

PROGRAMS OF NUTRITION HEALTH WORKERS IN FIVE STUNTING VILLAGES IN TAKALAR REGENCY, INDONESIA: A QUALITATIVE RESEARCH

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ABSTRACT

Background: Acceleration in nutrition prevention programs is needed for better outcomes. Indonesia already has a regular program that can be reached at the village level. Implementation of the programs is expected to be far more effective with the assistance of professional health workers such as nutritionists.

The aim of this study was to better understand the intervention programs that had been chosen and implemented by nutrition health workers in stunting locus villages.

Methods: A descriptive qualitative design study was used. We purposively sampled 10 individuals that involved during the program: 5 village nutrition health workers, 1 field supervisor, 4 village cadres. Semi-structured results were conducted by direct in-depth face to face interviews.

Results: In total, two categories of programs were implemented: regular programs and innovative programs. To maximize the effectiveness of current programs in Indonesia, regular programs must be accelerated particularly the distribution of *Taburia* and iron supplementation. Innovative programs have succeeded in increasing community participation by collaborating with village heads and local religious leaders. The three programs were *Cesboska* program, '*Grebek Stunting!*', and *Arisan Rematri*. In addition, regular home visits by nutrition health workers built emotional relationships with the locals.

Conclusions: Nutrition health workers are an accelerator in the process of analyzing and implementing appropriate interventions in five stunting locus villages in Takalar Regency. Programs in the form of education and supplementation are the most important factors chosen by nutrition health workers.

Keywords: Nutrition health workers, programs, stunting locus villages.

INTRODUCTION

For decades, stunting has remained a global issue with quite high concern. Children with lower nutritional status may experience increased morbidity and mortality, poor development

and learning ability, increased risk of infection and non-communicable diseases, lower fat oxidation, lower energy expenditure, insulin resistance and risk of diabetes, hypertension, and dyslipidemia. Stunting is a process that can affect individual development from the early stages of conception to the third or fourth year of life, where maternal and child nutrition are the important determinants of growth.

Stunting prevention can cover a wide range of targets. During pregnancy, optimal maternal nutrient intake is an important component of fetal and infant development, including vitamins and minerals. The presence of certain conditions such as anemia in pregnant women and exposure to smoking during pregnancy can limit fetal growth and cause Low Birth Weight (LBW) in infants. Then during the first 2 years after birth, the need for nutrients to support growth and development in children is very high so inhibiting factors have a greater potential to cause growth retardation in early life. Infectious events that occur during the first 2 years of life also contribute to the high risk of stunting (1).

The implementation of stunting prevention intervention programs has an important role in helping to reduce the incidence of stunting. The involvement of assistants can act as a catalyst in a program. Facilitators are considered to have met the competencies and can reach the target by taking a preventive and promotive approach. Facilitators perform as educators who play a role in increasing public awareness (evidence-based), build relationships with the community, and have the ability to work together to promote educational messages (2). Programs involving health assistants are referred to as one of the most important components in achieving global health targets where community-based interventions can prevent 2.3 million cases of maternal and child deaths per year when compared to public health service-based approaches (including hospital scale services) which amount to 0.9 million cases (3). Health assistants are the source of information and a bridge between the community and local health facilities (4).

A local program by the provincial government in Indonesia aimed to reduce stunting by hiring health workers for seven months of intervention in Takalar Regency, South Sulawesi Province. Health workers were recruited through administrative processes, knowledge and skill tests, and interviews. These health workers applied interventions in several villages with high prevalence of stunting, particularly anthropometric screening measurements and education. The targets for this intervention were adolescent and also individuals in the First 1000 Days of Life section.

METHODS

Design

We conducted a qualitative study, using in-depth individual interviews with nutrition assistant who participated during the 7 months program in 5 different village in Takalar Regency.

Settings and Participants

The participants chosed based on the purposive sampling method. In total, 10 informants were included in this study. 5 village nutrition assistant, 1 field supervisor, 4 village cadres. The

participants were informed orally and in writing about the study. All participants gave written informed consent. The questionnaire contained questions about the regular cadre's programs and the innovative programs by the health workers.

Data Collection

We conducted semi-structured interviews using interview guides that allowed additional questioning or probes if interesting information arose. Interviews focused on the variety of programs that was implemented by the village nutrition health workers, along with the administrative and management aspects. Interview conducted between September – December 2023 at a time convenient to participants, one-to-one by face-to-face interview. The interviews commonly ran for about 40 min (range 9-70 min).

RESULTS

According to the interview, there were five programs that implemented in 7 months of intervention. The intervention divided into two classification, particularly regular programs and innovative programs. The regular programs were programs that came from the monthly activity held by the local health facility. The interventions were *Taburia* and iron supplementation. The innovative programs were *Cesboska*, '*Grebek Stunting!*', and *Arisan Rematri*.

Regular Program

A regular program implemented by nutrition health workers is accelerated *Posyandu*. *Posyandu*, which translates to 'Pos Pelayanan Terpadu' in Bahasa, is an Indonesian community-based health center to provide a range of services for mothers and children under five years in Indonesia(5). The agenda of this program are anthropometric measurement, blood pressure measurement, distribution of iron supplement, distribution of *Taburia* in every February and August as stated in this statement:

"She (the nutritionist health worker) went to measure height and weight, distributed iron supplement. There were three targets that I was involved in: stunting children, pregnant women, and adolescents."

Nutrition health workers had an important role in optimizing programs that had been routinely existed. With the assistance of professional nutritionist, local cadres had direct supervision of the information that had been delivered. When the professionals with an expertise in nutrition provided nutrition advice, the information was more accurate.

Taburia

Taburia is the term of fortification of complementary foods with iron-containing micronutrient powders (MNP) in Indonesia. MNP locally branded as *Taburia* targeting low-income households with children aged 6–24 months via community health posts (*Posyandu*). The term *Taburia* was

derived from the Indonesian word “*tabur*” which means “to sprinkle” and the word “*ceria*” which means “cheerful”, thus alluding to an easy-to-use supplement that can make a child cheerful (6). Every February and August *Taburia* is distributed. *Taburia* is sprinkled on main meals prepared at home. Data on children who received *Taburia* was obtained based on the results of monthly *Posyandu* monitoring.

Taburia contains 12 vitamins and 4 minerals. These multivitamins and multiminerals are vitamin A, vitamin B1, vitamin B2, vitamin B3, vitamin B6, vitamin B12, vitamin C, vitamin D3, vitamin E, vitamin K, folate, pantothenic acid, iodine, zinc, selenium, and iron.

Iron Supplementation

Pregnant women are the main priority because this group is the most vulnerable to suffering from anemia. Programs to prevent iron deficiency in pregnant women are carried out by giving one iron supplement tablet every day during pregnancy, at least 90 tablets, starting as early as possible and continuing until the postpartum period. If a pregnant woman misses the prenatal visit at the Health Center, then the supplements can still be obtained at other local health facilities, including the *Posyandu*. Distribution of iron supplementation for pregnant women carried out at the health center is recorded in the information system. Recording and recapitulation at the health center is carried out by a midwife during *Posyandu* activities and during home visits.

Innovative Program

One of the program's focuses is innovation, and each nutrition health worker is encouraged to develop an innovation program based on the collected baseline data. Nutrition health workers are requested to modify the program by local resources and conditions. According to the field supervisor, innovations are not required to be new things that have never been implemented in the locus area but can be old programs that are reactivated to prevent stunting as stated by the following field supervisor:

"Health workers must have innovation. After collecting the database, he (the health worker) got the case, and then he (TGPD) had to make innovations. The innovation does not have to be created by themselves, it can be something that once existed and reimplemented again."

Arisan Rematri

The program also targeted adolescents. Using a psychosocial approach, adolescents were involved in regular meetings. Every Friday afternoon, adolescents were told stories while they ate snacks given to them by nutritionist health workers and the cadres, the activities included collecting mutual savings and ended with education and iron supplementation monitoring.

The word ‘*Arisan*’ stands for communal gathering and ‘*Rematri*’ is the acronym of ‘*Remaja Putri*’ means adolescent girls. *Arisan* is an activity carried out in communal. This activity takes

the form of collecting funds in a certain period. People in Indonesian society are undoubtedly familiar with the *Arisan* phrase. This activity is like a community tradition where participants are 'forced' to save some of their money. This happens because the social gathering uses a system where each person committed to put or set aside a certain amount of money according to a pre-agreed agreement.

Cesboska

Cesboska is an acronym for *Cegah Stunting bersama Desa Kadatong* or 'Let's Prevent Stunting with Kadatong Village'. This program was implemented at the beginning of the third month of the intervention period. The health worker involved the local religious leader at the village mosque to announce the local gathering after communal Friday prayers. After the community gathered, counseling and education were carried out regarding Infant and Young Children Feeding (IYCF) and breastfeeding topics by the health workers using comprehensive modules.

"My innovation was called Cesboska, Prevent Stunting Together with Kadatong Village. Also, cadres were supervised and provided counseling. So if we (nutrition health workers) are not there, the local cadres can also be independent. The education materials are IYCF and breastfeeding topics."

GrebeK Stunting

GrebeK Stunting is a program initiated by health workers in the island region. *GrebeK* is an Indonesian idiom for 'Knock Out'. This word was used to make it easier to understand and to get a sense of urgency regarding the stunting issue. Mothers living on the islands tend to choose to go looking for seaweed or fishing rather than attending *Posyandu*, which requires health workers to make home visits and probing so that the mothers can attend to the health care agenda. The health workers visited the mothers one by one to gather all of them in island health post monthly.

Cooking Demonstation

The cooking demonstration activity was conducted by involving the village community as the audience and health workers as the educator facilitated by the local cadres. The activity provided a demonstration of complementary food processing by utilizing local food ingredients that were easily accessible. Funding comes from village officer budget allocation and in collaboration with The National Population and Family Planning Board's program. One example of a demonstration that has been done is about the utilization of moringa leaves as a healthy food source. The recipe was meatballs but made from moringa leaves and tofu. The implementation of the activities was good and the information delivery was effective.

DISCUSSION

The prevalence of stunting can be addressed through policies and implemented into programs. Specific and sensitive programs are needed so that nutritional problems can be

overcome. There have been local health workers in Indonesia named *Posyandu* cadres. *Posyandu* cadres are community members who are voluntarily willing to organize health activities. *Posyandu* cadres as organizers are required to meet the criteria for becoming members, which include members of the local community, can read and write Latin letters, have interests and are willing to become cadres. Cadres play a significant role starting from preparation, implementation, and evaluation activities. The role of cadres is needed in supporting the success of *Posyandu* activities. *Posyandu* needed to bring promotive and preventive programs closer to the community, especially related to efforts to improve the nutritional status of the community as well as maternal and child health efforts to help reduce the acceleration of maternal and infant mortality rates (7).

As members of their communities, cadres have the potential to exert considerable influence however, are often constrained by programmatic challenges which affect their performance and service delivery. These include challenges with funding, resourcing, infrastructure and lack of training on specific topics related to maternal and child health. The existing *Posyandu* is still not at its best. Most of them only carry out weighing and recording, but other functions such as health promotion, counselling, and various preventive activities have not been implemented optimally. A very crucial factor for the optimization of *Posyandu* activities is the role of cadres and their guidance. If cadres are not active, the performance of *Posyandu* will also be not optimal. The part of cadres dramatically affects the success rate of the *Posyandu* program, especially in monitoring child growth and development and maternal health (8).

Voluntary participation is one of the reasons why the implementation of *Posyandu* is not optimal. In addition, voluntary recruitment is related to the level of knowledge of cadres as the main source of information. With the involvement of professional nutritionists, it is expected that the information provided to the community will be more accurate. In addition, the analytical ability of nutritionists is needed to determine what programs are suitable for the conditions of the local area. *Posyandu* cadres can collaborate with nutrition professionals by considering the experience of cadres and the competence of nutritionists. Program planning can be done by nutrition health workers when the analysis is completed. If there are limitations, particularly financial aspect, nutrition health workers be able to communicate with the leader of the village for a solution. In this project, health workers and the village office used community funds to develop a collaborative model. Collaboration on funding and programming can also be implemented through the integration of national strategic programs with mother and child health initiatives, adjusting to new routines, and developing strategic initiatives about regional concerns (9).

Micronutrient supplementation and education were the two main strategies that nutritionist health workers implemented. Micronutrients play critical roles in embryogenesis, fetal growth, and maternal health, as energy, protein, vitamin, and mineral needs can increase during pregnancy. Increased needs can be met by increasing the intake of dietary micronutrients. Severe micronutrient deficiency or excess during pregnancy can have negative effects on fetal growth (intrauterine growth retardation, low birth weight, or congenital malformations) and

pregnancy development (pre-eclampsia or gestational diabetes) (10). A systematic review and meta-analysis study showed that the risk of anemia, stunting and underweight, all-cause mortality were reduced with single or MMN supplementations (11).

Education is an important component in accelerating the acceptance of information. Through education, there is a knowledge transfer process between educators and the audience, particularly the local people. An educational approach can have an impact on individual knowledge, attitudes, and behavior. Education methods are divided into three classifications based on the number of audiences, namely individual approach, group approach, and mass approach. The individual education approach is counseling and interviews. The group approach includes mini-lectures, demonstrations, panel discussions, group discussions, symposiums, workshops, conferences, seminars, and role plays. Meanwhile, the mass approach is through media such as TV, radio, newspapers, printed materials, direct mailing, posters, health museums and exhibitions, the internet, and films. The previous study also showed that the educational intervention had a significant effect on children's Dietary Diversity Score (DDS). The DDS reflected the mother's choice that had been intervened by the education process. Meanwhile, stunting prevalence remained stable in the intervention group but increased in the control group (12). Nutrition education combined with regular home visits by cadres provided change for dealing with nutritional issues.

Programs initiated by nutritionist health workers are preferred. *Posyandu's* regular programs have been accelerated by nutritionists, such as home visits, *Taburia*, and iron supplementation. This program implemented an intrapersonal approach by establishing emotional bonding with the local people. Education was easier to convey after there was a closeness between health workers and the community. Furthermore, innovative programs such as *Cesboska*, 'Grebek Stunting!', and *Arisan Rematri*, are an effective way to attract public sympathy in the community on a larger scale. The involvement of village heads, religious leaders, and village cadres can increase the level of participation and enthusiasm of local people.

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