

FAMILY FOOD SECURITY IMPROVEMENT BY USING POSITIVE DEVIANCE APPROACH



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ABSTRACT

Background and Objective: Food is a basic human need whose fulfilment cannot be substituted with other materials. Food security is perfectly adequate for a country and its individuals, reflected insufficient food availability, both in terms of its quantity, quality, safe, diverse, nutritious, equitable and affordable. Toddler still had low nutrition and malnutrition of more than 18 % of children throughout Indonesia. The purpose of this study was to assess the Positive Deviance parenting towards toddler in Cianjur.

Material and Method: An Observation of the family with low economics levels but have a good nutrition toddler. The sample was 15 families. Interview and observation of the family are used to guide the study. The instruments used were structural and un-structural interviewing. The participant had their economic and nutrition assessed through financial and food sections. The data analysis consisted of the answer to the question that has been asked with using qualitative study.

Result: In this study, some individuals or groups have behaviour and strategy that are unusual but successful and have allowed them to find better solutions to their problems. PD is based on the belief that it is solving problems that society faces.

Conclusion: PD in nutrition improvement program aims to have under-five children with low nutrition and malnutrition, finding positive deviance behaviour in the community. This behaviour is then followed by the families of low-nourished and malnourished children, increasing their nutritional status.

1. INTRODUCTION

National development aims to improve human resources. Nutrition is one quality determinant of quality, healthy, intelligent and productive human resources. The developmental success of human resources of a nation can be measured by the Human Development Index (HDI) which is based upon three indicators; education, life expectancy, and productivity (Dahlia, 2012). According to Law No. 18 of 2012 about food, food security is a condition in which food is perfectly adequate for a country and its individuals, which is reflected in the availability of food that is sufficient, both in quantity and quality, safe, diverse, nutritious, equitable, and affordable. It does not contradict with religion, beliefs, and culture, to be able to live healthily, actively, and productively in a sustainable manner. Thus, an area is deemed successful in developing food security if there are improved food production, smooth food

distribution, safe food consumption and nutritional sufficiency of the whole society (Jimba, 2013). Food security consists of three subsystems, namely 1) Food Availability, 2) Food Access, and 3) Food Utilization (Ismail, (2011).

Food is one of the basic human needs that its fulfilment is included in the fundamental rights, cannot be delayed and cannot be substituted with other materials. Besides, food is part of the culture as a result of adaptation between humans and their environment. Food is any things that come from biological sources of agricultural products, agriculture, forestry, fisheries, livestock, and water, either processed or unprocessed, designated as foods or beverages for human consumption, including different foods, raw materials of foods, and other materials used in the preparation, processing, and production of foods or drinks.

Nutritional status is a condition of the body caused by the balance between nutrient intake and needs or consumption, absorption, and food consumption. Good nutritional status is an essential factor in achieving optimal health status and increasing their endurance, intelligence, and expected growth. However, half of the children under five years of age (infants) have a short body of 52%, 22% have a concise body, 16% are thin, and 3% are skinny. This case is an early manifestation of protein-energy malnutrition of children aged 6-24 months because of delay in introducing nutritious food and being influenced by an infectious disease that is often suffered. Malnutrition is a complex issue, and its solution requires a comprehensive approach in the form of healing, recovering, preventing, and improving to keep or maintain a healthy child healthy. The right answer is to empower the family. An alternative effort that can be done is the implementation of the Positive Deviance (PD) approach. PD is used to describe a state of positive deviation related to health, growth, and development of confident children within the community or family. The practice in question may be feeding, caring, hygiene and health care. Determining the behaviour and habits performed by PD families becomes very important to be applied by the families who have other health problems, and to come out of these problems. Research conducted by an Institute of Social Organizations discovered a decrease in malnutrition from 47% to 13% compared to the group who did not get the PD (48% to 46%). Besides, there were behavioural changes in mothers and other family members in maintaining the toddlers' nutritional status (Merita, Sari, & Hesty, 2017). Positive deviance can be used to describe the quality of a positive deviation related to health, particularly to explain the factors that affect the growth or nutritional status (Hayati, Marianthi, & Suwarni, 2012).

This study discovers the positive deviance used by low economics level of a family that has toddlers with good nutrition that can be beneficial for all of the family in Indonesia. The positive deviance can be tools to reduce the malnutrition toddler. Positive deviance had to be accompanied by the competence people to identify the low economics level family's positive behaviour. The result of the identification can be adapted to other families with malnutrition toddlers. This study will help the researcher uncover the critical areas of poor economics behaviour that have a toddler with good nutrition, which many researchers could not explore. Thus a new theory on positive deviance may be arrived at.

2. METHOD

The method used in this activity was observing the families with toddlers and then assessing the children's nutritional status. Assessment of nutritional status can be checked in the Integrated Service Post (IHC). Observations were conducted in several IHC in Cianjur that low-nourished or malnourished children live. Targets of field observations were the toddlers with good nutritional status. His families were questioned about the families' habits related to the children and toddlers' feeding habits. From the few observations and questions, it was obtained that there was something different with the families that the families of toddlers with good nutritional status fed the toddler with Rarong, Gehu, Bakwan, tumis sayur ja'at and peanut bread. This statement is different from other families having infants with low or poor nutritional status.

After identifying the deviant behaviour, the mothers gathered in IHC to agree with and practice how to cook ingredients available in the vicinity of the environment. Mothers agreed the time and frequency of cooking practice and feeding infants up. Some decided to do so three (3) times a week. Some others chose to do it five (5) times a week, and so on. The practice is done until children's nutritional status improves, usually after an average of 3 (three) months. Once the nutritional quality improved, the families agreed to cook and feed her toddlers in the house.

3. DISCUSSION

One of the definitions of food security is outlined in the policy of Law No. 8 2012 following what is proposed by Sudiman,(2011), that food security has three (3) main components, namely: a. Availability of Food (food availability), which according to Tirivangasi,(2018), at the household level, can be met from its food production and purchasing the food available in the market; b. Food Access (food accessibility), which is associated with economic access for individuals to obtain food and is assured when households and individuals in it have sufficient resources to bring appropriate food for consumers whose access depends on household income, distribution of payment within the household and food prices; and c. Nutrition (food utilization), which constitutes biological properties in food, the need for consumption that provides essential energy and nutrients, pure water, and adequate sanitation. At the same time, nutritional status is the outcome of food security (Novera, Iram, 2011).

Table 1: Food Security Indicators

Indicator	Food self-sufficiency	Food Security
Scope	National	Household and individuals
Target	Food Commodity	Human being
Strategy	Import Substitution	Improvement of food availability, food access, and food utilization
Output	Food Production Enhancement	Nutrition status (decrease of poverty, low-nutrition, and malnutrition)
Outcome	Food sufficiency by domestic products	Healthy and productive individuals (high life expectancy)

Food security lately becomes a national issue that withdraws attention. Malnutrition problems that attack under-five children in different regions are only small fractions of the sample that are still low in Indonesia's food security. There are four (4) levels of household food security, including 1) Household food security; 2) The vulnerable households food; 3) Lacking food households, and 4) Food insecurity household. The categorization of household food security levels can be seen from household income and household consumption of nutrition.

PSG results in 2015 are as follows: 1) Toddler Nutritional Status by Index Weight per age (W/A), showed: 79.7% good nutrition; 14.9% low nutrition; 3.8% malnutrition, and 1.5% high nutrition; 2) Toddler Nutritional Status Index According to Height per Age (TB/U) resulted in: 71% normal and 29.9% short and very short; 3) Nutritional Status Toddler According to Index Weight per Height (BB/TB) resulted in: Normal as many as 82.7%, 8.2% underweight, 5.3% fat and 3.7% extremely thin.

Specific interventions or health sector intervention, with a particular target group of First 1000 Days of Life, Pregnant Mothers, Nursing Mothers and 0-23 Months, children. The other activities include immunization, supplementary nutrition for pregnant mothers, additional nutrition for Toddlers and health monitoring of Toddlers' growth. Simultaneously, Sensitive intervention or Non-Health targets the general public, which is usually in the form of development activities of non-health activities in general. The activities include the provision of clean water, the alleviation of poverty and gender equality.

January 25th is celebrated as National Nutrition Day (NND). The NND 2016 theme accelerated nutrition improvement in the first 1000 days of life (continuum care). The program of increasing community food security is an effort to reduce poverty levels in each region and fulfil food needs of household levels that are quantitatively sufficient and qualitatively reasonable, safe, equitable and affordable. The concept of Positive Deviance (PD) is based on the observation that some individuals or group behaviour and strategy in any community or organization are unusual but successful. Besides, it has allowed them to find better solutions to problems than their neighbours who face challenges and obstacles altogether and also have access to the same resources. PD in the recovery program of nutrition is designed explicitly for under-five children with mal- or poor-nutrition by finding positive deviance behaviour in a society having toddlers with good food. This behaviour is then followed by the families of low nourished and malnourished children, increasing their nutritional status.

The status of malnutrition in children can be overcome by knowing the behaviour and habits performed by PD families. This means that families can be a successful PD (not malnourished infants) because they have individual behaviour and patterns not carried out by another family. The action and habits that they do include feeding, caring,

hygiene and health care. PD approach is a solution to solve a health problem like malnutrition in pregnancy, malnutrition of infants and toddlers, and HIV/AIDS (Machado, Cotta, & Silva, 2014).

The interviews on child eating habits found that mothers tend to involve children to eat while the whole family eats, meaning that the family does not let them feed themselves. It is an effort to create a pleasant dining atmosphere since the atmosphere at mealtimes affects the child's appetite. The implementation of various food, frequency of eating and good eating habits can reduce the incidence of malnutrition of up to 27.5%. Food consumed by the PD family is the food affordable and available to the whole community, among others, Rarong, Gehu, Bakwan, sauteed sayur ja'at and peanut bread. "Rarong" (Sundanese) is a tiny shrimp that has the Latin name *Acetes indices* or *Acetes japonicas*. The shrimp is well-known by the name rebon. Its size is between 1-3 centimetres. The Rebon price is low but has very optimal nutritional contents. Rarong nutrient contents or rebon per 100 grams are as follows:

Nutrition content	Dried Rebon	Fresh Rebon
Energy (kcal)	299	81
Protein (g)	59,4	16,2
Fat (g)	3,6	1,2
Carbohydrate (g)	3,2	0,7
Calcium (mg)	2.306	757
Phosphorus (mg)	265	292
Iron (mg)	21,4	2,2
Vitamin A (SI)	0	60
Vitamin B1 (mg)	0,06	0,04
Water (g)	21,6	79,0

Source: Nutrition Directorate of Ministry of Health

"Gehu" is an abbreviation of Toge (Bean Sprouts) Tahu (Tofu). Bean sprouts are inserted into the Tofu, and they are fried with flour. In addition to bean sprouts, leeks and carrots are added. "Gehu" already meets the nutritional balance and contains macronutrient and micronutrient. Macronutrient in "Gehu" is carbs disaccharide (flour), vegetable protein (Tofu), fats in cooking oils, while the micronutrients entail minerals and vitamins contained in Tofu (carrots, bean sprouts, leeks). Simultaneously, bakwan is a kind of snacks made of flour mixed with vegetables such as carrots, bean sprouts, cabbage, and sometimes eggs. (Cowpeas Sundance: jaat) are sauteed in the oil.

A Cowpea plant (*Psophocarpus tetragonolobus*) is a tropical plant whose number is abundant in agricultural country, for example in Indonesia. This plant originates in eastern Indonesia. In Sumatra, it is known as bottle beans, belonging beans/embed beans, jaat (Sunda), kelongkang (Bali), biraro (Ternate), or cubilet (Banda). In English, it is called the winged bean. Winged bean plant is easy to cultivate. Generally, people plant it just to cover the fence. This is possible because public knowledge about the benefits of cowpeas is still lacking. Old winged seeds have the best nutritional contents. They contain protein, fat, carbohydrates, vitamins and minerals, which are relatively high compared to the young pods, tubers or leaves. Protein and carbohydrate in cowpeas seed even surpass peanuts and are almost equivalent to soybeans. Its amino acid content is similar to soy, as a good source of protein. Winged beans are rich in amino acid Lysine, containing 413 up to 600 mg per 100 grams, while soybeans are only 399 mg per 100 grams. Amino acid Lysine plays an essential role in the growth process. The shortage of amino acid lysine can be dealt with by combining critical commodities such as rice, corn, and tubers. Vitamins in cowpea oil are Beta carotene, Thiamin, Riboflavin, Niacin, Acid Askrobat, and Tocopherol.

Moreover, cowpea oil can catalyze vitamin A, Calcium (2.3 g), Magnesium (2.25 g), Potassium (1.10 g), Phosphorus (4.5 g) and Iron (10.8 g), which is suitable for pregnant and breastfeeding mothers. Cowpeas are a source of fiber. In 100 grams cowpeas, there are 20% proteins and 20% fiber per day (Sudiman, 2011). Cowpea trees in some areas in Cianjur are planted in the yard and used for their consumption.

In the meantime, giving a snack of bread beans to young children was also an excellent deviant habit. Peanut bread is a mixture of flour, sugar, butter, and nuts, containing vegetable protein and carbohydrates. Many people have primarily recognized the impact of malnutrition on child development. Malnutrition is not only the dreaded stigma, but this is, of course, related to the socio-economic impact on the family and the state, in addition to a variety of consequences received by the children themselves. Poor nutrition condition affects many organs and systems because this condition is often accompanied by a deficient intake of other micro-/macro-nutrients necessary for the

body. Malnutrition will disrupt the body defence system against microorganisms and mechanical defence, so it will be straightforward to cause infection.

Conditions of acute malnutrition could be life-threatening due to various dysfunctions that are experienced. Emerging threats, among others, are hypothermia (severe cold) because of their thin fatty tissues, hypoglycemia (blood sugar levels below normal levels), and the lack of essential electrolytes as well as body fluids. Suppose the acute phase is treated but is not followed up well enough. As a result, the child cannot catch up and is left behind. Then in the long term, these conditions adversely affect growth and development. As a result of poor nutrition on the increase, performance is very detrimental to a child, causing small and squat posture (stunting) due to chronic malnutrition.

What is more worrying is that child development was disrupted. The effects of malnutrition on the mental and brain development depend upon the severity and the growth length of the brain. Suppose the condition of malnutrition occurs during the golden period of brain development (0-3 years). In that case, it is conceivable that the brain cannot develop as a healthy child does, and the condition is irreversible conditions (challenging to recover).

The impact on brain growth is vital because the brain is one of the essential 'assets' for children to become a man of quality in the future. Several studies have described that short-term effects of malnutrition on child development are an apathetic child, impaired speech and other developmental disorders. The long-term impacts are the decline in Intelligent Quotient (IQ) test scores, a decrease in cognitive development, reduced integration of sensory, concentration problems, self-confidence, and the reduction in academic performance in school. Poor nutrition could potentially be the cause of poverty through low quality of human resources and productivity. No wonder if malnutrition is not managed correctly, the acute phase will be life-threatening and in the long run will be a threat of the loss of a future generation (Dahlia, 2012).

Mother's knowledge will affect parenting and have an impact on her children. Maternal experience is associated with: 1) Feeding habit. Feeding habit for your baby or toddler affects the growth and nutritional status of children. Infant feeding for 6 (six) months with exclusive breastfeeding (breastfeeding) is required; 2) Parenting toddlers. According to Sudirman (2011), a child raised well by her mother will be interacting positively than one being taken care of by other than his mother. Parenting a child by her mother will cause the child to feel safe. Kids will get a partner to communicate, and the mother is a role model for children directly concerning verbal skills. Parenting children is very important because it will affect the growth process. It is closely linked with the mother's state especially health, education, knowledge, attitudes, and practices about parenting. According to Ismail (2011), an attitude does not automatically manifest in way or action. To turn mood into practice, the supporting factors are necessary, which are the facilities and the support of other parties, such as husbands, parents or parents-in-law; 3) The habit of maintaining personal hygiene. Personal hygiene is essential for the environment associated with the causative agent, such as diarrhoea, dengue fever; 4) Habits of utilizing health services. The toddler is a period that is easily infected by the disease. Therefore, his mother's persistence to bring the child to a health facility is necessary if the child has an infectious disease. In addition to providing full immunization to children before the age of one year, disease treatment at childhood and getting professional help at the right time are essential in maintaining the health of children (Dahlia, 2012).

Efforts can be made by utilizing local wisdom based upon the belief that every individual has the habit and unique or unusual behaviour that enables them to find better ways to prevent malnutrition. It will be better than their neighbours who have the same economic conditions but do not have any positive deviance behaviour. PD examines why, of many babies and young children in a poor community, only a small number of them undergo malnutrition. The beneficial household practices as core PD program is divided into four (4) major categories, namely, feeding, caring, hygiene, and health services.

PD Advantages methods: a) Fast. This approach provides a solution that can solve a problem immediately; b) Affordable. PD is affordable, and the family does not need to rely on outside resources to practice new behaviour. The implementation is cheaper but effective than establishing a nutrition rehabilitation centre or investing in a hospital; c) Participatory. Public participation is an essential component in the success of the PD. Society plays a significant role in the entire process of finding successful practices and strategies among the community to support mothers after the auction has ended; d) Sustainable Approach. PD approach is sustainable because new behaviour is internalized and continued after the intervention has ended. This activity changes the behaviour of individual families and changes how a community perceives malnutrition and their ability to change the situation; e) Original. Because the solution is in place, then progress can be made quickly without much analysis or external resources. Such an approach can be widely applied as positive deviance exists in almost every community; f) Culturally

acceptable. This approach is based on indigenous behaviour identified in social, ethnic, language and religion in every society; g) Based upon Behavior Change. This approach does not give priority to the acquisition of knowledge. Still, there are three steps of behaviour change process included in it, namely the discovery (investigation, PD), Demonstration (Hearth sessions) and application (Hearth sessions and home).

The research conducted by Pirooska A. Bisits Bullen¹¹ at Walden University, Minneapolis, USA, concluded that the PD approach to reducing child malnutrition was practical. Study and implementation of the PD need to be developed in some areas. Positive deviance studies in various countries, such as Guatemala and Costa Rica, showed that some women had had useful techniques on the practice, traditions, and beliefs in preparing food, feeding children, and caring for the children at the time of illness and recovery. Mothers who have a good technique is not the mother who comes from higher education (Mohammed, Mangala, Subrahmanyam, 2014).

In Indonesia, a study has been conducted by Tirivangasi (2018) in Jakarta, Bogor, and East Lombok. The result was that mothers with children aged (6-17) months were positively related to the state of child nutrition. Children who always strived to consume food responded when the chattering ever got a smile from the mother. The nutritional situation is better if compared with their peers who received less parental attention. Meanwhile, Frisda Turnip researched the impact of PD on mothers' nutritional status towards toddler in Dairi, North Sumatra, and the results showed a significant difference. Meanwhile, another study conducted by Sudirman (2011) examined the PD approach nutrition (Hearth) and its impact on a toddler in the district of Aceh Besar, Aceh Province, which showed that the post nutrition as potential strategies to improve nutritional status (Dahlia, 2012).

4. CONCLUSION AND RECOMMENDATION

There are still nutrition problems in under-five children in Indonesia, which requires the family strength to overcome the difficulties. The food Security subsystem encompasses three items: availability, affordability, and food and nutrition consumption. Food Consumption and Nutrition consist of the consumption of food, diversity consumption, and improved nutrition. One effort to improve nutrition is by PD approach. However, the PD implementation is not carried out simultaneously throughout Indonesia, even though several studies have been proven that PD can overcome nutritional problems with the existing potential in each area.

As a recommendation, the ministries in charge of dealing with this issue are to reactivate the family plants by providing vegetable seeds following the culture and local soil conditions, to make the PD as a priority program and to thoroughly consider that if the nutrition problem is not resolved immediately, it will lead to a 'loss of generation' where the next generation is lacking intelligent.

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CONFLICT OF INTEREST

The author have declared that no competing interests exist.

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