The Effectiveness of Health Promotion Using Leaflet Media and Poster Media on The Knowledge of Mother Toddlers About Stunting

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Abstract

Stunting is a chronic nutritional problem in Indonesia. To reduce stunting rates, a strategy is needed, namely an advocacy approach with health promotion through education. This study aims to determine the effectiveness of leaflet and poster media in increasing knowledge about stunting. This type of research is quasi-experimental with pretest and posttest group design. This research was conducted at the Sitompul Village Posyandu and the Lambansigian Jae Village Posyandu in the Siatasbarita Health Center working area which was carried out from July to August 2023. The population was mothers of toddlers. The sample was mothers of toddlers who came to the posyandu in August and September 2023 in Sitompul Village and Lambansigian Jae totalling 30 people. The sampling technique was accidental sampling. The sample was given counselling using leaflet and poster media. Data analysis with univariate and bivariate analysis using Paired Sample T Test. The results showed that leaflet media was effective in increasing knowledge with a p-value = 0.000 (α < 0.05) and poster media was also effective in increasing knowledge with a p value = 0.001 (α < 0.05). However, there was no difference in the effectiveness of leaflet media and poster media in improving knowledge with a p-value = 0.464 (α > 0.05). The conclusion is that leaflets and poster media are effective in enhancing knowledge. There is no difference in effectiveness between leaflet and poster media. It is expected that health workers will be more innovative in using educational media by combining media to be more effective in increasing knowledge.

Keywords: Effectiveness, Extension, Knowledge, Leaflets, Posters

INTRODUCTION

Stunting is a condition where the body develops because many children are malnourished and their parents lack knowledge about nutritional status. Toddlers experiencing stunting are due to chronic dietary problems caused by many factors such as socio-economic conditions, maternal nutrition during pregnancy, pain in babies, and lack of nutritional intake in babies. Children who experience stunting will have an impact on their survival because it will affect their physical and intelligence (Kemenkes RI, 2019).

Stunting is a problem of chronic malnutrition and malnutrition which is characterized by a child's height being shorter than the standard for children his age. Toddlers experience stunting due to chronic nutritional problems caused by many factors such as socio-economic conditions, maternal nutrition during pregnancy, pain in babies, and lack of nutritional intake in babies. Children who experience stunting will have an impact on their survival because it will affect their physical and intelligence (Kemenkes RI, 2019). Some of them experience difficulties in achieving optimal physical and cognitive development, such as being slow to
talk or walk, and often experiencing pain. This condition is more at risk if nutritional problems begin in the womb. Evidence shows that children who grow up stunted experience impaired cognitive and psychomotor development. If the proportion of stunted children is large in a country, then this will also have an impact on the proportion of the quality of human resources that will be produced. This means that the magnitude of the problem of stunting in children will have an impact on the quality of the nation in the future (Rahmawati et al., 2020).

Stunting also has an impact on the economic sector. Potential economic losses due to reduced productivity due to stunting are calculated at the time of infancy. Calculations were carried out on stunted toddlers because they looked at the risks posed by stunting. Cognitive decline, low immunity result in a high risk of infectious diseases, overweight to obesity, and non-communicable diseases. All of these circumstances affect productivity when working, and the salary or income received. The estimated results of potential economic losses due to stunting are the results of economic losses in stunted toddlers assuming there is no improvement in nutrition. In 2020, the potential economic loss due to stunting is estimated at 2-3% of gross domestic product or around 450 trillion per year with Indonesia's GDP amounting to around IDR.15.000 trillion. Therefore, the government continues to strive to accelerate stunting prevention so that the target of reducing the stunting rate to 14% by 2024 is achieved (Manik, 2022).

Based on data from the 2022 National Nutrition Status Survey, the prevalence of stunting in Indonesia is 21.6%. This number decreased compared to the previous year, namely 24.4%. Even though it is decreasing, this figure is still high, considering that the stunting prevalence target in 2024 is 14% and the WHO standard is below 20% (Zulaika et al., 2023). The prevalence of stunted toddlers in Indonesia in 2022, North Sumatra is in 19th place, namely 21.1%. In North Sumatra Province, North Tapanuli Regency is in 11th place (27.4%) (Ritonga et al., 2024).

To achieve success in reducing the incidence of stunting, other strategies are needed before carrying out activities. Another strategy used is to take an advocacy approach where the strategy focuses on targets by providing information through counselling in collaboration with toddler posyandu (Ritonga et al., 2023). According to research by Sewa et al., (2019), there is a significant influence of health promotion on knowledge and attitudes with stunting prevention measures by posyandu cadres in the experimental group with p-value <0.05.

Health promotion can use four media, namely print media, electronic media, external media and social media. Each media has advantages. Here the Research Team chose print
media which can be delivered via paper, does not require electricity and an internet network internet (Stellefson et al., 2020).

Based on research conducted by Rahmad et al., (2023), that counselling using leaflets and posters is very effective in increasing students' knowledge. This is because leaflets and posters can convey messages or information quickly if the ideas and contents attract the attention of people who read them so they can motivate and generate interest they can change someone's attitude or views, make them aware and remind them of the message they have read. This is because posters can be installed in public places and can always be seen and leaflets can be carried and read at any time, making it easier to remember the counseling material that has been delivered.

Mothers play a very important role in the occurrence of stunting in toddlers because stunting starts from the first 1000 days of life where from the womb the mother becomes the only source of nutrition for the fetus (Likhar et al., 2022). During the first 6 months of the baby's age, the mother is the source of nutrition through exclusive breast milk. Furthermore, the mother is the main person responsible for planning food, purchasing, processing and providing food, including keeping food clean and healthy to eat. Another role of mothers is to take toddlers to health services, such as Posyandu (Saleh et al., 2021).

The results of research by Wulandari et al., (2020), show that the majority of mothers' behaviour in preventing stunting in their toddlers is influenced by maternal motivation factors, followed by the role of midwives, the role of cadres and support from the family. It is recommended that midwives and cadres continue to provide counselling in the form of information and education about stunting so that mothers are motivated to prevent stunting.

Health promotion plays an important role in improving quality of life, maintaining health and preventing disease. Through education, awareness and behaviour change, health promotion can influence individuals, families, communities and society as a whole. In terms of stunting, health promotion provides information about stunting which includes the definition, causes, signs and symptoms, impact on children under five, and how to prevent and overcome stunting. By increasing mothers' understanding, it is hoped that mothers will pay more attention to the factors that influence stunting, including lack of nutritional intake for family members, environmental cleanliness and utilizing health services such as posyandu to monitor the growth and development of toddlers and treat infections in toddlers.

Siatabarita District is one of the districts with a high stunting rate, where in 2023 there will be 129 toddlers, in Sitompul Village there will be 24 toddlers and in Lumbansiagian Jae Village there will be 18 toddlers. The North Tapanuli Regency Government, especially the...
Siatasbarita sub-district, has tried various ways to reduce the stunting rate. Counseling was given using the lecture method using PowerPoint media but was not able to reduce the stunting rate according to the target. For this reason, the Research Team wants to examine whether counselling using other education methods and media can further increase the knowledge of mothers who have children under five so that they can prevent stunting.

METHODS

This type of research is a quasi-experimental research with pre-test and post-test group design. This research was conducted at the Sitompul Village Posyandu and the Lumbansiagian Jae Village Posyandu in the Siatasbarita Health Center working area which was carried out from July to August 2023.

Sampling with accidental sampling, namely mothers who come to the Posyandu in July and August 2023. The sample in this study were mothers who had toddlers who came to the Sitompul Village Posyandu and the Lumbansiagian Jae Village Posyandu in the Siatasbarita Health Center working area as many as 30 respondents.

The data analysis method uses univariate analysis to see the description of the frequency distribution of respondents. Bivariate analysis to determine whether there is a difference in the knowledge of mothers of toddlers about stunting before and after counselling and simulation using the Paired Sample T Test.

RESULTS

Research has been conducted on the effectiveness of health promotion using leaflet media and poster media on the knowledge of mothers of toddlers about stunting at the Siatasbarita Community Health Center, Siatasbarita District in 2023, among 30 mothers of toddlers. Data collection in this research was carried out during the implementation of the posyandu in Sitompul Village and Lumban Siagian Jae Village in the working area of the Siatasbarita Health Center.

The sample in this study consisted of 30 mothers of toddlers with a pre-post test design. This means that the group of mothers who had toddlers before being given the counselling treatment were given a pre-test and after the counselling treatment was given a post-test. An overview of the characteristics of respondents including age, education and occupation can be seen in Table 1 below:
Table 1. Distribution of Respondent Characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Leaflet Media</th>
<th>Poster Media</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;20 years</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>20-35 years</td>
<td>13</td>
<td>87.0</td>
</tr>
<tr>
<td>&gt;35 years</td>
<td>2</td>
<td>13.0</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>100</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary School</td>
<td>1</td>
<td>7.0</td>
</tr>
<tr>
<td>Junior High School</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Senior High School</td>
<td>8</td>
<td>53.0</td>
</tr>
<tr>
<td>College</td>
<td>6</td>
<td>47.0</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>100</td>
</tr>
<tr>
<td>Work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working</td>
<td>9</td>
<td>60.0</td>
</tr>
<tr>
<td>Not working</td>
<td>6</td>
<td>40.0</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>100</td>
</tr>
</tbody>
</table>

From the table above, it can be seen that the characteristics of respondents in the leaflet media group are almost the same as those in the poster group, where the majority of respondents are 20-35 years old, have a secondary education level and are working mothers.

Bivariate analysis was used to determine differences in knowledge about stunting before and after treatment in the form of counselling using leaflets and posters. The pretest and posttest results regarding increasing maternal knowledge can be seen in the table below:

Table 3. Differences in respondents’ level of knowledge before and after counselling using leaflet and poster media

<table>
<thead>
<tr>
<th>Media</th>
<th>N</th>
<th>Mean</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Test Leaflet – Post-Test</td>
<td>15</td>
<td>0.600</td>
<td>0.000</td>
</tr>
<tr>
<td>Leafflet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test Poster – Post-Test</td>
<td>15</td>
<td>0.533</td>
<td>0.001</td>
</tr>
<tr>
<td>Poster</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results of statistical tests on the use of Leaflets as a counselling medium, obtained a value of p = 0.000 (α < 0.05), which means there is a difference in the level of knowledge in the pretest and posttest after being given counselling about stunting using leaflet media.

From the results of statistical tests on the use of posters as a counselling medium, a value of p = 0.001 (α < 0.05) was obtained, which means that there was a difference in the level of knowledge in the pretest and posttest after being given counselling about stunting using poster media. To see whether there is a difference in the effect of counselling using leaflet media and poster media on increasing mothers’ knowledge about stunting, an Independent Sample Test was carried out which can be seen in the table below.
Table 4. Results of the Mann-Whitney Test on the Difference in Knowledge Increase with Leaflet Media and Poster Media

<table>
<thead>
<tr>
<th>Media</th>
<th>N</th>
<th>Mean</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaflet</td>
<td>15</td>
<td>16.50</td>
<td>0.464</td>
</tr>
<tr>
<td>Poster</td>
<td>15</td>
<td>14.50</td>
<td></td>
</tr>
</tbody>
</table>

From the results of the Mann-Whitney test, it was found that the mean rank in the leaflet media group was 16.50 and in the poster media group, it was 14.50. The difference is very small, with p-value = 0.464 (α > 0.05). This means that there is no difference in increasing knowledge in extension using leaflet media or poster media. So leaflet media was no more effective in increasing knowledge than poster media. Conversely, poster media is no more effective than leaflet media as a medium for outreach to increase knowledge.

DISCUSSION

Health promotion media is a means of delivering health information which aims to change target behaviour for the better or as desired by health officers or presenters. The mass media used to disseminate information related to stunting in health promotion consists of print media and electronic media. Print mass media uses brochures, leaflets, bulletins, billboards and banners, while electronic media consists of the internet which uses social media to disseminate information related to stunting (Notoadmojo, 2018).

According to researchers, the availability and use of media in health promotion to prevent stunting cases is very good. However, there is a need for cooperation in stunting programs such as counselling so that it runs as expected (Dewi et al., 2022).

This research uses the lecture method using leaflets and poster media. Leaflet media is a piece of paper containing writing with short, concise, easy to understand sentences and simple pictures. Meanwhile, poster media is a form of printed media containing health messages or information, which is usually pasted on walls, in places, public, or on public transportation (Notoadmojo, 2018). At the Sitompul Posyandu, posters about stunting are pasted on the wall at the entrance to the Posyandu and on the side walls of the Posyandu, where they can be seen from the public road that residents pass by when passing from the posyandu.

From the research results, it was found that there was an increase in respondents' knowledge about stunting, both using leaflets and poster media. By research by Ernawati (2022), health promotion about stunting using leaflets and posters can increase mothers' knowledge about stunting. This may be because leaflet and poster media have the advantage of being equipped with colour and image elements so that they attract more attention and stimulate the imagination in understanding the contents of the leaflet because the print design...
and illustrations are interesting to look at so that ideas arise to increase knowledge about preventing stunting.

The researcher's assumption is that there is an influence of counselling on respondents' knowledge about stunting because the majority of respondents are respondents with secondary educational backgrounds so when information is presented, they easily absorb every discussion presented. Apart from that, the age factor also has an influence where the majority of respondents are of reproductive age, namely 20 - 35 years. At this age, it will be easier for them to understand any counseling about stunting, compared to respondents who are younger or older.

**The effect of counselling using leaflet media on increasing knowledge about stunting**

Based on the research results, it is known that leaflet media can increase mothers' knowledge about stunting. According to Notoadmojo (2018), the advantage of leaflet media as a learning medium is that the presentation of leaflet media is simple and concise. Leaflet media can be distributed on various occasions. The simple design means readers don't need a lot of time to read it. From the results of statistical tests, it is known that there was an increase in knowledge before and after being given counselling about stunting using leaflet media with p-value = 0.000 (α < 0.05).

Based on research by Choirunisa et al., (2022), before receiving counselling using knowledge leaflet media, the majority of mothers with toddlers had poor knowledge, namely 68 people (60%) and after counselling the majority of mothers had good knowledge, 89 people (78%). The results of the Wilcoxon statistical test obtained a value of p = 0.000 < α (0.05), so Hₐ was accepted and H₀ was rejected. The conclusion drawn was that there was an influence provided by counselling using leaflet media on increasing mothers' knowledge about stunting.

Similar research was also conducted by Siagian et al., (2022), with the results of an increase in knowledge before and after being given education using leaflet media with an average value before 55.181 and an average value after 77.065. From the Paired T-Test, the value of p = 0.000 (α ≤ 0.05) is obtained, which means that there is an influence of counselling using leaflet media on the knowledge of mothers of toddlers about stunting in Rokan Hilir.

Researchers assume that leaflet media can increase knowledge because leaflets contain messages presented in attractive font styles and colours, and the messages conveyed are short and clear so that readers can easily understand and remember the message on the leaflet. Apart from that, the leaflet has its own advantages, namely that it can be taken home so that respondents can read it at home repeatedly, and the size is not too big and is folded so that it can be put in a bag and does not require a lot of space to store. The leaflet is simple, so it
doesn't take much time to read and is easy to understand. If you forget it, you can look at it and open it again.

If necessary, the leaflet can be reprinted or photocopied, because leaflets are a cheap medium, they don't require electricity to convey the message. Leaflets can be used as references and discussion material about something, so leaflets can be used on different occasions and in different places (Hinga et al., 2019).

Leaflets also have disadvantages, namely that if the print is not attractive, people are reluctant to read and keep them. If the letters are too small or the images are not clear, people are reluctant to read them. The disadvantage of leaflets is that they are easily damaged, for example, if they are wet, torn and easily lost or left somewhere. Another drawback is that as a medium for conveying messages, leaflets cannot be used by people who cannot read or are illiterate (Siregar, 2020).

**The effect of counselling using poster media on increasing knowledge about stunting**

From the results of statistical tests, it is known that there was an increase in knowledge before and after being given counselling about stunting using a leaflet poster, with p-value = 0.000 ($\alpha < 0.05$).

The results of the study showed that outreach using poster media increased mothers' knowledge about stunting. Based on the research results of Munir et al., (2021), it was found that there was an increase in parents' knowledge after being given education about providing nutrition in preventing stunting using poster media. From the Paired T-Test, the average difference was obtained with p-value = 0.031. So it was concluded that counseling using poster media was effective in increasing knowledge.

In line with the research Meri Agritubella et al., (2020), research results showed that in the group that received counselling using poster media, there was an increase in average knowledge of 20.33 with p-value = 0.035. This shows that there is a significant difference so providing posters is effective in increasing knowledge about stunting prevention.

The researcher's assumption is that poster media can convey information so that it can increase readers' trust, knowledge and attitudes. The poster has an attractive design, relatively large size so that from a relatively long distance it attracts attention to read the content or message conveyed. Another advantage is that posters are easy to find in public and strategic places so they can be read by many people, which is different compared to other media, for example, videos which require a special place and posters do not require electricity. An attractive poster design can stimulate a sense of beauty, increase passion for learning and stimulate curiosity about the message displayed (Hinga et al., 2019).
As a medium for conveying messages, posters also have disadvantages, including that they can only be read by people passing by the place where the poster is installed. Posters can be read while passing by, only at a glance so the message cannot be conveyed completely. Generally, it is made of paper so it is easily damaged if exposed to rain, can be torn if damaged by children, or scribbled on by people passing by the place.

To create quality material, you need graphic experts and expensive and old printing equipment. Poster makers must pay attention to who the target is so that there is no misunderstanding of the message conveyed. Don’t place it too long because the target will get bored and ignore the poster. It is best not to exceed 1 month (Siregar, 2020).

The effectiveness of leaflet media and poster media in increasing knowledge about stunting

To see whether there is a difference in the effect of counselling using leaflet media and poster media on increasing mothers' knowledge about stunting, an Independent Sample Test was carried out. From the output, it can be seen that the mean rank in the leaflet media group is 16.50 and poster media is 14.50. The difference is very small, with p-value = 0.464 (α > 0.05). This means that there is no difference in increasing knowledge in extension using leaflet media or poster media. So it was concluded that leaflet media was no more effective in increasing knowledge than poster media. Conversely, poster media is no more effective than leaflet media as a medium for outreach to increase knowledge.

In line with research conducted by Purimahua et al., (2021), the results of the paired T-test (Paired-sample T-test) show that the use of leaflets and posters in reproductive education is equally effective in increasing knowledge in children, adolescents and parents. with a significance value of p value = 0.00 < α 0.05 and p value = 0.02 < α 0.05. The conclusion drawn is that counselling using the lecture method is more effective by adding media tools such as posters, leaflets and so on (Hinga et al., 2019).

In contrast to research conducted by Gani et al., (2018), the results showed that there were differences in the effectiveness of leaflets and posters produced by the Jember District AIDS Commission, where leaflet media was more effective in increasing knowledge, attitudes and practices of HIV/AIDS prevention than poster media.

According to researchers, leaflet media and poster media have their respective advantages and disadvantages. Leaflet media is a piece of paper containing a message conveyed in short but clear sentences, so it is easy to understand. The simple design means readers don't need a long time to read it. Another advantage of leaflets compared to posters is that they are practical, easy to carry and store and can be read again at any time. So it can be
beneficial in the long run. Leaflets can also be taken anywhere so it is possible to go to further places to expand the target reach, so leaflets can be used as discussion material for different occasions and different places. Production costs are cheap because reprinting can be done, with cheap printing costs or low photocopying costs. Based on information from respondents, the leaflets are easy to carry and store, can be read again at home, and are attractive because of the coloured paper and attractive writing.

Poster media is a simplified image illustration in a large size that has a strong visual appeal as a visual combination of colour and the message to be conveyed. The advantage of posters is that they are large so they attract people's attention, are easy to read and easy to find in public places. Respondents' opinions regarding poster media were that the messages in posters were easy to read, attracted attention, and were usually located in strategic places that people often pass by, for example on walls, in public places and even on public transportation. However, making a poster requires design or drawing skills, special storage space and limited targets.

The results of this research illustrate that leaflet and poster media are equally effective in increasing mothers' knowledge about stunting with in-depth understanding and it is hoped that they can increase mothers' awareness to translate this into real action in preventing stunting.

According to the author, leaflet media can be combined with poster media in outreach so that they can complement each other's advantages and disadvantages so that the level of understanding can be further increased. By the research results the combination of posters, leaflets and reproductive organ aprons can increase teenagers' knowledge about reproductive health (Pristya et al., 2021).

Regardless of the advantages and disadvantages of each media, leaflets and posters are tools for disseminating information to everyone to provide information to increase knowledge and change reader behaviour in a better direction than before.

**CONCLUSIONS**

After the research was conducted, the results showed an increase in knowledge obtained from the pretest and posttest results. From the test results, leaflet media is effective in increasing the mother's knowledge with the result $p = 0.000$ ($\alpha < 0.05$). Poster media is effective in increasing mothers' knowledge with results $p = 0.001$ ($\alpha < 0.05$). However, there was no difference in the effectiveness of leaflet media and poster media in increasing knowledge with
test results of \( p = 0.464 \) (\( \alpha > 0.05 \)). It is hoped that health workers will be more innovative in using media for education, for example by combining leaflet media and poster media.

**REFERENCE**


