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The Effect of Midwife Education on MPASI Containing Prebiotics on Maternal Compliance in Giving MPASI

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ABSTRACT

Timely, adequate, and quality complementary feeding (MPASI) is important to support infant growth and development. However, limited maternal knowledge and insufficient education from health workers, especially midwives, often lead to inappropriate feeding practices. Therefore, educational interventions are needed to improve maternal understanding and compliance with complementary feeding recommendations. This study aimed to determine the effect of midwife-led education on maternal compliance in providing complementary feeding containing prebiotics. This study used a quantitative quasi-experimental design with a pretest–posttest control group approach. The research was conducted in the working area of the Mining Health Center, Kampar Regency, Riau Province. A total of 60 mothers with infants aged 6–12 months were selected using purposive sampling and divided into intervention and control groups, each consisting of 30 participants. The intervention included counseling sessions, leaflets, and interactive discussions about prebiotic-containing complementary feeding. Data were collected using a validated compliance questionnaire. The results showed that before the intervention, most mothers in the intervention group had low compliance (66.7%). After the intervention, high compliance increased to 73.3%, while the control group showed lower compliance (36.7%). Chi-square analysis showed a significant effect of midwife education on maternal compliance (p=0.002). These findings indicate that midwife-led education effectively improves maternal compliance in providing appropriate complementary feeding containing prebiotics.

Keywords: *Education, Midwives, Prebiotics, Compliance, MPASI*

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INTRODUCTION

Complementary feeding (MPASI) is one of the important interventions in meeting the nutritional needs of infants after the age of six months. In this period, breast milk alone is no longer able to meet the energy, protein and micronutrient needs needed for optimal growth of the baby. Therefore, the provision of timely, adequate, safe, and nutritious complementary foods is a determining factor in supporting children's growth and development. Improper complementary feeding practices can increase the risk of nutritional problems, growth disorders, and reduce the quality of children's health in the future (World Health Organization, 2021).

Globally, nutritional problems in infants and toddlers are still a serious public health challenge. The World Health Organization reports that millions of children in the world still experience stunting, wasting, and underweight which is closely related to inadequate feeding practices in the early period of life. One factor that contributes to the problem is the provision of complementary foods that are not in accordance with the child's nutritional recommendations. Therefore, improving the quality of complementary feeding practices is one of the important strategies in efforts to prevent nutritional problems in children (UNICEF, 2022).

In the Southeast Asian region, the practice of giving proper complementary foods is still not optimal in various developing countries. Some studies show that many mothers who give complementary foods too early or too late, and less attention to the nutritional content in the food given to the baby. These conditions are often influenced by low maternal knowledge, cultural factors, and limited access to correct health information. As a result, infants are at risk of impaired growth and decreased endurance (Black et al., 2021).

In Indonesia, the issue of nutrition in children is still a major concern in the National Health program. Data shows that the prevalence of stunting in toddlers is still at a fairly high level even though it has decreased in recent years. One of the factors that play a role in this problem is the practice of giving solid food that is not in accordance with the principles of balanced nutrition. This shows that improving the pattern of giving MPASI needs to be done through various promotive and preventive approaches (Ministry of Health, 2023).

In addition to the time of administration, the quality of complementary foods is also an important aspect in supporting the health of the baby. A quality solid food contains not only macro-and micronutrients, but also functional components that support the health of the digestive system. One component that is currently widely studied for its benefits is prebiotics. Prebiotics are dietary fibers that cannot be digested but serve as a substrate for the growth of good bacteria in the intestine (Gibson et al., 2020).

The presence of prebiotics in baby food is known to have various health benefits. Prebiotics can help improve the balance of the gut microbiota, improve digestive system function, and boost the baby's immune system. In addition, consumption of foods containing prebiotics can also help prevent digestive disorders such as diarrhea and constipation in infants. Therefore, solids containing prebiotics are one of the recommended options in the practice of infant feeding (Slavin, 2021).

Although it has many benefits, the use of MPASI containing prebiotics is still not widely understood by most mothers. Many mothers do not know the natural prebiotic food sources that can be given to babies, such as bananas, onions, asparagus, and some types of tubers. This lack of information causes mothers to tend to give solid food simply without paying attention to the functional content in food. This condition shows that nutrition education for mothers still needs to be improved (Roberfroid, 2020).

Maternal knowledge is an important factor that influences the behavior of complementary feeding in infants. Mothers who have good knowledge about infant nutrition tend to provide complementary foods in accordance with health recommendations. Conversely, mothers who have limited knowledge often practice giving inappropriate complementary foods. Therefore, increasing maternal knowledge through health education activities is an effective strategy to improve the practice of giving MPASI (Sari et al., 2022).

In addition to knowledge, the mother's compliance in implementing the practice of giving complementary foods is also influenced by the support of health workers. Health workers have an important role in providing information, guidance, and motivation to mothers regarding the correct practice of infant feeding. In the health care system in Indonesia, midwives are health workers who have direct proximity to mothers and children in the community. This makes midwives an important actor in maternal and child health education activities (Ministry of Health, 2021).

Midwives have a strategic role in improving the quality of maternal and Child Health through promotive and Preventive Services. One form of this role is to provide education about breastfeeding and proper solid food. Education provided in a structured manner can help improve maternal knowledge and encourage changes in health behavior for the better. Thus, the involvement of midwives in MPASI education is one of the important approaches in improving maternal compliance (Notoatmodjo, 2020).

Various methods of health education can be used by midwives in conveying information to mothers. Counseling methods, group discussions, and the use of educational media such as leaflets and booklets are some of the approaches that are often used in health promotion. Educational Media can help mothers understand information more easily and systematically. This can increase the effectiveness of delivering health messages to the community (Sari & Putri, 2021).

Previous research has shown that health education provided by health workers can improve the knowledge and behavior of mothers in the provision of complementary foods. Mothers who get education tend to better understand the timing of complementary feeding, the right type of food, and how to process food that is safe for babies. This shows that educational interventions have great potential in improving the practice of MPASI in the community (Rahmawati et al., 2022).

Other studies have also shown that nutrition education can improve maternal compliance in providing nutritious food to infants. After getting an education, mothers tend to pay more attention to the composition of food and the quality of nutrition given to children. These

behavioral changes suggest that good knowledge can positively influence infant feeding practices (Putri et al., 2023).

However, several studies have also shown that maternal adherence to complementary feeding is still not optimal in various regions. This shows that the educational efforts undertaken so far have not been fully able to reach all mothers who have babies. Therefore, a more effective and targeted educational approach is needed so that health messages can be consistently applied by mothers (Hidayati et al., 2021).

At the primary health care level, puskesmas have an important role in the implementation of maternal and child health programs. Puskesmas is the main place for people to get health services, including education about giving solid foods. Through posyandu activities, toddler mother classes, and health counseling, puskesmas can be an effective means of increasing mothers ' knowledge about child nutrition (Ministry of Health, 2022).

Puskesmas work area is a strategic environment for health education intervention to the community. The proximity of health workers to the community allows for more intensive communication between midwives and mothers. This condition can increase the chances of success of health education programs, including in improving maternal compliance in the provision of complementary foods. Therefore, research conducted in the working area of the health center has a high relevance to the practice of Public Health Services (Sutrisno et al., 2022).

Several recent studies have shown that community-based education involving local health workers can significantly improve changes in public health behavior. Educational interventions provided directly to mothers have been shown to improve healthier infant feeding practices. This shows that the right approach to education can be a solution to overcome the problem of child nutrition (Yuliana et al., 2023).

However, studies on Midwife education related to solids containing prebiotics are still relatively limited, especially at the primary health care level. Most studies have focused more on giving MPASI in general without highlighting functional ingredients such as prebiotics. In fact, prebiotics have important benefits in supporting digestive health and the baby's immune system. Therefore, research on this topic is still indispensable. The lack of research on prebiotic-based MPASI Education shows that there are gaps in research that need to be studied further. Scientific information on the effectiveness of such education can be the basis for the development of health promotion programs in health centers. Thus, this study is expected to contribute to the development of educational strategies that are more effective in improving the practice of complementary feeding in infants.

Based on the description, it can be concluded that the mother's compliance in providing quality complementary foods is still a challenge in efforts to improve the health of the baby. Education by midwives about MPASI containing prebiotics is seen as one strategy that has the potential to increase maternal knowledge and compliance. Therefore, the researchers were interested in conducting research on the influence of Midwives ' education about MPASI containing prebiotics on maternal compliance in the provision of MPASI in the working area of

Puskesmas Tambang Kampar regency, Riau province. This study is expected to provide scientific evidence that supports the strengthening of nutrition education programs in primary health care.

METHODS

This study uses a quantitative method with a quasi-experimental design in the form of pretest-posttest with a control group to determine the effect of midwife education about MPASI containing prebiotics on maternal compliance in giving MPASI. The study was conducted in the working area of Mining Health Center Kampar regency, Riau province. The population in this study is all mothers who have babies aged 6-12 months in the working area of the health center. The sample of 60 respondents was determined by purposive sampling technique, then divided into two groups, the intervention group of 30 respondents and the control group of 30 respondents. Inclusion criteria in this study are mothers who have babies aged 6-12 months, willing to be a respondent, can read and write, and domiciled in the working area of the Mine Health Center. The exclusion criteria included mothers who did not participate in the entire set of research activities or did not complete the questionnaire. Intervention in this study is in the form of education provided by midwives through counseling using leaflet media and interactive discussions. The Leaflet used contains information about the definition of MPASI, the right time to give MPASI, types and examples of foods that contain prebiotics (such as bananas, onions, and nuts), the benefits of prebiotics for baby's digestive health, as well as practical guidelines for serving MPASI according to the baby's age. Education is carried out in 2 meetings, each lasting 45-60 minutes. After the entire educational session was completed, a posttest was conducted to assess changes in the mother's adherence to complementary feeding.

Data collection was conducted using MPASI compliance questionnaires that have been tested for validity and reliability before being used in research. The reliability test of the questionnaire was conducted using internal consistency test using Cronbach's Alpha method, where the instrument was declared reliable if the value of Cronbach's Alpha was 0.70. The results of the reliability test showed that the questionnaire has a Cronbach's Alpha value that meets these criteria so that it is feasible to use in research. Compliance measurement was carried out twice, before the intervention (pretest) and after the provision of Education (posttest). The Data obtained were then analyzed in a univariate manner to see the frequency distribution of the characteristics of respondents and the level of maternal compliance, as well as bivariate analysis using Chi-Square test with a confidence level of 95% ($p \leq 0.05$) to determine the effect of midwife education on maternal compliance in the provision of MPASI containing prebiotics. This study has paid attention to the principles of research ethics by providing an explanation of the objectives and procedures of the study to the respondents. All respondents who are willing to participate are asked to sign a consent sheet (informed consent) as a form of willingness to participate in research voluntarily and ensure the confidentiality of respondent data.

RESULTS

1. Distribution of Maternal Compliance in the Provision of MPASI Before and After Education in the Working Area of the Kampar Regency Mining Health Center

Univariate analysis was conducted to describe the distribution of maternal adherence in the provision of MPASI in the intervention group and control group before and after the provision of education by midwives about MPASI containing prebiotics.

Table 1. Distribution of Maternal Compliance in the Provision of MPASI Before and After Education

Groups	Compliance	Pretest n	Pretest %	Posttest n	Posttest %
Intervention	Obedient	10	33,3	22	73,3
	Disobedient	20	66,7	8	26,7
Control	Obedient	11	36,7	11	36,7
	Disobedient	19	63,3	19	63,3

Based on Table 1, there is an increase in maternal adherence in the provision of MPASI in the intervention group after being given education by midwives. Before the intervention, the majority of mothers were disobedient (66.7%), but after education the proportion of obedient mothers increased to 73.3%. In contrast, in the control group that did not receive education, the proportion of obedient mothers remained the same before and after the observation period (36.7%). These results indicate that midwife education has the potential to increase maternal adherence to complementary feeding practices, while without intervention changes in adherence are not significant.

2. The Effect of Midwife Education on MPASI Containing Prebiotics on Maternal Compliance in Giving MPASI

Bivariate analysis using Chi-Square test was conducted to determine the effect of midwife education on maternal compliance in the provision of MPASI containing prebiotics.

Table 2. The Effect of Midwife Education on MPASI Containing Prebiotics on Maternal Compliance in Giving MPASI

Groups	Obedient **n (%)**	**Diso**bedient **n (%)**	**Total**	**p-value**
Intervention	22 (73,3%)	8 (26,7%)	30	
Control	11 (36,7%)	19 (63,3%)	30	**0,002**
Total	33 (55,0%)	27 (45,0%)	60	

Chi-Square test results showed a value of p = 0.002, which is smaller than 0.05, indicating a significant influence between midwife education about solids containing prebiotics with maternal compliance. The intervention group that received education showed a higher proportion of compliance (73.3%) than the control group (36.7%). These findings reinforce the evidence that

educational interventions by midwives can improve maternal adherence to recommended complementary feeding, especially in the application of functional ingredients such as prebiotics.

DISCUSSION

1. Distribution of Maternal Compliance in the Provision of MPASI Before and After Education in The Working Area of the Kampar Regency Mining Health Center

The results showed that before being given education, most of the mothers in the intervention group (66.7%) were in the category of non-compliance in the provision of complementary foods, while only 33.3% were obedient. After being educated by midwives about solids containing prebiotics, the proportion of obedient mothers increased to 73.3%. These findings indicate a positive effect of education on maternal obedience. The researchers ' assumption is that this increase occurs because education increases the mother's understanding of the benefits of prebiotics and the practice of giving proper complementary foods.

In contrast, in the control group that did not receive the intervention, the proportion of maternal compliance remained stable before and after the study period, at 36.7% compliance and 63.3% non-compliance. This confirms that without special education or intervention, changes in maternal behavior in giving solid food are very limited. The assumption of the researchers states that the knowledge and motivation of mothers become the main determinants of compliance, so that without external encouragement through education, the practice of giving solid food tends not to change.

Improved adherence in the intervention group is consistent with the concept of the Health Belief Model, which states that individuals will change their behavior if they understand the risks and benefits of certain health actions. Midwife education increases the mother's perception of the benefits of complementary feeding containing prebiotics for the baby's health, thus encouraging more obedient behavior (Rosenstock et al., 2020). This suggests that knowledge of the risks of malnutrition and the benefits of prebiotics are the main driving factors in changes in maternal behavior.

In addition, the theory of adult learning (andragogy) emphasizes that adults learn more effectively when the material is relevant to their needs. In the context of this study, the education delivered is directly related to the practice of complementary feeding for infants aged 6-12 months, so that maternal understanding increases faster and is reflected in higher compliance (Knowles et al., 2020). Researchers assume that the Association of educational materials with the mother's daily experience makes the intervention easier to implement.

The results of this study are in line with previous research which shows that structured and media-based nutrition education can improve the knowledge and compliance of mothers in the provision of MPASI. Interactive methods such as group discussions and counseling using leaflet media have been shown to be effective in encouraging changes in maternal health behavior (Rahmawati et al., 2021). In this study, the combination of counseling and visual media is believed to make it easier for mothers to understand information about the content of prebiotics in MPASI.

In addition to educational methods, the support of health workers also plays an important role in increasing maternal compliance. Other studies have shown that intensive interaction between midwives and mothers during counseling activities can increase the motivation of mothers to implement MPASI practices according to recommendations (Putri et al., 2022). Researchers assume that the proximity of midwives to mothers in Mining Health Centers facilitates more effective communication, making education easier to apply in everyday life.

The finding that most mothers in the control group remained non-compliant confirms the importance of active intervention. Global studies show that without education or nutritional interventions, maternal adherence to MPASI recommendations tends to be low, especially with regard to understanding functional ingredients such as prebiotics (Black et al., 2021). This reinforces the researchers ' assumption that knowledge is still the main limiting factor in the practice of giving solid foods.

Mothers ' compliance is also influenced by their level of education and experience in caring for children. More educated mothers tend to understand educational material faster and apply it in daily practice. Another study found a positive relationship between the level of maternal education and adherence to infant feeding according to nutritional standards (Sari et al., 2021). Researchers assume that the education provided is more easily internalized by mothers with higher educational backgrounds.

In addition to education, the mother's internal motivation plays a role in behavior change. Self-Determination Theory explains that individuals are more motivated if they feel they have control over their behavior. In this study, mothers who received education felt better able to choose the right type of MPASI and apply prebiotic administration, so that adherence increased (Deci & Ryan, 2020). Researchers assume that a sense of control and practical understanding encourage mothers to be more disciplined in the practice of complementary feeding.

The findings of this study reinforce the evidence that community-based education is effective in increasing mothers ' adherence to complementary feeding practices. Previous studies in Indonesia have shown that maternal-infant classes administered by midwives improved adherence by more than 70% after intervention (Hidayati et al., 2021). In this study, researchers assume that participatory education strategies increase the involvement of mothers so that the results are more optimal.

In addition to formal education, social support plays a role in increasing maternal obedience. Research shows that mothers who get family support and health workers tend to be more obedient in giving MPASI (Yuliana et al., 2023). Researchers assume that the participation of family members in educational activities can strengthen the mother's motivation to implement appropriate practices.

The results of this study also support the principle of community-based nutrition education, which emphasizes the empowerment of mothers as agents of change in child nutrition practices. With proper education, mothers can internalize knowledge and apply it in everyday life

(Putri et al., 2023). The assumption of researchers states that continuous education can create long-term behavior change.

In addition to education, the delivery of interactive materials affect the understanding of mothers. A participatory approach and the use of visual media make it easier for mothers to understand the concept of prebiotics in MPASI (Sari & Putri, 2021). Researchers assume that appropriate delivery methods facilitate the transfer of knowledge more effectively than passive lecture methods.

These findings are in line with the theory of Health Behavior Change which states that increased knowledge can change individual attitudes and practices. Midwife education provided through leaflets and discussion media allows mothers to understand information gradually and practically (Glanz et al., 2021). Researchers assume that this gradual strategy increases maternal compliance.

In addition, studies show that mothers ' compliance is higher when they understand the direct benefits to the baby. This is consistent with the theory of health motivation, in which the perception of benefits encourages individuals to perform correct health actions (Champion & Skinner, 2020). In this study, education emphasizes the benefits of prebiotics, so mothers are more motivated to obey.

The results of this study are in line with international studies showing that evidence-based nutrition education can significantly improve infant feeding practices (Slavin, 2021). Researchers assume that the delivery of evidence-based material makes mothers more confident in applying solid foods containing prebiotics.

The increase in compliance was more noticeable in the intervention group than in the control. This reinforces the assumption that active education provided in a personal and contextual manner is more effective than general information (Roberfroid, 2020). Researchers concluded that relevant and interactive educational strategies have a greater effect on behavior change.

These findings indicate the need for continued intervention. Long-term research suggests that maternal obedience may decline without educational follow-up (Gibson et al., 2020). Researchers assume that strengthening routine education programs in health centers is important to maintain long-term compliance.

In addition to formal education, social support also contributes to compliance. Studies show that mothers who receive family support and health workers tend to be more obedient in giving MPASI (Yuliana et al., 2023). Researchers assume that the interaction of midwives with mothers and families motivates the practice of appropriate complementary feeding.

The results of this study confirm that the methods of delivering material, such as interactive discussions and the use of visual media, make it easier for mothers to understand the concept of prebiotics in MPASI (Sari & Putri, 2021). Researchers assume that this practical approach is more effective than the passive lecture method.

Based on the results of the univariate, it can be concluded that the education of midwives about solids containing prebiotics effectively improve maternal compliance. This finding is

interesting because it confirms the importance of the role of midwives and community-based nutrition education in primary health practice. Researchers assume that the success of this intervention opens up opportunities for the development of similar educational strategies in other regions.

2. The Effect of Midwife Education on MPASI Containing Prebiotics on Maternal Compliance in Giving MPASI

The results of bivariate analysis of the study showed a significant effect of Midwives ' education on solids containing prebiotics on maternal compliance, with a value of p = 0.002. The intervention group that received education showed a higher proportion of compliance (73.3%) than the control group (36.7%). These findings show that active educational intervention significantly affects the behavior of mothers in the practice of complementary feeding. Researchers assume that this increase in adherence is influenced by the mother's understanding of the benefits of prebiotics and the correct implementation of nutritional recommendations.

These results are consistent with the Health Belief Model theory, which states that individuals will change their behavior when they understand the risks and benefits of a health measure. In the context of this study, midwife education increases maternal perceptions of the benefits of complementary feeding containing prebiotics for infant health, thereby encouraging compliance (Rosenstock et al., 2020). Researchers assume that this increased perception of benefits is key to the behavioral changes observed in the intervention group.

In addition, the theory of adult learning (andragogy) emphasizes that adults learn more effectively when the material is relevant to their needs and experiences. The education given to mothers is directly related to the practice of giving complementary foods to infants aged 6-12 months, so that the knowledge gained is easier to apply (Knowles et al., 2020). Researchers assume that the relevance of educational materials to be a major factor in the success of the intervention.

The results of this study are in line with previous studies showing that community-based educational interventions can improve maternal adherence to infant feeding practices according to nutritional standards (Rahmawati et al., 2021). In the study, active interaction with health workers and the use of educational media was shown to promote significant changes in behavior. This supports the researchers ' assumption that interactive methods are more effective than passive lecture methods.

In addition to education, social support also plays an important role in increasing maternal obedience. Another study found that mothers who received family support and health workers were more obedient in giving MPASI (Yuliana et al., 2023). Researchers assume that the involvement of families and midwives during education plays a role in motivating mothers to implement appropriate practices.

Bivariate analysis showed that the control group that did not receive education had lower adherence. Global studies have also indicated that without intervention, maternal adherence to child nutrition recommendations tends to be low, particularly with regard to functional

ingredients such as prebiotics (Black et al., 2021). This supports the researchers ' assumption that maternal knowledge and understanding are the main determinants of compliance.

Increased adherence in the intervention group supports the motivational theory of Health, in which the perception of benefits encourages individuals to perform the correct actions. Mothers who understand the benefits of prebiotics are more encouraged to adhere to MPASI recommendations (Champion & Skinner, 2020). Researchers assume that understanding the immediate benefits to the baby becomes the main driver of compliance.

These results are also consistent with research that emphasizes the importance of evidence-based education to improve MPASI administration practices. Interventions that actively involve mothers have been shown to improve adherence and understanding of infant nutrition (Slavin, 2021). Researchers assume that the use of leaflet and discussion media makes education easier to internalize.

Bivariate analysis confirmed that the method of delivery of educational materials affects the effectiveness of the intervention. Participatory approaches, interactive discussions, and visual media have been shown to increase mothers ' understanding of the prebiotic content in MPASI (Sari & Putri, 2021). Researchers assume that a contextual and interactive approach improves the ability of mothers to apply the correct nutritional practices.

These findings reinforce the principles of community-based nutrition education, which emphasizes the empowerment of mothers as agents of change in child nutrition practices (Putri et al., 2023). With the right education, mothers can internalize knowledge and apply it in everyday life. Researchers assume that this empowerment becomes an important factor in the success of the intervention.

In addition, the literature shows that continuous nutrition education is more effective than one-time interventions. Repeated nutritional education increases maternal adherence to MPASI administration, especially for the application of functional ingredients such as prebiotics (Utami et al., 2023). Researchers assume that further education can maintain and improve long-term compliance.

The results of the study also support The Theory Of Self-Determination Theory, where individuals are more motivated if they feel they have control over the behavior that is lived (Deci & Ryan, 2020). Mothers who understand the principle of giving MPASI with prebiotic content feel better able to make the right decision for the baby, so compliance increases.

These results are in line with international findings stating that active educational interventions increase maternal adherence by more than 70% compared to the control group (Hidayati et al., 2021). Researchers assume that direct interaction with health workers increases the motivation of mothers to apply the correct practices.

Bivariate analysis also showed that without education, changes in maternal behavior were minimal. Global studies confirm that limited knowledge is a major factor in low maternal adherence to MPASI recommendations (Black et al., 2021). Researchers assume that education is the key to observed behavioral changes.

In addition, the literature states that family and community support play a role in strengthening the effect of nutrition education (Yuliana et al., 2023). In this study, the interaction of midwives with mothers and families during counseling is thought to motivate the practice of appropriate complementary feeding.

These results are consistent with the theory of behavior change, in which increased knowledge affects individual attitudes and practices (Glanz et al., 2021). Researchers assume that education is delivered gradually through discussions and media leaflets help mothers understand the information thoroughly.

In addition, these results show that evidence-based education can significantly improve compliance. Studies show that educated mothers understand the value of prebiotics in MPASI and apply them more consistently (Slavin, 2021). Researchers assume that evidence-based education influences maternal beliefs and behavior.

These findings confirm that an interactive and relevant approach is essential. Previous studies have shown that mothers who are actively involved in Nutrition Learning show higher adherence improvement compared to passive methods (Roberfroid, 2020). Researchers assume that active involvement increases the internalization of knowledge.

In addition, education provided in a personal and contextual manner proved to be more effective than the delivery of General materials. International research shows that materials relevant to local conditions and maternal experiences increase the effectiveness of nutritional interventions (Gibson et al., 2020). Researchers assume that the relevance of the material helps mothers apply the practice of complementary feeding consistently.

Based on the bivariate results, it can be concluded that the education of midwives about solids containing prebiotics has a significant effect on maternal compliance. Researchers assume that the combination of interactive education, educational media, and social support to be a major factor in the success of the intervention. This finding confirms the importance of the role of midwives in improving the practice of complementary feeding in the community.

CONCLUSIONS

The results of the univariate analysis showed that midwife education about solids containing prebiotics significantly increased maternal compliance in the provision of solids. Before the intervention, most mothers were in the non-compliant category, but after education, the proportion of compliant mothers increased markedly in the intervention group, while the control group remained stable. This increase was influenced by increased maternal understanding of the benefits of prebiotics for infant health, the relevance of educational materials to everyday experiences, and interactive delivery methods, such as discussions and leaflet media. These findings are consistent with behavior change theory and recent literature showing that community-based and evidence-based education is effective in improving MPASI administration practices (Rosenstock et al., 2020; Knowles et al., 2020; Rahmawati et al., 2021).

The results of the bivariate analysis support these findings by showing a significant effect of midwife education on maternal compliance (p = 0.002). The intervention group had a significantly higher proportion of adherence than the control group, which confirms the importance of active intervention and social support in the practice of complementary feeding. These findings reinforce the assumption that relevant, interactive, and evidence-based education can drive significant behavior change (Slavin, 2021; Yuliana et al., 2023; Roberfroid, 2020). The limitations of this study include a relatively small number of samples and a limited location in the working area of the Mine Health Center, so that generalization of the results is still limited. Researchers also acknowledge the possibility of response bias in the filling of questionnaires by mothers, which may affect the results of compliance measurements.

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