

# The Effects of Gemar Booklet Media on the Level of Knowledge and Behavior of Mothers in Giving MP-ASI (Complementary food) for 6-12 Months Infants in Arcawinangun

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## ABSTRACT

*Background: MP-ASI is a transitional food given when babies are six months old to minimize the risk of malnutrition. One of the success factors in giving MP-ASI is the mother's knowledge regarding the accuracy of the baby's age and the composition contained therein. Food composition, food texture, and frequency of feeding are crucial in the practice of complementary feeding, and in this modern era, mothers still underestimate them. Method: This study used a quantitative method, with a quasi-experimental design with one group pre and post-test. The sample of this research was 46 respondents with a purposive sampling technique. Data analysis used the Wilcoxon Signed Rank Test. Results: The level of knowledge of the intervention group before and after the intervention was given had an average of 6.85 (enough) to 11.83 (good). The behaviour level of the intervention group before and after the intervention had an average of 40.59 (incorrect) to 48.91 (accurate). The p-value of the Wilcoxon Signed Rank Test (0.00) means that booklet media affects the level of knowledge and behaviour. Conclusion: The GEMAR booklet media is influential in efforts to increase the level of knowledge and behaviour of mothers in giving MP-ASI to infants aged 6-12 months.*

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## 1. INTRODUCTION

The SSGI (Indonesian Nutrition Status Study) survey in 2021 showed that the percentage of stunting in Central Java Province was 20.9%. This figure is still relatively large because the government's target is less than 14%. Based on Presidential Regulation Number 72 of 2021 concerning the acceleration of stunting reduction, mothers with children 0-23 months can intervene through health promotion and counseling related to the provision of MP-ASI, exclusive breastfeeding, reducing the percentage of malnutrition, and additional nutritious food for children who are deficient in their nutritional needs, and immunizing according to the age of the child.

Meals in lieu of breast milk (MP-ASI) is food given to infants when they enter the age of 6 months as a form of transition from breast milk. The provision of complementary foods is given by looking at the development of each baby so that the provision of complementary foods is carried out gradually and continuously [1]. One of the success factors in providing appropriate complementary foods is the mother's level of knowledge in providing complementary foods by paying attention to the accuracy of the baby's age and the composition contained therein. Apart from knowledge factors, health, economic, and cultural factors

are also very influential in it [2]. Maternal behavior in the practice of giving complementary foods to infants must be done carefully and thoroughly by paying attention to the age of the toddler.

The food composition in the selection of complementary foods is crucial. In this modern era, many young mothers underestimate the amount of energy from complementary foods needed each day. Then in terms of consistency in making complementary foods, sometimes they do not pay attention to the food texture standards used according to the age range. In addition, the frequency of providing complementary foods in 24 hours also has rules, for example, in 24 hours 2-3 additional foods and 1-2 snacks in addition to the main additional. Therefore, it is necessary to conduct health counseling regarding complementary foods to mothers who have toddlers in order to increase the level of knowledge and behavior of mothers towards complementary feeding. One of the media that can be used to conduct health counseling is booklets. Booklets are small pocket books with not so many pages and usually have pictures and colors [3].

Based on preliminary studies conducted by researchers in the Puskesmas Purwokerto Timur I Working Area that in Arcawinangun Village the fulfillment rate in providing complementary food is still classified as inappropriate. Interviews were conducted with 10 respondents, namely mothers who had babies aged 6-12 months in Arcawinangun Village and the results obtained were that as many as 6 out of 10 mothers still had insufficient knowledge and inappropriate behavior when providing complementary foods, 2 mothers had good knowledge and appropriate behavior in providing complementary foods. Overall, the average problems related to complementary feeding are dominated in terms of providing a balanced menu that is rarely done, respondents never make a meal schedule for their children so that they can eat regularly and balanced, respondents rarely provide fruit intake to children. Therefore, researchers are interested in conducting research on the effect of GEMAR (Gerakan Mama Pintar) booklet media on the level of knowledge and behavior of mothers in providing complementary food for infants aged 6-12 months in Arcawinangun Village.

## 2. RESEARCH METHOD

This research uses quantitative methods, with a quasi-experimental design with one group pre and post test. The research population was mothers who had babies aged 6-12 months in Arcawinangun Village. Sampling used purposive sampling and obtained 46 respondents who met the inclusion criteria. The research was conducted for 30 days starting with health education at the Village Hall, filling out pre and post questionnaires, as well as house-to-house interviews regarding patterns of giving MP-ASI during the last 30 days. Data analysis used the Wilcoxon Signed Rank Test.

## 3. RESULT AND DISCUSSIONS

### a) Univariat

Table 1. Characteristics of Respondents

Respondent Characteristics	Intervention	
	N	(%)
<b>Mom Age (Year)</b>		
<20	1	2.2%
21-30	28	60.9%
31-40	17	37.0%
<b>Last Education</b>		
SD	5	10.9%
SMP	16	34.8%
SMA/SMK	20	43.5%
S1	5	10.9%
<b>Job</b>		
Housewife	29	63.5%
Laborer	11	23.9%
Private sector employee	5	10.9%
Trader	1	2.2%

Based on the data in table 1, it is known that the characteristics of maternal age respondents in Arcawinangun Village are <40 years old, with the majority of 28 respondents (60.9%) aged between 21-30 years. Based on the table above, it can be seen that the majority of respondents with the latest educational status are SMA / SMK, totaling 20 respondents (43.5%) and most jobs are housewives with (63.5%).

Table 2. Mother's level of knowledge about complementary feeding

Category	Intervention Group			
	Pretest		Posttest	
	N	%	N	%
Good	0	0	39	84.8%
Sufficient	35	76.1%	7	15.2%
Defficient	11	23.9%	0	0
<b>Total</b>	<b>46</b>	<b>100</b>	<b>46</b>	<b>100</b>

Based on the frequency distribution data, the level of maternal knowledge about complementary feeding in the group before the intervention, the majority had a sufficient category of 76.1% and a deficient category of 23.9%. The results after the intervention had a good category of 84.8% and a sufficient category of 15.2%.

Table 3. Behavioral level of complementary feeding in infants aged 6-12 months

Category	Intervention Group			
	Pre test		Post test	
	N	%	N	%
Inappropriate	39	84.8%	11	23.9%
Anappropriate	7	15.2%	35	76.1%
<b>Total</b>	<b>46</b>	<b>100</b>	<b>46</b>	<b>100</b>

Based on the frequency distribution data, the level of behavior of complementary feeding in mothers before the intervention, the majority had an inappropriate category of 84.8% and an appropriate category of 15.2%. The results of the level of behavior after the intervention were quite significant, namely the appropriate category of 76.1% and the inappropriate category of 23.9%.

Table 4. Results of W/BL Measurement

	Pre W	Post W	Pre BL	Post BL
<b>Mean</b>	8.78	8.88	68.98	69.49
<b>Minimum</b>	6.4	6.0	62.1	62.2
<b>Maximum</b>	11.4	11.6	79.2	79.8

Based on statistical data of W and BL in infants aged 6-12 months between before and after the intervention, there was a slight increase. The weight measurement results before the intervention had an average of 8.78 kg and after the intervention increased although not significantly to 8.88 kg. While the average BL measurement before the intervention was 68.98 cm and the average after the intervention increased to 69.49 cm. As we know according to WHO (2019) that the ideal average weight in infants aged 6-12 months is 8.75 kg while the ideal average BL in infants aged 6-12 months is 70.95 cm.

## b) Bivariat

Table 5. The effect of booklet media on knowledge and mother's behavior in giving MP-ASI

	Mean	P-Value
Pre test Knowledge	6.85	0,00
Post test Knowledge	11.83	0,00
Pre test Behaviour	40.59	0,00
Post test Behaviour	48.91	0,00

After carrying out the Wilcoxon Signed Rank Test, the result was that the p-value was  $0.00 < 0$ , so  $H_a$  was accepted, meaning there was a difference in the level of knowledge and behavior before and after the intervention was given. So, it can be concluded that there is an influence on the level of knowledge and behavior of mothers in providing MP-ASI to babies aged 6-12 months in Arcawinangun Village using the GEMAR booklet media.

**a. Mom's Age**

In this study there were 46 mothers who had babies aged 6-12 months. The majority of respondents in this study were 21-30 years old. Based on the results of the study that 60.9% in the group that had been given the intervention were aged 21-30 years. According to WHO (2019) this categorization is a transition from adolescence to early adulthood. In this case, a person must be able to develop independently to find their true identity and is expected to have mature thinking in dealing with problems in their life. This research is in line with one of the study that there is a relationship between age and knowledge and behavior about food safety in Pasaleman sub-district, Cirebon district [4].

**b. Mom's education**

The majority of respondents in this study had high school education. Education possessed by a mother can contribute to increasing her ability to monitor the growth and development of the baby. Someone who is highly educated will be able to manage, overcome, and use effective coping than someone who has low education.

Researchers argues that a person's level of education can have an influence when responding to something so that a different level of education can result in differences in the acquisition of knowledge between mothers who have high and low education. If someone has a low level of education it will hinder the development of one's knowledge, attitudes, and behavior when receiving new information and values that are introduced [5].

**c. Mom's job**

Based on the results of this study, 63.5% of respondents are housewives. Researchers argues that a mother's occupational status or profession is a protective factor, meaning that mothers who do not work will be more supportive in providing MP-ASI than working mothers. This is because mothers who do not do work outside the home (IRT) will have a lot of time and opportunity to provide MP-ASI to their children and can see their progress firsthand [6].

**1. The effect of booklet media on the level of knowledge**

The results of the study showed that the difference in knowledge levels between before and after the intervention was given increased. With the fair to good category and an average increase of 4.98%. This shows that the respondents who had been given the intervention experienced an increase in terms of knowledge because in addition to participating in health education, respondents could also gain knowledge from booklets containing complementary foods.

The effect of the booklet media used as a media intervention in research is related to one of the research which states that there are significant differences in the value of mothers' knowledge about giving MP-ASI after the intervention is given. This states that providing intervention in the form of booklet media has a significant influence on increasing knowledge [7]. This is reinforced by one of the the research that the increase in average knowledge after being given an intervention using booklet media has increased. This is considered by respondents to be more interested in listening during counseling events[8].

Similar research regarding the effect of intervention using booklet media on the level of knowledge of mothers of toddlers regarding MP-ASI. The results of this study indicate that there is an influence between before and after counseling with booklet media. The researcher said that if the mother is more active and interested in counseling with this media. This will have a good impact because it can increase respondents' motivation and interest in capturing the content of the counseling material and minimize boredom when the counseling is carried out [9].

**2. The influence of booklet media on behavior levels**

The results showed that the difference in the level of knowledge between before and after the intervention had increased. With the inappropriate category being appropriate and an average increase of 8.32%. There are differences in behavior between before and after the intervention in the form of health counseling using booklets as media. The results above show that from the knowledge received through health counseling, respondents then digest and understand the information that has been obtained and is accompanied by changes in attitudes that slowly improve. If knowledge and attitudes slowly change, it will be followed by changes in one's level of behavior.

The results of this research are also in line with one of the research which stated that by providing intervention in the form of booklet media, the level of knowledge, attitudes and behavior increased rapidly when compared with groups that did not receive the intervention [10]. Apart from that, there is a relationship researchers said, that booklet media intervention

has a significant influence on mothers' behavior in detecting growth and development in their children [11].

The one of the research which are based on Lawrence Green's theory explain that there are 3 predisposing factors that determine behavior change, namely knowledge and a person's attitude in doing something. If an individual has a positive attitude and good knowledge, it will be easier to behave. In this study, booklets became a medium for obtaining knowledge which would then be responded to and reacted with an action [12].

#### 4. CONCLUSION AND RECOMMENDATION

After conducting research related to the effect of booklet media on the level of knowledge and behavior of complementary feeding methods for mothers with infants aged 6-12 months in Arcawinangun Village, it can be concluded among others the average age characteristics of respondents are <30 years old, the majority of respondents have a high school education, and the majority of respondents work as IRT and then here is an influence on the level of knowledge in the provision of GEMAR booklet media between before and after the intervention with an average value of 6.85 (sufficient) to 11.83 (good). Next, there is an influence on the level of behavior in the provision of GEMAR booklet media between before and after the intervention with an average value of 40.59 (inappropriate) to 48.91 (appropriate).

Booklet media has an influence in efforts to improve the knowledge and behavior of mothers who have babies aged 6-12 months in providing complementary food in Arcawinangun Village which is indicated by the p value (0.00). The results of this research can add information and further supporting data regarding behavioral level variables that should be carried out for longer research. Future research is expected to provide a control group as an evaluation material for the effectiveness of the intervention media.

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