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CONTRIBUTION OF MOTHER'S KNOWLEDGE ABOUT TECNOLOGY TRANSFER OF FOOD UNIFICATION AS SUPPLEMENTS ON CHILDREN

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ABSTRACT

The manifestation of human resources begins in the womb until the first 1000 days of life. Increased nutritional needs in the body that are not met while in the womb can result in various nutritional problem such as low birth weight, malnutrition, iron deficiency. The completeness of nutritional elements in food is often experienced by toddlers as having an impact on stunting, one of the influencing factors is the mother's knowledge about the nutritional adequacy of toddlers and how to process food as *Makanan Pendamping Air Susu Ibu* (MPASI, weaning food) ingredients. The most common commodities in Srigonco village are green bananas, tuna, and red spinach but these commodities are sold at the Bantur market and families only eat rice, salt and crackers. In April 2023 survey through cadres, there were 30 stunted children. The solution offered is in the form of training, mother's assistance for 3 months in making daily food menu variants using natural ingredients in Srigonco village with the combination of green bananas, tuna, and red spinach as MPASI which are adapted to the child age group. The service implementation procedure provides training and assistance to mothers who have stunted children and are at risk of stunting.

Keywords: *Knowledge level, Technology transfer, Unification of green banana, tuna, and red spinach, Child nutritional status*

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INTRODUCTION

Realizing the quality of human resources is the most important stage of stimulation for the first 1000 days of human life, where children experience an optimal phase of growth and development in aspect of gross motor, fine motor, language and social personality if stimulation is carried out appropriately (Varakina-Mitrail et al., 2020). Riskesdas data in 2019 shows that more than 200 million children under five in developing countries failed to reach their development potential and 6.3 million children under five from a population of 23 million children under five in Indonesia experienced failure in terms of growth and development, Indonesia is in 4 place in the world. One of the causes of failure in development is the nutritional intake of toddlers (Solomons & Vossenaar, 2013).

Children's nutritional intake is an important need to help the growth and development process. Adequate nutritional in accordance with children's need will encourage good growth and according to their stage of development so that they can form a healthy, intelligent and productive generation (Shariff et al., 2020). However, if the body's nutritional needs are not met, it can result in various nutritional problems such as malnutrition. Deficiencies in fulfilling nutrients in daily food have an impact on nutritional problems, one of which is the low level of knowledge of parents about how to process daily menu variants (Gao et al., 2020).

The results of survey in April 2023 through posyandu cadres in Sigonco village. Bantur district, Malang, there were 30 stunted children. Most of the mothers in Srigonco village work as farm laborers, housewives and have an impact on choosing and providing daily food with rice, salt and crackers while the commodities from Srigonco village are sold at the market tradisional.

Sigonco village is in Bantur sub-district, Malang, East java, which previously had the name Nguling village. It has a history of the clearing of Javanese land by Mataram workers on the coast, making the village have the meaning of an arts and tourism village. The village has a very famous beach and is an icon of Malang district, namely Balaikambang beach. The distance of Srigonco village from Malang city center is 54 km with an area of 811.9 hectares, consisting of Krajan, Sumber Jambe, and Watu Singar.

Utilzation of natural resources in Sigonco village is one solution in meeting children's daily nutritional needs from natural ingredients that are easy to obtain, relatively cheap and have nutritional value and are easy to cultivate in tropical climates, namely red spinach (Shariff et al., 2020). The nutritional content of red spinach include energy 41 calories, protein 2.2 grams, fat 0.8 grams, fiber 2.2 grams, calcium 520 mg, phosphorus 80 mg, iron 7 mg, sodium 20 mg, potassium 60 mg, anthocyanin 72 mg, vitamin C 62 mg (Wahyuningrum, 2022). Red spinach's complete nutritional content can support the grwoth and development of toddlers (Solomons & Vossenaar, 2013). The nutritional elements of red spinach in terms of macronutrients and micronutrients can improve children's nutritional status (Wahyuningrum & Satiti, 2021a). Red spinach can be processed into powder so it is easy to use as a preparation (Satiti et al., 2022).

The nutritional content in green bananas includes potassium 12%, vitamin B6 22%, vitamin C 17%, magnesium 8%, copper 5%, manganese 16%,

carbohydrates 27grams, fiber 3.1grams, starch 6.3grams, protein 1.3 grams, fat 0.4 grams (Lopriore et al., 2004). The most abundant content in green bananas namely potassium, is useful for maintaining fluid and electrolyte balance, breaking down carbohydrates, forming muscles so as to maintain normal body growth by maintaining acid-base balance (Branca & Ferrari, 2002).

The nutritional content of 100 grams tuna include protein 20 grams, fat 6.4 grams, magnesium 30 grams, potassium 480 grams, zinc 0,6 grams, selenium 36.5 grams, folic acid 25 micrograms (Colombo & Mazal, 2020). Contains amino acid and healthy fats, such as omega-3fatty acids (EPA and DHA) (Maamela et al., 2023). Tuna contains vitamin A, vitamin B, vitamin D, iron, calcium and phosphorus for bone strength to help growth and development (Headey et al., 2018).

The unification of green bananas, tuna and red spinach is an alternative in accelerant effort to manage stunting in children from preparations containing these three ingredients to improve children's nutritional status. Fulfillment of nutritional elements that suit the needs of the child's body will ensure that the child's growth and development corresponds to their stage of development (Wahyuningrum & Satiti, 2021b). Children's daily nutritional needs are very important in the process of brain growth and development (Wahyuningrum & Qodir, 2022). Healthy food habits in the family must be implemented from an early age (Wahyuningrum & Ulfa, 2021).

OBJECTIVES

General Purpose

Knowing the contribution of mother's knowledge about technology transfer of food unification as supplements on children.

Special Purpose

Demonstrated the unification of green bananas, tuna and red spinach as an alternative to prevent stunting in children

PLAN OF ACTION

Strategy Plan

The community service team carried out permits and surveys regarding the nutritional status of toddlers with posyandu and puskesmas cadres and then made an activity schedule plan.

Implementation

1. Conducting a focus group discussion with mothers at a family welfare development (PKK) meeting regarding toddler nutrition problems in Srigonco village;
2. Provides information about the content of green bananas, tuna, and red spinach;
3. Provides assistance to mothers for 3 months in MPASI

Setting

Activities were carried out at the Srigonco village hall for 3 months, from April – June 2023.

Target

Population 1). Mothers who have stunted children and are at risk of stunting; 2).Toddlers are stunted and at risk of stunting; 3).The total sample is 82 children under five with criteria being toddler age, willing to be respondents, the child's mother can read and write; 4).The sampling technique uses accidental sampling.

RESULTS AND DISCUSSION

Figure 1. Green banana and red spinach sticks; red spinach and green banana cookies; red spinach soup and tuna; red spinach puree, tuna and green banana; siomay red spinach and tuna; red spinach flour; tuna flour

Figure 1 is the result of processed complementary foods for beast milk from local wisdom ingredients from Srigonco village which are adapted to the age of toddlers. At the age of 6 month, purees with a soft, very smooth, semi-liquid texture are given, for example red spinach puree and green banana puree. At the age of 9-10 months, coarse porridge is given for example red spinach and green banana porridge, tuna porridge and red spinach. At the age of 12 years and over, family food can be given, such as green banana and red spinach sticks, red spinach and green banana cookies, red spinach soup and tuna.

Figure 2 is the process of providing health education to mothers about the contents of green banana, red spinach and tuna as well as assistance in making complementary foods for breast milk.

Figure 2. Process of assisting mothers in making MPASI made from a combination of green bananas, tuna, and red spinach

CONCLUSION

The level of knowledge od a mother really determines the level of health of the family, especially children during the toddler years for optimal growth and development the body needs a balanced nutritional intake between macronutrient and micronutrient components, so the mother's role is needed to be a great and wise mother in processing and providing a variety of nutritionally valuable food menus to get a stunting free village.

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