



THE EFFECT OF EDUCATION WITH BOOKLET MEDIA ON PREGNANT WOMEN'S NUTRITION KNOWLEDGE IN STUNTING PREVENTION EFFORTS

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ABSTRACT

Stunting (short) or failure to grow is a condition that describes the undernutrition status that has a chronic nature during the growth and development of children from the beginning of life. Pregnant women who experience nutritional deficiencies can have an impact on stunting. Therefore, it is necessary to prevent stunting, one of the ways to prevent it with education to increase pregnant women's knowledge about nutrition. Education is obtained from various media, one of which is a booklet. Objective: The purpose of this study is to determine the influence of educational booklet media about nutrition in pregnant women on maternal knowledge in the working area of the Ajangale Health Center. Method: The research design uses Quasi Experiment with a pre-test post test one group design. The sample used was 30 respondents with purposive sampling techniques. This research tool uses nutrition knowledge questionnaires and booklets. In this research, researchers used quantitative data analysis, namely consisting of univariate analysis and bivariate analysis. In this study, univariate analysis was used to determine maternal knowledge about nutrition in pregnant women to prevent stunting. Nutritional knowledge in pregnant women before the intervention using booklet media and nutritional knowledge in mothers after the intervention using booklet media. Results: The results of the study showed that before the knowledge education was carried out, the majority of respondents were in the sufficient category with an average score of 13.90 and after the knowledge education was carried out the majority of respondents were good with an average score of 19.32. The Wilcoxon test obtained a p-value of 0.023 which means that there is an effect of providing health education about nutrition in pregnant women. Conclusions The booklet media can be an educational medium to increase the knowledge of pregnant women about nutritional needs during pregnancy.

Keywords: booklet; education; knowledge; nutrition for pregnant women; stunting

How to cite (in APA style)

Mulfiyanti, D., Satriana, A., & Ramadani, F. (2024). The Effect of Education with Booklet Media on Pregnant Women's Nutrition Knowledge in Stunting Prevention Efforts. *Indonesian Journal of Global Health Research*, 6(S6), 643-656. <https://doi.org/10.37287/ijghr.v6iS6.4984>.

INTRODUCTION

Stunting (short) or failure to grow is a condition that describes the status of undernutrition that has a chronic nature in the growth and development of children from the beginning of life. Stunting cases in children under five are still a health problem that needs to be watched out for and need to be seen as an important problem to overcome because it is related to children's welfare. The World Health Organization (WHO, 2020) stated that Indonesia is in fifth place with the highest prevalence in the world, with around nine million children under five affected by stunting with a prevalence of 37%. Meanwhile, Indonesia is second in the Southeast Asia Region. The average data of SSGI (Indonesian Nutrition Status Unit) 2022 states that the prevalence of stunting in Indonesia is 25.4%, while in the previous year, 2020, the prevalence of stunting reached 26.92%. Stunting in Indonesia is said to have decreased based on the data. Although it has decreased, it has not reached the 2021 Riskesdas (Basic Health Research) target of around 22%. In certain areas, especially in Central Java Province, the stunting rate is still relatively high with a prevalence of around 25%. Data from e-PPGBM in August 2022 and 2023 shows that data on the prevalence of stunting in toddlers (Basic Health Research, 2021) in 2022 and 2023 in Bone Regency and how the progress of increasing or

decreasing the prevalence rate in 27 sub-districts in Bone Regency. It appears that Ajangale District is the second highest sub-district in 2023 at 25.84%.

Stunting occurs due to direct and indirect factors, direct factors include anemia in pregnant women, preterm pregnancy, low birth weight, the presence of infectious diseases and lack of balanced nutrition. While the indirect factors are education, age, family economic status and lack of maternal knowledge about good nutrition for pregnancy. Based on the results of the study, it shows that low maternal knowledge about nutrition is a risk factor for stunting in toddlers with the greatest risk of 3,801. One of the factors that affect stunting itself includes pregnant women with anemia and malnutrition during pregnancy. Malnutrition in pregnant women can cause Chronic Energy Deficiency (KEK). Various health problems arise due to SEZs in pregnant women and lack of energy intake in mothers that last for a long time (Prawita, Susanti & Sari, 2018). Anemia and KEK are the biggest causes among pregnant women due to low nutritional intake and proper diet, maternal education level and lack of maternal knowledge about good nutrition. (Samliani & Handayani , 2023) (Priharwanti et al., 2023) (Mansur et al., 2023)

Pregnant women's knowledge of nutritional intake or good nutrition for mothers is one of the important factors in making efforts to prevent stunting. Based on the results of the study, mothers who have enough knowledge will have a minimal risk of children being stunted compared to mothers with low knowledge who have a 10 times greater risk of children being stunted. The results of the study entitled "Nutrition in the First 1000 Days" showed that the knowledge of pregnant women is still very low in understanding nutrition in stunting prevention. This is evidenced by the results obtained, namely as many as 30 respondents (55.6%) have less knowledge about nutrition in stunting prevention, while as many as 24 respondents (44.4%) have good knowledge about nutrition in stunting prevention. Another study was also conducted by the results of the study found that 29 (97%) respondents had less knowledge before being given education and 30 (100%) respondents had good knowledge after being given education about nutrition or nutrition of pregnant women. Aditya et al., (2023)

The study is also in line with the research conducted with the results showing that the nutritional knowledge of pregnant women less than half of the respondents has insufficient nutritional knowledge (42.1%) and sufficient nutritional knowledge (31.6%), the conclusion of the study is that the nutritional knowledge of pregnant women is included in the lack of criteria. To increase mothers' knowledge about these 4 things because nutritional intake in pregnant women will affect the baby who will be born later. Mother's knowledge about stunting and nutrition of pregnant women can be obtained from various media, including, visual, audio and audiovisual. Audio media are examples of radio and CDs (Compact Discs), while audiovisual media are examples of television and posters (whatapps). Based on a study conducted by entitled The Influence of Nutritional Status of Pregnant Women on the Incidence of Stunting: A Literature Study "showed the results of the difference in the average value of respondents' attitudes before the intervention (pretest) between the treatment and control groups, meaning that there was no significant difference in the average value of respondents' initial attitudes. The difference in the average value of the post test p value ($0.000 < \alpha = 0.05$) there was no significant difference in the average value (Mann Whitney test). Promotion through these media is not appropriate, because of signal barriers and not everyone owns and understands social media. Sukmawati et al., (2023) Mirza et al., (2023)

Educational media is very diverse, one of which is through visual media, for example modules, booklets and leaflets. Based on 9 research articles reviewed by researchers, there are 5 studies that discuss health promotion media in the form of print media, namely modules, leaflets, and booklets. The four studies showed that there were differences in knowledge before and after being given health education through print media, both modules, leaflets and booklets. One of the educational media used is in the form of leaflets. Leaflet is a form of media for conveying information and appeals which is one of the short publications in the form of paper leaflets. The leaflet can contain information or 5 information about the issues to be conveyed (Fitriah, 2018). However, the leaflet has a drawback, namely because it is only a leaflet so it cannot contain complete and detailed information. The use of modular media, booklets and leaflets in the media selection questionnaire, because the media is in the form of a book, is expected to be more adequate and has a large tamping power so that it contains more information, which will later be used as an educational medium to be given to respondents. It is different if you use leaflet media such as leaflets, posters, brochures that only contain general explanations, so that they cannot convey all the in-depth information as desired. One of the other alternatives in overcoming the above problems is by providing education and counseling to pregnant women using booklet media. Fitriah et al., (2023). (Yuliana & Lestari, 2022).

The results of the study stated that there was a difference in the knowledge of the leaflet control group between the pre test and the post test. There was a difference in the knowledge of the booklet intervention group between pre-test and post-test. There was a significant difference in the level of knowledge of prospective brides regarding reproductive health between the intervention group and the control group. The average value of the difference in knowledge level in the intervention group (4.28) was higher than in the control group (1.26). This shows that health education using booklet media has a greater effect on improving respondents' knowledge than using leaflet media. Because according to researchers, the advantages of booklets are higher than leaflets which are only in the form of a few sheets of paper, while booklets include more detailed and clear material. The booklet itself is in the form of a book that includes educational materials that will be delivered. Booklet media is one of the ways to convey practical information so that it can increase mothers' knowledge about nutrition in pregnant women. Booklets have the advantage of containing more complete, detailed, clear and relegated information. This is the reason why researchers chose the booklet as a nutrition education medium about good nutrition for pregnant women and is expected to have an effect on increasing the knowledge of pregnant women Fitriah et al., (2023) (Kushargina et al., 2023).

The results of the study showed that there was an influence of booklet media on knowledge and attitudes about stunting in adolescents of SMKN 5 Bengkulu City. According to researchers, the advantages of using booklets include that the information conveyed is more detailed and clear, clients can adjust to independent learning, easy to make, multiply, relatively low cost compared to audiovisual media and can be read again if they forget the contents of the booklet. Pregnant women are expected to increase their knowledge and instill a positive attitude in order to carry out stunting prevention behaviors through health information search activities in various other media. Although booklets have disadvantages, because the coverage is not wide and requires a lot of labor for the distribution process and printing costs are rather expensive. However, from these shortcomings, there are more benefits and effectiveness if booklets are used as an educational medium to increase maternal knowledge. Listyarini et al., (2021)

Therefore, providing education about maternal nutrition to mothers is very important because the role of mothers in consuming nutritious food is important for babies in the mother's pregnancy. In this case, the media of booklets (books) is considered suitable for mothers in understanding it because booklets are one of the educational media that can make it easier and clearer for the audience to understand the material presented because it contains a combination of writing and pictures. The combination of writing and images that attract attention can be easier to understand and can avoid audience saturation in reading it. The aims of this study is to determine the influence of educational booklet media about nutrition in pregnant women on maternal knowledge in the working area of the Ajangale Health Center. The novelty of this study is the booklet media that is linked to the nutritional knowledge of pregnant women towards stunting prevention efforts, so far what has been discussed is only about health counseling using leflet media, especially in the UPT Puskesmas Ajangale.

METHOD

The research used is quantitative research, namely research presented in the form of numbers. This type of research uses Quasy Experiment design using the form of one group pre test post test. This study was conducted with the aim of assessing the influence of educational actions on knowledge or by making a comparison, namely comparing the initial measurement (pre test) and final measurement (post test) in the treatment group The data collection tool used in this study was in the form of a booklet as an educational medium and a nutrition questionnaire for pregnant women. The data collection tools used in this research were booklets as educational media and nutritional questionnaires for pregnant women. The questionnaire used was a knowledge questionnaire about nutrition in pregnant women which consisted of 20 items. The questionnaire consists of questions related to nutrition in pregnant women. The scale used is the Guttman scale with True and False answer choices. Questions that are answered correctly will get a score of 1 and 27 that are incorrect will get a score of 0. So the questionnaire has a maximum score of 20 and a minimum of 0 with the good knowledge category, the answer presentation is 14-20, sufficient 7-13, and poor 0-6. The questionnaire used is a knowledge questionnaire about nutrition in pregnant women consisting of 20 items. The questionnaire is in the form of questions related to nutrition in pregnant women. The scale used is the Guttman scale with a choice of True and False answers. (Notoatmodjo, 2012). This research was carried out in April-July 2024. The intervention population is pregnant women at the Pratama Hidayah Clinic. The sampling technique used in this study is consecutive sampling using inclusion and exclusion criteria. The sample used was 30 pregnant women. The data used is primary data from the questionnaire sheet given to the respondents. Data analysis using the Wilcoxon test.

RESULT

The Level of Knowledge of Mothers Before Being Given Nutrition Booklet Media Education for Pregnant Women in the Work Area of the Ajangale Health Center before being given Health Education with Media Booklet.

Table 1.

Mean, Median, and *Pretest Data Mode*

<i>Pretest</i>	N	Min	Max	Mean	Median	Mode	SD
	30	1	20	13,90	14,18	15	3,676

Based on table 1, it can be found out before being given nutritional health education for pregnant women with booklet media. All respondents had enough category knowledge totaling 30 people (100.0%). It can be seen that the scale of maternal knowledge in the nutrition knowledge of pregnant women before being given the booklet media education, obtained a minimum score of 8 or in the sufficient category, which means that respondents can only answer questionnaire questions less than 56% and a maximum score scale of 20 or in the good category, which means that mothers can answer questionnaire questions between

76%-100% with a good score category. From the data, a mean of 13.90 was obtained, which means that the average respondent was able to answer the questionnaire questions between 56%-75% with a sufficient score category. The median is 14.18, while the mode or data that often appears is a scale of 15 (in the sufficient category). Based on the average score of the results of the pretest of maternal knowledge in the knowledge of nutrition of pregnant women before being given booklet media education, it can be known that the data on a scale of 15 or in the category of sufficient.

Table. 2
Distribution of Frequency of Nutrition Knowledge Levels of Pregnant Women before being given Health Education with Booklet Media

Level of Knowledge	f
Good	0
Enough	30
Less	0
Total	30

Based on table 2 above, it can be explained that the level of knowledge of mothers before being given nutrition booklet media education to pregnant women all have enough knowledge with a total of 30 people (100.0%). And respondents with good and poor knowledge amounted to 0 people (0.0%).

Table. 3
Mean, Media, and Post-Test Data Mode

<i>Pretest</i>	N	Min	Max	Mean	Median	Mode	SD
	30	17	20	19,32	20.00	20	0.948

From table.3, it can be seen that the scale of maternal knowledge in nutrition in pregnant women before being given booklet media education, obtained a minimum score of 17 which means that respondents can answer questionnaire questions between 76-100% or in the sufficient category and the maximum score scale is 20 or in the good category. From this data, a mean of 14.35 was obtained, which means that the average respondent was able to answer the questionnaire between 76%-100% or in the sufficient category. The media is 20.00, while the mode or data that often appears is a scale of 20 (in the good category). Based on the data from the posttest results of nutrition knowledge in pregnant women after being given booklet media education, it can be seen that the data is centralized on a scale of 20 or in the good category.

Table. 4
Frequency Distribution of Nutrition Knowledge Levels of Pregnant Women after being given Health Education with Booklet Media

Level of Knowledge	f
Good	30
Enough	0
Less	0
Total	80

Based on the table above, it can be seen that the level of knowledge of mothers after being given nutrition booklet media education to pregnant women, all mothers have good knowledge as many as 30 respondents. The Effect of Providing Nutrition Health Education with Booklet Media on Nutrition Knowledge of Pregnant Women in Tuwel Village. To analyze the effect of nutrition booklet media education on pregnant women on the knowledge of mothers in Tuwel Village, in this study, bivariate analysis was used with the Wilcoxon Test statistical test.

Table. 5
Bivariate Analysis of Wilcoxon Test

	n	Mean	SD	Min	Max	Sum	With	P-value
Pre Test	30	13,90	3,676	8	15	834	-6.764	0.023
Post Test	30	19,32	0,948	20	20	1159		

Based on table 4.3, it shows that the average score of respondents before being given education is 13.90 (sufficient category), while after education it increases to 19.32 (good category), so it can be concluded that the average score of respondents has increased by 5.42, which means that their knowledge has increased in the good category. This means that respondents can understand the content of the material from the booklet media because according to the respondents, the media is easy to read at all times and the language is easy to understand, making it easier for respondents to understand the booklet material. And based on statistical analysis using the Wilcoxon test, a p-value of $0.023 < 0.05$ was obtained, which can be concluded that H_0 was rejected and H_a was accepted or it can be explained that there is an effect of nutrition booklet media education on pregnant women on maternal knowledge in the Working Area of the Ajangale Health Center.

DISCUSSION

Nutrition Knowledge in Pregnant Women in the Working Area of the Ajangale Health Center UPT Before Nutritional Health Education with Booklet Media.

Based on the results of the study, it was shown that nutrition knowledge in pregnant women in the Working Area of the Ajangale Health Center UPT before being given Education with Media Booklet all pregnant women had enough knowledge as many as 30 respondents (100.0%). Judging from the results of the univariate analysis of the pre-test, the results were obtained that 30 respondents who were the research sample obtained the level of nutrition knowledge in pregnant women before being given education in the booklet media, all in the sufficient category. From the results of the questionnaire answers, it is known that the questionnaire items that received the least score were question items regarding the benefits of nutrition and types of food. After being identified, the majority of respondents who received a sufficient knowledge score because they had never applied information about the nutrition knowledge of pregnant women so that when given the question they answered incorrectly. Some mothers who got enough scores said they had seen or heard material about nutrition knowledge for pregnant women from social media, but they only knew and had not received further education about nutrition in pregnant women so that when answering the questionnaire they were still confused about the answers that had to be given.

The problem of stunting is rooted in malnutrition experienced by mothers from adolescence to pregnancy. Deficiencies in iron, folic acid, and other important nutrients in pregnant women can inhibit fetal growth and cause babies to be born with low birth weight. This condition, coupled with a lack of antenatal care, increases the risk of children experiencing stunting, which is a condition in which a child's height is shorter than the average child of his age due to chronic malnutrition (Nour Sriyanah, 2022). Correct nutrition knowledge for pregnant women in the Working Area of the Ajangale Health Center UPT before being given general booklet media education in the sufficient category. A person's knowledge can be divided into three, namely good, enough and lacking. A person is said to have good knowledge if someone who is the object of research can answer 76%-100% of all questions. It is said that it is enough if a person can answer 56%-75% of all questions correctly and it is said to have insufficient knowledge if they answer correctly <56% of all questions of pregnant women about nutrition are influenced by several factors, namely experience, education and age. The results of the study obtained the knowledge of good mothers 8 (25%), 1 pregnant woman with anemia and 7 pregnant women without anemia, enough 13 (40%), 3 pregnant women with anemia and 10 pregnant women without anemia. According to researchers, the lack of

experience gained during pregnancy will affect a person's knowledge of nutrition. (Saputri et al., 2020)

The research is in line with the research conducted by those who said that the selection results obtained 11 literatures that were studied. The results of the study based on the knowledge category obtained the knowledge of pregnant women about anemia, five studies showed that the majority of pregnant women had sufficient knowledge, the other four literature showed poor knowledge results, while the results of good knowledge were obtained in two studies. The results were based on attitude categories, seven studies got positive attitude results, three studies got negative attitude results, and one study got the same number of positive and negative results. The conclusion of this study is that the majority of pregnant women in several regions in Indonesia have sufficient knowledge of nutrition and prevention, and have a positive attitude towards the prevention of stunting in pregnancy. Pregnant women's knowledge about nutrition is in the sufficient category. Researchers argue that the mother's insufficient knowledge about nutrition is due to the lack of exposure to information obtained by respondents. This is one of the factors that affect knowledge. Information can be obtained from formal or non-formal education. The researcher analyzed that the respondents had a sufficient level of knowledge as seen from the respondent's ignorance of nutritional knowledge in pregnant women because they had never heard the information in the questionnaire before. Respondents were not sure to answer the questions on the questionnaire. According to the researcher, the majority of pregnant women's knowledge about nutrition is in the sufficient category. As evidenced by the results of all 45 respondents (42.5%) who are sufficiently knowledgeable, according to the researcher, the fulfillment of nutritional needs in pregnant women will have a positive impact on the fetus. Yulivantina et al., (2023) Kushargina et al., (2023)

Another study was put forward by those who stated that the majority of mothers' knowledge about balanced nutritional needs is still in the sufficient category. It is evidenced by the results of the analysis conducted that the majority of 46 respondents had sufficient knowledge, 21 respondents (45.7%) and 19 respondents (41.3%) had a positive attitude and 7 respondents (15.2%) had a negative attitude (15.2%) and a minority had less knowledge as many as 5 respondents (10.9%) with a positive attitude of 1 respondent (2.1%) and a negative attitude of 1 respondent (2.1%). With $P\text{-value} = 0.002$ which is $\text{meaningful} < \alpha (0.05)$. Based on the table above, it is known that $P\text{-value} = 0.002$ means $p < 0.05$ and based on the results of bivariate analysis using the chisquare test in $p = 0.002$, then H_0 is rejected and H_a is accepted which means that there is a meaningful relationship between the mother's knowledge and the attitude of pregnant women about balanced nutritional needs during pregnancy. The research is in line with research conducted by Widayanti (2021) with the results of the study showing that of the 81 pregnant women, most of them have sufficient knowledge about nutrients in normal pregnancy, namely good knowledge 5 (6.2%), sufficient knowledge 62 (76.5%), less 14 (17.3%). Knowledge in the category is sufficient due to the lack of interest of respondents to find information related to nutritional fulfillment during pregnancy. Pusmaika et al., (2022)

Based on these results, it can be concluded that there is still limited knowledge of nutrition in pregnant women. The cause of malnutrition in pregnant women is knowledge about nutrition that is still lacking. Mother's knowledge about nutrition will affect the good or bad fulfillment of nutrition in pregnant women. The results of the research conducted are that 41 health education can affect the level of knowledge. The result of education is that the majority of pregnant women have sufficient knowledge about the meaning of nutrition in pregnancy, because not all information can be obtained and fully understood. Mother's knowledge is in the good and sufficient category because the mother tends to ask a lot of questions or obtain

information from the environment about nutritional status issues that are appropriate for her gestational age. Meanwhile, mothers in the poor category are satisfied with the knowledge they have, so they no longer have interest in knowing new knowledge about the nutritional status in their environment. A mother with the right knowledge and information is indispensable for an increase in energy and sufficient nutrients will make the fetus grow perfectly. A good source of information will have a good level of knowledge. Knowledge is a factor that affects changes in a person's behavior or actions. Conceptually, knowledge is a person's perception that is generated after a person senses, either hearing, seeing, feeling or experiencing a certain object themselves Meher et al., (2023) (Saputri et al., 2020)

This is because the knowledge of pregnant women is influenced by several factors, including 1) Education is an effort to provide knowledge so that there is an increase in positive behavior changes. 2) An experience that someone has experienced that will increase knowledge about something that is non-formal. 3) Information, people who have more sources of information will have a wider range of knowledge. 4) The cultural environment, environment and human behavior in meeting needs can be in the form of attitudes and beliefs. 5) Socio-economic, the level of a person's ability to meet the needs of life This research is also in line with the research, namely, the fulfillment of nutritional needs in pregnant women is closely related to the high and low level of a person's education. The level of maternal knowledge is the ability of a mother to understand concepts and principles as well as information related to nutrition. Knowledge is not the main factor in behavior change. There are respondents who have less knowledge but have good nutrition, because perhaps the respondents have high purchasing power for foods that contain high nutrition, even though their knowledge is lacking. The researcher argues that the low maternal knowledge about nutrition in pregnant women is due to the lack of exposure to information received by respondents, which is one of the factors that affect knowledge. According to the researcher, the majority of respondents with knowledge are sufficient due to lack of knowledge about nutrition in pregnant women because the respondents have never heard of information related to education before. According to Beat's research, stunting in Indonesia is caused by several factors, including a lack of maternal education, especially about nutrition, as well as problems in the agricultural, food, water, and sanitation systems. To overcome this problem, more intensive efforts are needed in providing health education and counseling to the community, especially mothers, regarding the importance of balanced nutrition and a healthy lifestyle (Notoatmodjo, 2012). Purwanti, (2021) (Husnah, 2017) (Sriyanah et al., 2021).

Knowledge of Pregnant Women Given Nutrition Booklet Media Education to Pregnant Women

Based on the results of research from 30 respondents after being given media education on nutrition in pregnant women, all showed that all respondents had good knowledge as many as 30 respondents (100.0%). It can be seen that there has been an increase in knowledge, which was originally the majority of knowledge is enough to be good. Some respondents who previously did not know about the definition of nutrition, the nutritional content contained in food, became aware of the information correctly. Respondents also became aware of the benefits of nutritional knowledge in pregnant women such as preventing anemia, preventing BBLR, avoiding malnutrition in prospective fetuses. (Setyowati et al., 2022) Based on the comparison of the level of knowledge of pretest and posttest, there were 35 respondents who experienced a significant increase. Respondents who previously had enough knowledge with a score below 10 points became good with a score above 17 points after being given education. The results of the questionnaire analysis showed that there was an increase in the lowest score before and after education, namely a score of 8 to a score of 17. After being traced, one of the causes of the significant increase in knowledge is frequent visits to

posyandu and health centers to get information related to education. In addition, according to the researcher, the length of reading time, media that can be read repeatedly during 43 leisure times and supporting environmental factors. The environmental factor in question is the family that supports and motivates respondents to read the booklet frequently. In addition, mothers who do not work have more time with their families, so the role of the family is very important. Because according to the researcher, if the family often reminds respondents to read the booklet, the material will often be remembered by the respondents. According to the family environment, it also takes part in determining the practice that a person chooses. A good environment will support a person in doing good practices as well. On the other hand, when environmental conditions are not supportive of someone in making a change in practice, the decision to make a change in practice will also be hampered. Pusmaika et al., (2022)

According to the researcher, another cause of a significant increase in respondents' knowledge is the media used in education. said that in health education, booklet media is a good medium to be used to increase public knowledge. According to good media and in accordance with technological developments, it can make the learning process interesting and in demand by students. One of the learning media that is in accordance with current technological developments is booklet media Pamungkas et al., (2019) Lukman et al., (2023) (Yuliana & Lestari, 2022). The research conducted said that there was an effect of health education on the level of knowledge of respondents which was carried out for 6 days. The information obtained by the respondents affected their knowledge related to educational materials, this can be seen using the Wilcoxon test obtained a significant value of 0.001 which means that there is an influence of health education and simulation on the level of knowledge. Because according to the resonance, the booklet looks interesting so that it fosters an interest in reading for respondents. The study is in line with what was carried out by concluding that there was a difference in the average score of knowledge in adolescent students before and after being given health education with booklet media for 3 44 days. The average increase in knowledge in adolescent students before and after being given health education with booklet media was 10.64 from the previous 8.29. Because according to the respondents, the material in the booklet is short and easy to understand so that information can be conveyed effectively. Listyarini et al., (2021) Aditya et al., (2023)

In addition, according to the media, booklets can increase a person's knowledge. It is evidenced by the results of the statistical test $p\text{-value } 0.00 < 0.05$ which means that there is an influence of booklet media education on the improvement of a person's knowledge. Because according to the researcher, the media used is practical and the material presented is in the form of writing and images that are easy for respondents to understand. Based on research conducted by Ardiyanti (2022) which said that there is an influence of education with booklet media on a person's knowledge. The results of the study showed a significant difference between before and after being given booklet media education with significant knowledge results ($p\text{-value}=0.0001$). Because according to researchers, the media used during education also affects the education process. An effective and creative way of conveying information makes reg graduates quickly understand the content of the booklet. Yuliana & Lestari, (2022) The Effect of Health Education with Booklet Media on Nutrition Knowledge in Pregnant Women in the Region

The results of the research of 30 respondents after being given media education on nutrition in pregnant women showed that all showed that the average score of the pre test was 13.90 while the post test score was 19.32. This shows that there is an increase in the nutrition knowledge score, which is 5.42. From the results of the questionnaire filling analysis, there were 35 respondents who previously had sufficient category knowledge, which increased to the good

category with the most significant points. Because of the 20 respondents, they often visit posyandu and puskesmas to get information related to education. And after a statistical test was carried out, a p-value of 0.023 was obtained. This shows that nutritional health education with booklet media has an effect on nutrition knowledge in pregnant women. The results of the study of 30 respondents after being given booklet media education about nutrition in pregnant women showed that the average score of the pre-test was 13.90 while the post-test score was 19.32. This shows that there is an increase in the nutrition knowledge score, which is 5.42. From the results of the analysis of filling out the questionnaire, there were 20 respondents who previously had sufficient category knowledge, which increased to the good category with the most significant points. Because of the 20 respondents, they often visit posyandu and health centers to get information related to education. And after a statistical test was carried out, a p-value of 0.023 was obtained. This shows that nutritional health education with booklet media has an effect on nutrition knowledge in pregnant women. By conducting counseling, it can affect 25 nutritional knowledge in pregnant women who previously had sufficient abilities and lacked knowledge about good nutrition.

Nutrition health education with booklet media for pregnant women is very appropriate because it is during those times that the fetus needs enough nutrition. With nutritional health education, pregnant women will know how the content of nutrients in food is because by knowing this, mothers can control the food consumed for themselves. In the process of health education with booklet media about nutrition, mothers will remember what they have read related to the material in the booklet media. After the researcher finished explaining, the pregnant women began to ask about parts of the material that they did not understand. The increase in nutritional knowledge in pregnant women is also inseparable from the psychological condition of pregnant women. From the research, the results were obtained that the knowledge of mothers after being given health education using booklet media was in the good category. This shows that mothers experience increased knowledge about nutrition in pregnant women. This happens because in the implementation of health education using booklet media, it can make mothers more interested in the counseling provided. The benefits of booklet media in counseling include, counseling will attract more attention to mothers so that it can foster the motivation and interest of respondents, counseling material will have a clearer meaning so that it can be better understood by mothers and allow mothers to master the material provided, counseling methods will be more varied not only verbal communication through verbal communication by extension workers so that they are not bored, Booklet media in the form of books that can be carried everywhere. In addition to mothers being provided with education Providing education to families is the key to changing their behavior and improving their understanding of the factors that can affect a child's growth and development (Wijaya, 2023) (Pratiwi, 2023) (Sriyanah et al., 2022). The counseling provided is expected to make it easier for respondents to understand information, so that knowledge about nutritional fulfillment during pregnancy can increase. It is hoped that mothers can also implement it in their daily lives, in accordance with what has been explained in health education.

In this study, health education using booklets has a positive influence on respondents, as evidenced by the increase in knowledge, manifested through action. The results of the implementation of health education using booklet media in addition to providing health information can also increase maternal knowledge in fulfilling nutrition during pregnancy. This research is in line with the research conducted explaining that there are differences in health counseling provided using booklet and poster media, both of which are able to increase knowledge and attitudes, but the most meaningful media in influencing the statistical increase in knowledge and attitudes is booklets. Because the media used is easy for the research

subject to understand because it attracts attention and is not boring. This research is also in line with the previous research conducted by entitled "The Influence of Booklet Media on Adolescent Women's Knowledge About Stunting in Probolinggo Regency. According to the researcher, the advantages of using booklets are that the information conveyed is more detailed and clear, clients can adjust to independent learning, easy to make, multiply and can be read repeatedly. Astuti et al., (2023) (Hasanah et al., 2021)

The study is in line with the research entitled "Differences in knowledge and attitudes of pregnant women before and after using the media booklet about stunting" showing that the p-value is $0.002 < (0.005)$ which means that there is a significant difference in the average knowledge value of pregnant women before and after being given the media booklet. Pregnant women are expected to increase their knowledge and instill a positive attitude so that they can carry out stunting prevention behaviors through health promotion media such as booklets. The study strengthened the research conducted by the results of a p-value of <0.001 which means that there was a difference in attitudes before and after the intervention was given using booklet media about the detection of the development of toddlers aged 24-36 months. Because the researcher's opinion of the booklet is presented in simple language containing messages that can increase the mother's knowledge about the development of toddlers, in addition to that the booklet is also presented with interesting pictures according to the topic of explanation. The hope is that mothers under five will be able to understand their normal or abnormal development according to their age. Zahra et al., (2021) D. Astuti et al., (2023) (Lukman et al., 2023) Researchers argue that the use of booklet media in an education is very effective. Booklet media is an attractive print media, with creatively created images and equipped with easy-to-understand text material so that it is easier for respondents to receive the information provided. According to the researcher, the increase in respondents' knowledge is influenced by the media used during counseling. Booklet media was chosen because it is practical and easy to carry everywhere with a medium and thin size. In addition, the concise text content and attractive images make it easier for respondents to understand the content of the booklet more quickly. It also helps respondents remember the material in the booklet more easily.

CONCLUSION

Based on research conducted in April-July 2024, it can be concluded that there is an influence between nutritional health education on nutrition knowledge in pregnant women in the Working Area of the Ajangale Health Center. Other conclusions in this study are as follows: Respondents before being given booklet media education had an average level of knowledge with a score of 13.90. Respondents after being given booklet media education had an average level of knowledge with a score of 19.32. There was an influence of health education with booklet media on nutrition knowledge in pregnant women, characterized by an increase in knowledge before and after education with a p-value of 0.023.

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