of $p = 0.000$ . The control group experienced no significant changes in knowledge (from 11.17 to 11.42) and attitudes (remained 7.24) with values of $p = 0.55$ and $p =$ 0.967.
The Effect of Counseling with Stunting Prevention Animation Media on the Knowledge and Attitudes of Brides-to-be <sup>12</sup>	A total of 47 respondents were women.	Stunting counseling was carried out with animation media after explaining the purpose and impact of the material to respondents.	There is no comparison group.	Respondents experienced an increase in knowledge scores from an average of 8.62 (pre-test) to 13.38 (post-test). Attitudes also increased from 20.68 (pre-test) to 31.60 (post- test). The paired simple t test showed a value of $p =$ 0.000, indiCATINg a significant effect of animation counseling on increasing knowledge and attitude.
The Influence of "Acenting Seni" Application Educational Media on Knowledge and Attitudes to Prevent Early Stunting in Women of Childbearing Age 20-25 Years <sup>13</sup>	A total of 30 female respondents were unmarried.	Respondents downloaded the "Acenting Art" application, read the material with explanations, then filled out post test 1. After 7 days, post test 2 is filled in after reading the material again.	There is no comparison group.	WUS knowledge scores increased after treatment, from an average of 24.5 on the pre-test to post- test. The paired sample t- test showed a significant improvement between pre test, post test 1, and post test 2 ( $p = 0.0001$ ). Attitude scores improved with an increase in median pre test and post test. The Wilcoxon test showed significant differences between pre- test, post-test 1, and post- test 2 ( $p = 0.0001$ ), demonstrating the effectiveness of "Acenting Art" in improving attitudes to prevent stunting.
Social Media-Based Nutrition Education	The sample was a total of	The intervention group participated in	There is a comparison group.	The intervention group showed an increase in

#### Table 2. Research Results and Literature Review

for Brides-to-be in Stunting Prevention in Kotamobagu <sup>14</sup>	60 female CATINs.	social media outreach, lectures, and Q&A. Pre-test measurements were carried out beforehand, followed by post-test after 2 weeks for the intervention and control groups.		average knowledge score from 19.00 to 23.43 (p = 0.000). The control group experienced no significant change (p = 0.214). The mean attitude score of the intervention group also increased from 10.16 to $12.36$ (p = 0.000), while the control group was not significant (p = $0.080$ ).
Education with Booklet Media on Preconception Nutrition Knowledge, Attitudes, and Macronutrient Intake of Premarital Women <sup>15</sup>	A total of 30 premarital female respondents.	The intervention and control groups were given different treatments to examine the effect on preconception nutritional knowledge, attitudes, and macronutrient intake in premarital women.	There are 2 different treatment groups.	There was a significant difference in the knowledge of premarital women after the intervention in the intervention group ( $p = 0.008$ ), while in the control group there was no significant difference. The attitude of the intervention group increased in the good category from 40% to 80%, while the control group also increased but not as much, from 40% to 53.3%.
Education About the First 1000 Hasip of Life in Improving the Knowledge and Attitude of the Groom <sup>4</sup>	A total of 60 CATIN men.	The pre-test is conducted before education using a 60- question questionnaire. SEZ and anemia materials were given on the first day, IMD and exclusive breastfeeding on the second day, and MP- ASI and stunting on the third day, followed by post tests every day.	There are 2 different treatment groups.	The group that was educated with a pocketbook experienced an increase in knowledge score on each material (p<0.005). The leaflet group showed no significant differences in most materials. The attitude score of the pocketbook group increased on all 1000 HPK (p<0.005) materials, except MP-ASI material which did not increase significantly.
Education Using Preconception Care Booklet Increases Knowledge and Self Efficacy of Brides- to-be <sup>16</sup>	A total of 56 respondents (28 CATIN pairs).	Intervention in the form of a digital booklet on preconceptions was given to CATIN.	The difference was observed by comparing the values before and 1 week after the booklet administration. CATIN was asked to fill out a post-test questionnaire sent online.	Research shows an increase in knowledge of paint, before treatment only 17.8% knowledge is good, after treatment to 91%. Self-efficacy also increased, from 10.7% to 57.1% with p=0.000 showing a significant difference between pre and post test on knowledge and self-efficacy of CATIN.
The Effect of Nutrition Education Videos on Knowledge and Attitudes of the Application of Balanced Nutrition in Women of Childbearing Age <sup>17</sup>	A total of 60 women of childbearing age.	The intervention and control groups were compared to see the effect of audio-visual education on knowledge and attitudes of balanced nutrition. The pre-test questionnaire was filled out by both	Differences in knowledge and attitudes after education were measured between the intervention group that received short film video education and the control group that	The study showed an increase in knowledge scores in the intervention group, median pre-test 50.0 to post-test 90.0. An increase in attitude scores occurred in the intervention group, the median pre-test 78.3 to post-test 83.3. The

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		groups, then the intervention group received education through a short film video containing 10 Balanced Nutrition Guidelines (PGS) for 35 minutes. Then both groups filled out the post test.	did not receive education.	Wilcoxon Sign Rank Test in the intervention and control groups showed a significant increase in knowledge with $p =$ 0.0005 and $p = 0.008$ . Significant attitude improvement only occurred in the intervention group with $p =$ 0.0005.
The Effectiveness of Nutrition Education Lecture Method and Audi Visual on Knowledge and Attitudes on Stunting Prevention in Women of Premarital Childbearing Age <sup>18</sup>	The sample was 77 women of childbearing age.	Respondents filled out a pre-test (15 knowledge questions, 16 attitude questions), then received interventions in the form of nutrition lectures for 30 minutes and 30 minutes audio visual. After the intervention, respondents filled out a post test.	The study had only one group given the intervention, to compare knowledge and attitude scores before and after the intervention.	The study showed an increase in knowledge scores from an average of $8.97$ (59.8% correct answers) to 12.57 (83.8% correct answers) to 12.57 (83.8% correct answers) after the intervention. The Paired T-Test showed a significant difference with $p = 0.001$ . There was an increase in attitudes from an average of 49.2% to 81.1%, with the Paired T-Test p=0.03 showing a significant difference after the intervention.
The Effect of Booklet on Knowledge and Attitudes of Reproductive Health of Brides-to-be related to Pregnancy Risk Prevention in Pemalang Regency 19	The sample consisted of 100 female CATINs.	Respondents of both groups filled out a pre-test. The intervention group was given education using booklets, while the control group received conventional lectures. After the intervention, both groups filled out post test questionnaire 1, and after 2 weeks filled out post test 2.	This study compared the level of knowledge and attitudes between the intervention group that received education with booklets and the control group with conventional lectures, through data collection using questionnaires.	The study showed differences in changes in knowledge levels between the intervention and control groups. The mean knowledge difference of the intervention group was 4.28 higher than that of the control 1.26, the Mann Whitney test p=0.000. Attitude changes were also different, with the mean difference in the attitude of the intervention group 1.84 higher than the control 0.98, the Mann Whitney test $p = 0.009$ .
Counceling by Leaflet Media in Increasing Brides and Groom's Knowledge and Attitude About Reproductive Health <sup>20</sup>	The sample consisted of 30 couples of brides-to-be.	Data were collected through questionnaires that have been tested for validity and reliability. Questionnaires were filled out before and after the intervention, which consisted of counseling using leaflets for 30 minutes.	This study involved only one group, namely the CATIN group which was given the intervention. Knowledge and attitude score data were compared before and after the intervention.	The results showed an increase in the average knowledge score of brides-to-be from 57.1 before counseling to 87.1 after counseling with leaflets, with $p = 0.000$ . There was also an increase in the average attitude score from 24.4 to 33.0 after counseling, with $p = 0.000$ .

# Discussion

The Indonesian government seeks to reduce stunting with nutrition-sensitive interventions for brides-to-be preconceptions for healthy families and quality offspring. However, previous research has shown a lack of information regarding preconception nutrition and its impact on the knowledge and attitudes of brides-to-be <sup>13,18</sup>. This has the potential to cause health problems such as low weight, CED, and iron anemia, as well as lack of preparedness to face problems <sup>21</sup>.

A review of the journal showed the majority of studies used brides-to-be registered with Religious Affairs Office (RAO) with the age of  $\geq 16$  years. There are also studies that focus on women WRA 18-25 years. Age is an important factor in maintaining family nutritional status <sup>22</sup>. The age limit for marriage according to Republic of Indonesia Regulation No. 16/2019 is 19 years. WRA also needs preconception nutrition knowledge <sup>12</sup>. The results showed that there are still brides-to-be under 19 years old, who lack psychic, physical, and motivational maturity for preconception nutritional information. Preconception nutrition education is needed to prevent reproductive health problems. Research shows the majority of nutrition education is given to prospective bride. However, preconception nutrition education needs to be given to prospective groom as well. Simanjuntak &; Wahyudi (2021) emphasizing the importance of education for men in supporting decisions and fertility. Regular and scheduled education is needed to prepare for physical health and pregnancy. The level of education also affects CATIN's knowledge and attitudes <sup>23</sup>. Job and socioeconomics also influence nutrition education interventions <sup>4</sup>.

Previous studies have shown the effectiveness of nutrition education using feedback sheets in improving the knowledge and attitudes of brides-to-be <sup>11,24</sup>. Easy-to-understand turning sheets also make it easy to explain the material <sup>25</sup>. In addition, counseling with leaflet media has also proven effective in increasing the knowledge and attitudes of brides-to-be <sup>20</sup>. Leaflets, which contains simple information and interesting illustrations, becomes an efficient means of education <sup>25</sup>. Meanwhile, the use of media *booklet* also has a positive impact in increasing the knowledge and attitude of the bride and groom <sup>19</sup>. *Booklet* with structured information and a wide scope of material contributes to preconception nutrition education <sup>26</sup>.

The use of animated video media has been shown to increase the knowledge and attitude of brides-to-be <sup>12,17</sup>. By combining visual and audio stimulation, video provides an effective ability to improve the comprehension of the message conveyed <sup>25</sup>. In addition, Android-based applications are also an effective choice to improve the knowledge and attitude of brides-to-be <sup>13,27</sup>. This application provides a more interactive learning experience and suits the needs of users <sup>28</sup>. In the context of social media, it has been proven that this medium is effective in increasing the knowledge and attitudes of brides-to-be <sup>14,29</sup>. The use of social media, which has a wide reach and fast response, has a positive impact on education <sup>30</sup>. Not only that, booklet digital that can be accessed through discussion group applications or Whatsapp also proves its effectiveness in increasing the knowledge and attitudes of couples <sup>31,32</sup>. E-booklet provides flexibility in self-directed learning, allowing users to learn according to their time and needs <sup>33</sup>.

Media plays a crucial role in influencing a person's knowledge and attitudes, providing information that supports rational and critical decisions <sup>15</sup>. The method of media use is influenced by the type of media, purpose, material, time, and characteristics of the target <sup>34,35</sup>. Some research suggests that nutrition education methods are coupled with media, such as interactive lectures, booklet, leaflets, audio-visual, and discussion in group chats, able to improve knowledge and attitudes <sup>11,12,18,20,31</sup>. Interactive

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lectures and Q&As can be supported by print media such as booklet or leaflets, while audio-visual methods provide a dynamic and interactive experience <sup>25</sup>. Discussions in educational group chats provide flexibility with expanded knowledge and clear regulations <sup>16</sup>. The counseling method also helps improve knowledge and attitudes, where comfortable and confident conditions encourage communicators to dig for information <sup>36</sup>. Brief socialization about counseling can affect motivation to hear and understand information <sup>12</sup>. The frequency of effective interventions based on the results of literature review varies depending on the context and needs of the bride and groom. The majority did one intervention with pre test and post test for 1-2 weeks. However, repeated interventions with regular frequency are generally more effective. For example, on social media, posting twice per week for four weeks can help build understanding <sup>37</sup>.

The research of Fauziatin et al. (2019) was conducted in rural areas of Grobogan with the aim of increasing the knowledge and attitudes of brides-to-be using the media of turning sheets. This was chosen because the region has limited internet access. Turning sheet media has proven effective as a direct learning tool that can be used indoors and outdoors without the need for a power source, as explained by Siregar et al. (2020). However, it should be noted that this media is more suitable for use in small groups (about 6-8 people) according to the findings <sup>38</sup>.

The research of Lamtioma et al. (2023) investigated the application of counseling with leaflet media as a means of nutrition education. This strategy involves the use of informative sheets supplemented with illustrations, which have the potential to stimulate visual capture as well as add appeal to the message <sup>25</sup>. However, it is important to create an attractive leaflet design, according to Simanjuntak & Wahyudi's (2021) suggestion.

Several studies such as Wulandari et al. (2020), Irawati et al. (2019), and Putri et al. (2021) show that the media booklet effective in improving the knowledge and attitude of the bride and groom. Media Booklet It takes the form of a small book containing clear and simple text, complemented by illustrations. Its advantages lie in its ability to provide more structured and detailed information <sup>39</sup>. However, keep in mind that the effectiveness of use booklet may decrease if the audience has limited literacy.

On the other hand, research involving videos as an educational medium such as those conducted by Hartanti (2021), Nurlinda et al. (2021), and Fadhilah &; Noerfitri (2023) shows an increase in knowledge and attitudes of brides-to-be. Video is able to present information through visuals and audio, allowing viewers to better understand the concept conveyed <sup>25</sup>. However, it is important to ensure the quality and relevance of video content in order for educational goals to be achieved.

In addition, Android-based educational applications have also emerged as an effective medium in nutrition education for brides-to-be <sup>13</sup>. The app provides easy access via mobile devices and can present multimedia content, including text, images, and videos <sup>28</sup>. However, it needs expertise in creating interactive and engaging applications <sup>40</sup>. However, the use of social media as a nutritional education tool for brides-to-be should be considered carefully as observed by Sarman &; Fauzan (2022). Social media has the potential to reach a wider audience, but its use also risks bringing information that is not always

accurate or useful <sup>41</sup>. Therefore, it is important for recipients of information to have critical skills in evaluating the sources of information they receive.

The media plays an important role in the effectiveness of information delivery, especially in nutrition education for brides-to-be. Media selection must consider the characteristics of the bride and groom, such as:

- Gender: For women, media that focuses on visual and narrative aspects tend to be more effective. This is supported by research Mary et al., (2018) which suggests that women respond well to visuals, stories, and feelings because of the characteristics of their brains. Meanwhile, media that present data and facts tend to be more effective for men. Amen (2018) Differences in brain structure between men and women affect how they process information.
- 2) Education Level: Education level plays an important role in comprehension and literacy. Individuals with higher education tend to have better analytical and critical abilities. Media content for this group should be structured and in-depth. On the other hand, content for groups with less education should be simpler and easier to understand. Rohman &; Romadi (2022) revealed that people with low education have limited ability to understand information.
- 3) Type of Work: Couples with busy work schedules and limited time are better suited to flexible media, such as audio visual or apps. This medium allows them to access information on their schedule. Social media is also suitable for this couple, due to its interactivity and flexibility. Medinawati et al. (2022) stated that Android-based educational applications provide flexibility and interactivity.
- 4) Demographics of Residence: The availability of technology and infrastructure also influences the right choice of media. In areas that do not have internet access, non-digital media such as booklets, leaflets, or turning sheets can be more effective in conveying information. Sarman & Fauzan (2022) show that social media is suitable for areas with good internet access.

Based on the results of the study, researchers concluded that booklet media and social media can be an effective choice in increasing the knowledge and attitudes of brides-to-be related to preconception nutrition. Here are some reasons why both mediums can be good choices:

- Media Booklet: Booklet is a simple and concise print media. Information can be presented with an organized structure and images that aid understanding. This media is suitable for brides-to-be couples with higher education who need detailed information. Booklet media can also be printed in practical formats, such as A5 paper <sup>45</sup>.
- 2) Social Media: Social media has a wide reach and flexibility of interaction. Articles, infographics, videos, and images can be shared to reach brides-to-be with various backgrounds. Interactivity on these platforms also helps build better understanding. It is important to remember that the source of information must be verified and the risk of inaccurate information must be alerted.

Combining booklet media and social media can create a comprehensive approach. Booklets can be printed for reference and digital versions can be shared via social media. Social media can also be used to direct brides-to-be to further content, as well as facilitate discussion and interaction.

In designing media content, make sure to use language that suits the target group, be it simple or more in-depth according to the level of education. Visuals such as images, illustrations, and infographics help clarify information. Evaluating content with experts is also important to ensure its quality and effectiveness. Simanjuntak and Wahyudi (2021) emphasized the need for consultation with experts in compiling media Booklet. Social media should also use effective visual features <sup>41</sup>.

# Conclusion

The results of the literature review show that health promotion media has a significant positive impact on increasing the knowledge and attitudes of brides-to-be regarding preconception nutrition. Research indicates that booklet and social media are effective in increasing brides-to-be's knowledge and attitudes about preconception nutrition. Booklet media is suitable for individuals with higher education who are looking for detailed information, while social media has a wide reach and flexible interaction. Combining the two can create a comprehensive approach, where the booklet can be a printed reference and the digital version shared via social media.

### Acknowledgement

The authors would like to thank the support from my academic advisor, for their valuable input and suggestions that enriched the quality of this work.

# Funding

This study have no funding for the research.

### **Conflict of Interest**

This study have no conflict of interest.

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