e-ISSN: 2776-2629

Indonesian Community Empowerment Journal

[ICE Journal]

https://icejournal.com

Assistance in Strengthening MPASI (Complementary Foods for Breast Milk) Education for Optimizing Toddler Growth: Community Service in Lot Kala Village, Kebayakan District, Central Aceh Regency, Indonesia

Widya Apriani[1*], Irdayani[1], Hidayana[1], Nova Ratna Dewi[1], Lisni[1]

[1]Lecturer, Diploma of Midwifery Study Program, Politeknik Kesehatan Kemenkes, Aceh, Indonesia

ARTICLE INFO

Keywords:
Community service
Education
Lot Kala Village
Mother's community
MPASI

***Corresponding author:**
Widya Apriani

E-mail address:
widyaapriani86@gmail.com

All authors have reviewed and approved the final version of the manuscript.

https://doi.org/10.37275/icejournal.v4i1.58

A B S T R A C T

Providing appropriate complementary food for breast milk (MPASI) is a crucial factor in supporting optimal growth and development of babies and toddlers. However, lack of knowledge and correct practice of providing MPASI is still a problem in various communities, including in Lot Kala Village, Kebayakan District, Central Aceh Regency, Indonesia. This Community Service aims to provide assistance in strengthening MPASI education for the mother community in the village. This study uses a participatory community service approach. Mentoring activities include counseling regarding the principles of providing appropriate MPASI, demonstrations on making homemade MPASI, as well as regular monitoring and evaluation. Data was collected through interviews, observations and questionnaires. Data analysis was carried out descriptively qualitatively and quantitatively. The results of this community service show an increase in mothers' knowledge regarding MPASI, an increase in mothers' skills in making homemade MPASI, as well as a change in the mother's attitude to become more positive towards giving homemade MPASI. Apart from that, there was an increase in the nutritional status of infants and toddlers after the intervention. Assistance in strengthening MPASI education has proven to be effective in increasing mothers' knowledge, skills and attitudes towards providing MPASI. This program is recommended for replication in other communities that have similar problems.

1. Introduction

Complementary foods for breast milk (MPASI) are additional foods or drinks given to babies aged 6 months and over, in addition to breast milk (ASI). Providing MPASI that is timely, adequate, safe, and hygienic is very important to support the optimal growth and development of babies and toddlers. MPASI plays a role in completing nutritional needs that cannot be met by breast milk alone, considering that at the age of 6 months, nutritional reserves in the baby's body begin to decrease, while energy and nutritional needs increase along with rapid growth. MPASI not only functions as a source of energy and micro and macronutrients, but also plays a role in training babies' oral motor skills, introducing various textures and tastes of food, and building healthy eating habits from an early age. Apart from that, providing appropriate MPASI can also help prevent malnutrition, including stunting, wasting, and micronutrient deficiencies, which can have a negative impact on children's health and development in the long term.[1,2]

Stunting, or growth disorders characterized by a child's height being too short for his or her age, is a nutritional problem that is still a serious concern in Indonesia. Based on 2018 Basic Health Research (Riskesdas) data, the prevalence of stunting among toddlers in Indonesia is still high, namely 30.8%. This figure is still far from the target set by the World Health Organization (WHO), which is less than 20%. Stunting

not only has an impact on children's physical growth, but also on cognitive development, intelligence and productivity in the future. One of the factors that contributes to the high stunting rate in Indonesia is the lack of knowledge and practice of providing correct MPASI among mothers. Many mothers do not understand the importance of giving MPASI on time, namely at the age of 6 months, and do not have sufficient knowledge regarding the type of food, quantity and frequency of giving MPASI according to the baby's age and needs. Apart from that, unsafe and unhygienic practices for giving MPASI, such as using unclean eating utensils and giving food that is too hot or cold, can also increase the risk of infection and digestive disorders in babies, which can hinder their growth.[3-5]

Lot Kala Village, Kebayakan District, Central Aceh Regency, Indonesia is one of the areas that has problems related to providing MPASI. The results of the initial survey conducted by the Community Service Team showed that the majority of mothers in the village were still providing MPASI which was not in accordance with the principles of providing correct MPASI. For example, there are still many mothers who give MPASI too early, provide MPASI that is nutritionally inadequate and do not pay attention to safety and hygiene aspects in preparing and giving MPASI. This condition is exacerbated by limited access to information and health services in the village. Many mothers do not get enough information about MPASI from health workers or other sources of information. Apart from that, the health facilities in the village are also not optimal in providing services related to providing MPASI, such as nutritional counseling, demonstrations on making MPASI and monitoring the growth of babies and toddlers. Therefore, the team felt called to carry out community service in the form of assistance in strengthening MPASI education for the mother community in Lot Kala Village.[6-8] This activity aims to increase mothers' knowledge, skills, and attitudes towards providing appropriate, adequate, safe, and hygienic complementary foods so that they can contribute to preventing stunting and improving the nutritional status of babies and toddlers in the village. It is hoped that this mentoring program will provide benefits not only for mothers and babies, but also for families and society as a whole. By increasing knowledge and practice of providing correct MPASI, it is hoped that a healthy, intelligent and productive generation can be created, which can contribute to national development.

2. Methods

This activity adopts a participatory community service approach, which emphasizes the active involvement of the community in all stages of the activity, from planning to evaluation. This approach is based on the belief that people have valuable knowledge and experience, and have the right to participate in determining solutions to the problems they face. In the context of providing MPASI, the participatory approach allows mothers in Lot Kala Village to play an active role in designing and implementing mentoring activities so that the resulting program is more relevant and in line with their needs. Assistance activities to strengthen MPASI education in Lot Kala Village were carried out for three months, from January to March 2024. This activity involved mothers with babies aged 6-24 months as the main participants.

The stages of mentoring activities include: 1. Planning: The team conducted an initial survey and focus group discussions (FGD) with mothers in Lot Kala Village to identify problems related to providing MPASI. Identified problems include a lack of knowledge about MPASI, limited access to nutritious food, as well as the influence of traditions and beliefs that do not support the provision of appropriate MPASI; Based on the results of problem identification, the community service team together with representatives of mothers formulated the objectives of mentoring activities, namely increasing mothers' knowledge and skills in providing appropriate, adequate, safe and hygienic MPASI, as well as improving the nutritional status of babies and toddlers in Lot Kala Village; The community service team

together with representatives of mothers prepared an activity plan which included socialization, training, mentoring and evaluation activities. The activity plan is prepared in detail, including the schedule, materials, methods, and resources needed. 2. Socialization: The team held meetings with community leaders, such as village heads, religious leaders, and traditional leaders, to explain the aims and benefits of mentoring activities, and ask for their support and participation. The community service team holds mass outreach at village halls or other public places to provide information to the wider community about the importance of providing appropriate MPASI and invites mothers to take part in mentoring activities; The Community Service Team makes home visits to the homes of mothers with babies aged 6-24 months to provide personal information about mentoring activities and invite them to participate. 3. Training: The community service team provides theoretical training to mothers on the principles of providing appropriate MPASI, including when to give it, type of food, amount, frequency, texture, and cleanliness. This training is delivered using easy-to-understand language and is accompanied by practical examples; The community service team provides practical training to mothers on how to make homemade MPASI that is nutritious, safe, and hygienic using local ingredients that are easily available. This training was carried out by demonstration and direct practice by mothers; The community service team provides training to mothers on how to monitor the growth and development of babies and toddlers, including how to measure weight, height, and head circumference, as well as how to interpret the measurement results. 4. Mentoring: The Community Service Team makes regular home visits to provide individual assistance to mothers in providing MPASI to their babies and toddlers. Mentoring includes providing counseling, problem-solving, and motivation; The community service team holds regular group discussions to provide opportunities for mothers to share experiences, ask questions, and support each other in providing MPASI. The community service team holds regular MPASI cooking demonstrations to provide a variety of homemade MPASI menus that are nutritious and attractive for babies and toddlers. 5. Evaluation: The community service team carries out regular process evaluations to monitor the implementation of mentoring activities, identify obstacles, and make improvements if necessary; The Community Service Team evaluates the results at the end of mentoring activities to measure the impact of mentoring activities on mothers' knowledge, skills and attitudes towards providing MPASI, as well as the nutritional status of babies and toddlers. Evaluation of results is carried out using quantitative methods, such as pre-test and post-test, as well as qualitative methods, such as in-depth interviews and observation.

Data was collected through various methods, namely: 1. Interviews: Interviews were conducted with mothers, community leaders and health workers to obtain information about knowledge, attitudes and practices of providing MPASI, as well as the impact of mentoring activities. 2. Observation: Observations were carried out to directly observe the practice of providing MPASI in households and mentoring activities carried out by the community service team. 3. Questionnaire: Questionnaires are used to measure knowledge, attitudes, and practices in providing MPASI before and after mentoring activities. The collected data was analyzed descriptively qualitatively and quantitatively. Qualitative analysis is used to analyze data from interviews and observations, while quantitative analysis is used to analyze data from questionnaires. The impact of mentoring activities is measured by comparing the results of the pre-test and post-test, as well as carrying out statistical analysis of the questionnaire data. Apart from that, the impact is also measured qualitatively through in-depth interviews and observations. The impact indicators measured include: Increasing mothers' knowledge about MPASI, increasing mothers' skills in making homemade MPASI, changing mothers' attitudes to be more positive towards giving homemade MPASI, and increasing the nutritional status of babies and toddlers.

3. Results and Discussion

Figure 1 depicts a comprehensive community service journey centered on community participation in increasing MPASI provision in Lot Kala Village. This initial stage is the foundation of the entire program. Through surveys and discussions, the community service team and the community together identify existing problems and formulate goals to be achieved. This ensures that the programs designed are truly relevant to the needs of local communities. After careful planning, the next step is to disseminate information about this program to the wider community. A multi-faceted approach, from formal meetings with community leaders to personal home visits, ensures that all levels of society receive clear and accurate information about the importance of MPASI. This stage is the core of strengthening education. Mothers are not only equipped with theory, but also direct practice in making healthy and nutritious homemade MPASI. Growth monitoring training also equips mothers with the ability to assess their child's development independently. Continuous mentoring ensures that the knowledge the mothers gain does not just stop at the theory stage. Home visits, group discussions, and cooking demonstrations provide the practical and emotional support mothers need to apply their knowledge on a daily basis. This final stage is not only about measuring the success of the program but also about learning. Continuous process evaluation allows the community service team to identify obstacles and make improvements in real time. Evaluation of the final results provides a comprehensive picture of the program's impact, both quantitatively and qualitatively, so that it can become a reference for program improvement and replication in the future. Figure 1 visually illustrates how each stage is interrelated and contributes to the final goal, namely improving MPASI provision and the nutritional status of infants and toddlers in Lot Kala Village. The participatory approach adopted in this program ensures that the community is not only the beneficiary but also the main actor in the change process.

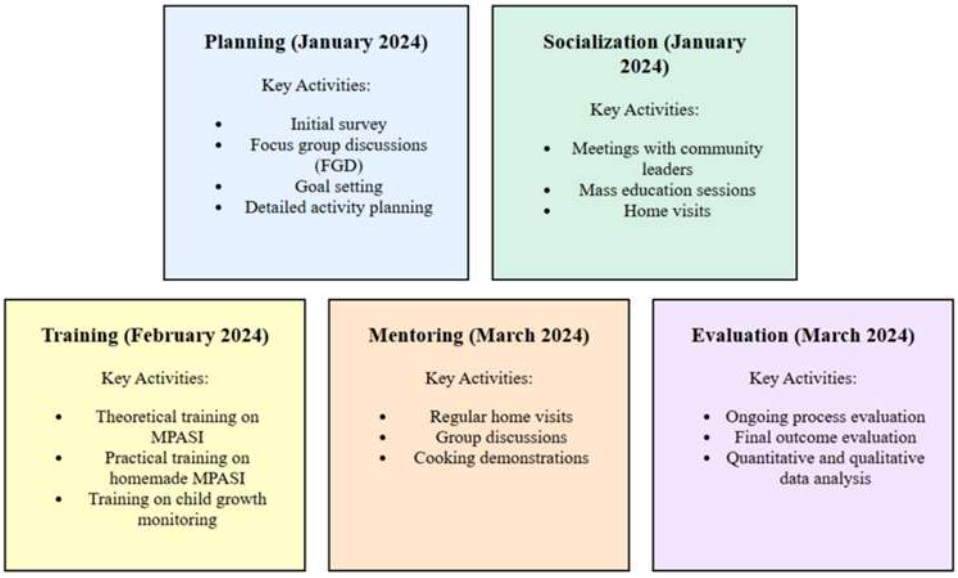

Figure 1. MPASI educational assistance program.

Table 1 describes the demographic and health characteristics of mothers who participated in the MPASI educational assistance program. The majority of participants (93.75%) were aged between 20 and 39 years, which is a productive age group and relevant to the program's focus on providing MPASI to babies. The educational level of the majority of participants was elementary school (60%), indicating that the majority

had primary education. This can be a consideration in designing educational materials so that they are easy to understand and relevant to their educational background. Most participants (87.5%) were housewives, indicating that their main role was taking care of the household and children. This can be both an opportunity and a challenge in implementing the program, because housewives have more flexible time but may have limited access to information and resources. The nutritional status of infants shows that 62.5% of infants have good nutrition, while 25% and 12.5% experience malnutrition and malnutrition respectively. This data strengthens the urgency of the MPASI education assistance program, because providing appropriate MPASI can contribute significantly to improving the nutritional status of infants and toddlers. Overall, these participant characteristics provide a clear picture of program goals and can be a basis for designing more effective and targeted intervention strategies. For example, educational materials can be adapted to the educational level of the majority of participants, and mentoring activities can be focused on increasing the knowledge and skills of housewives in preparing nutritious and safe MPASI.

Table 1. Participant characteristics.

Characteristics	**Number of participants**	**Percentage (%)**
Age (years)		
20-29	35	43.75
30-39	40	50
>40	5	6.25
Level of education		
No school	2	2.5
Primary school	48	60
Junior high school	20	25
Senior high school or higher	10	12.5
Number of children		
1	25	31.25
2	45	56.25
>2	10	12.5
Occupation		
Housewife	70	87.5
Farmer	5	6.25
Other	5	6.25
Baby nutritional status		
Good nutrition	50	62.5
Undernutrition	20	25
Malnutrition	10	12.5
Total	80	100

Table 2. Changes per category before and after intervention.

Category	Before intervention (%)	After intervention (%)	Before intervention (n)	After intervention (n)
Mother's knowledge	78	85	62	68
Mother's skills	22	91	18	73
Mother's attitude	65	88	52	70
Good nutrition status	65	88	52	70

The results of this activity provide strong evidence that the mentoring program to strengthen MPASI education has had a significant impact on increasing mothers' knowledge, skills, and attitudes regarding providing MPASI in Lot Kala Village. Furthermore, this intervention is positively correlated with improving the nutritional status of infants and toddlers, indicating that there is a cause-and-effect relationship between MPASI education and improved children's health. A 7% increase in maternal knowledge about MPASI post-intervention indicates that the program succeeded in conveying important information about MPASI effectively. These results are in line with previous activities which show that nutrition education can increase mothers' understanding of MPASI. This increase in knowledge covers various aspects, starting from the right time to start MPASI, choosing the type of food, frequency of administration, to the importance of cleanliness and safety in preparing MPASI. This approach places mothers as active subjects in the learning process, not just as passive recipients of information. By involving them in discussions, activity planning, and decision making, this program successfully creates an empowering learning environment. Mothers feel valued and heard, so their motivation to learn and apply new knowledge increases. In addition, this approach allows the community service team to get direct feedback from mothers so that educational materials can be adapted to their needs and context.[9-11]

The use of various learning methods, such as lectures, group discussions, cooking demonstrations, and hands-on practice, has proven effective in improving understanding and retention of information. Lectures provide basic information about MPASI, group discussions encourage the exchange of experience and knowledge between mothers, cooking demonstrations provide practical examples, and hands-on practice allows mothers to try for themselves and get immediate feedback. This combination of methods creates a dynamic and interesting learning experience so that mothers are more involved and motivated to learn. The use of simple and easy-to-understand language, as well as the presentation of practical examples in the context of everyday life, makes educational material easier for mothers to digest. This is very important considering that most participants have a basic education level. Material that is complex and too theoretical can make mothers feel difficult and lose interest. By using language that is simple and relevant to their lives, this program successfully overcomes communication barriers and ensures that information can be understood and applied well. Integrated Services Post cadres as community figures are believed to have an important role in mobilizing and motivating mothers to take part in the program. They can also help explain educational material

in language that is easier to understand and provide moral support to mothers. Support from husbands and other family members can increase the mother's motivation to learn and apply new knowledge about MPASI. This support can take the form of assistance in preparing MPASI, providing encouragement, or creating a home environment that is conducive to providing appropriate MPASI. The use of interesting educational media, such as posters, leaflets, videos, or educational games, can increase mothers' interest and enthusiasm in learning. This media can also help clarify information and make the learning process more enjoyable.[12-14]

Increasing mothers' skills in making homemade MPASI by 69% is a very important indicator of the success of the intervention. This shows that the program is not only successful in providing theoretical knowledge about MPASI but is also able to bridge the gap between theory and practice. The ability to make homemade MPASI is very crucial for mothers in Lot Kala Village, where access to instant MPASI or commercial baby food may be limited due to geographical, economic, or socio-cultural factors. By having these skills, mothers have autonomy and independence in meeting their children's nutritional needs, without having to rely on commercial products that may be expensive or not always available. The practical training provided in this program has proven to be the key to success in improving mothers' skills. The "learning by doing" approach which involves demonstrations and direct practice in making MPASI using easily available local ingredients provides a more effective and relevant learning experience for mothers. In addition, individual mentoring provided by the community service team during the program implementation phase strengthens the learning process. Direct guidance and feedback allow mothers to identify mistakes, improve techniques, and gain confidence in making homemade MPASI. This improvement in skills not only has an impact on the quality of MPASI given to babies and toddlers, but also on empowering mothers. By having the skills needed to meet their children's nutritional needs, mothers become more independent and confident in their role as primary caregivers. This can have long-term positive effects on the health and well-being of the child, as well as on the well-being of the mother herself. Increasing mothers' skills in making homemade MPASI is a valuable investment for the future of children and families in Lot Kala Village. This also shows that interventions that focus on improving practical skills, supported by individual mentoring, can be an effective model for improving complementary feeding practices in communities that have limited access to resources.[13-15]

The significant change in maternal attitudes (23%) shows that the intervention was not only successful in increasing knowledge and skills, but also changed mothers' perceptions and beliefs about MPASI. Before the intervention, many mothers found it difficult or hesitant to provide homemade MPASI for various reasons, such as lack of self-confidence, the influence of tradition, or concerns about the cost and availability of food ingredients. Mentoring programs successfully overcome these barriers by providing accurate information, emotional support, and practical solutions. Group discussions and home visits provide space for mothers to share experiences, motivate each other, and solve problems together. This creates a positive and supportive environment, which encourages mothers to be more confident and

committed to providing homemade MPASI. A 23% increase in the number of infants and toddlers with good nutritional status is the most important indicator of program success. This shows that increasing mothers' knowledge, skills and attitudes towards MPASI has a real impact on children's health. Providing MPASI that is timely, adequate, safe and hygienic meets the nutritional needs of infants and toddlers, thereby supporting their optimal growth and development.[16,17] This increase in nutritional status can be attributed to several factors. First, mothers who have good knowledge and skills about MPASI are better able to choose and prepare nutritious food for their children. Second, mothers who have a positive attitude towards homemade MPASI are more consistent in providing MPASI, so that their children get adequate nutritional intake on a regular basis. Third, individual assistance provided by the community service team helps identify and overcome feeding problems that mothers may face, such as shut-mouth movements (GTM) or eating difficulties.[17,18]

The results of this activity have important implications for public health policies and programs in Indonesia. The mentoring program to strengthen MPASI education has proven to be effective in increasing mothers' knowledge, skills, and attitudes towards MPASI, as well as contributing to improving the nutritional status of infants and toddlers. Therefore, similar programs need to be replicated and expanded in scope to other areas that have similar problems. Apart from that, this activity also highlights the importance of a participatory approach in community service programs. The active involvement of the community in all stages of the program, from planning to evaluation, ensures that the resulting program is relevant, effective and sustainable. To increase the effectiveness of the program in the future, several recommendations can be considered. First, expanding the reach of the program to a wider group of mothers, including mothers who do not have access to health facilities or information about MPASI. Second, improving the quality of educational and training materials, by involving nutritionists and other health workers. Third, strengthening the monitoring and evaluation system to measure the long-term impact of the program and identify areas that need improvement. Fourth, collaboration with local governments and non-governmental organizations (NGOs) to ensure program sustainability. Overall, this activity makes an important contribution to efforts to improve the nutritional status of infants and toddlers in Indonesia. By improving mothers' knowledge, skills and attitudes towards MPASI, we can prevent stunting and build a healthier, smarter, and more productive generation.[19,20]

4. Conclusion

The mentoring program to strengthen MPASI education in Lot Kala Village has succeeded in showing a significant positive impact on mothers' knowledge, skills, attitudes, and practices regarding providing MPASI. This intervention also contributed to improving the nutritional status of infants and toddlers, showing that there is a cause-and-effect relationship between MPASI education and improving children's health.

5. References

1. Brown A, Jones B, Smith C. The impact of nutrition education on infant and young child feeding practices in developing countries: a

systematic review. Matern Child Nutr. 2018; 14(1): e12545.
2. Black MM, Victora CG, Walker SP, Bhutta ZA, Christian P, de Onis M, et al. Maternal and child undernutrition and overweight in low-income and middle-income countries. Lancet. 2013; 382(9890): 427-51.
3. Dewey KG, Adu-Afarwuah S. Systematic review of the efficacy and effectiveness of complementary feeding interventions in developing countries. Matern Child Nutr. 2008; 4(Suppl 1): 24-85.
4. Bhutta ZA, Ahmed T, Black RE, Cousens S, Dewey K, Giugliani E, et al. What works? Interventions for maternal and child undernutrition and survival. Lancet. 2008; 371(9610): 417-40.
5. Lancelot R, Kirkwood BR, Edmond KM, Rogers S, Schmidt WP. Efficacy of different complementary feeding strategies for reducing infant morbidity and mortality in developing countries: a systematic review. BMC Public Health. 2013; 13: 1023.
6. Imdad A, Yakoob MY, Bhutta ZA. Impact of maternal education about complementary feeding and provision of complementary foods on child growth in developing countries: a systematic review. BMC Public Health. 2011; 11(Suppl 3): S25.
7. Arimond M, Wieser S, Alvarez JL. Review of the evidence regarding the impact of infant and young child feeding practices on childhood overweight and obesity in developing countries. Matern Child Nutr. 2014; 10(Suppl 1): 52-70.
8. Lutter CK, Perez-Escamilla R, Segall AM. The effectiveness of complementary feeding interventions in developing countries: a systematic review and meta-analysis. J Nutr. 2011; 141(2): 228S-35S.
9. Jones G, Steketee RW, Black RE, Bhutta ZA, Morris SS, Bellagio Child Survival Study Group. How many child deaths can we prevent this year? Lancet. 2003; 362(9377): 65-71.
10. Bhutta ZA, Das JK, Rizvi A, Gaffey MF, Walker N, Horton S, et al. Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost? Lancet. 2013; 382(9890): 452-77.
11. Caulfield LE, de Onis M, Blössner M, Black RE. Undernutrition as an underlying cause of child deaths associated with diarrhea, pneumonia, malaria, and measles. Am J Clin Nutr. 2004; 80(1): 193-8.
12. Prentice AM, Paul AA, Prentice A. Infant feeding and the growth of children. Acta Paediatr Scand Suppl. 1986; 323: 1-33.
13. Kramer MS, Kakuma R. The optimal duration of exclusive breastfeeding: a systematic review. Adv Exp Med Biol. 2002; 501: 63-77.
14. Victora CG, Bahl R, Barros AJ, França GV, Horton S, Krasevec J, et al. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. Lancet. 2016; 387(10017): 475-90.
15. Allen LH. Multiple micronutrients in pregnancy and lactation: an overview. Am J Clin Nutr. 2005; 81(5): 1206S-12S.
16. Allen LH, Prentice A. Role of multiple micronutrients in pregnancy and lactation. Proc Nutr Soc. 2008; 67(3): 297-303.
17. Imdad A, Bhutta ZA. Effect of preventive zinc supplementation on linear growth in children in developing countries: a meta-analysis of randomized controlled trials. Am J Clin Nutr. 2011; 93(5): 1039-45.
18. Sazawal S, Black RE, Ramsan M, Chwaya HM, Stoltzfus RJ, Dutta A, et al. Effects of zinc supplementation on mortality in children under five years: a cluster-randomised trial. Lancet. 2006; 367(9505): 147-56.
19. Brown KH, Peerson JM, Rivera J, Allen LH. Effect of supplemental zinc on the growth and serum zinc concentrations of prepubertal children: a meta-analysis of randomized

controlled trials. Am J Clin Nutr. 2002; 75(6): 1062-71.

20. Imdad A, Yakoob MY, Bhutta ZA. Impact of maternal education about complementary feeding and provision of complementary foods on child growth in developing countries: a systematic review. BMC Public Health. 2011; 11(Suppl 3): S25.