

ORIGINAL ARTICLE

Application of the Communication for Behavioural Impact (COMBI) Method to the Stunting Phenomena in Pamekasan Regency

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ABSTRACT

Introduction: Based on the data from the Pamekasan Health Service in 2021, the number of stunted babies in Pamekasan Regency, East Java Province, Indonesia reached 5,457. Although this figure is smaller than the previous year, namely 7,506 stunted babies, the coverage area is larger this year. This study aims to apply the COMBI method to the stunting phenomenon. **Materials and methods:** This qualitative research used social capital. This research used the methods of in-depth interviews, unstructured observation, and secondary data analysis on the results of the COMBI activity implementation report in 10 region Pamekasan regency. Then the analysis of the dynamics of the relationship and the facts studied, using scientific logic based on the COMBI method. **Results:** It was shown that the prevalence of stunting in Pamekasan Regency was still high, requiring an in-depth study on social capital usage. In Pamekasan Regency, cultural factors shaped the local community's perspective on pregnancy services and parenting styles. Based on the focus group discussion analysis, a cross-community collaboration in stunting programs such as the First 1000 Days of Life program has been implemented. There must be a synergy between the health service, the education service, and villages to include stunting eradication program content in all community activities with application of the COMBI method to the stunting phenomenon. **Conclusion:** In efforts to control and reduce stunting rates, Midwives as health workers and health cadres as part of the community in integrated service posts need to improve coordination with the community using the COMBI method.

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and Family Planning Agency (*Badan Kependudukan dan Keluarga Berencana Nasional/BKKBN*), that the prevalence of stunting in Indonesia was 24.4 percent in 2021 and 21.6% in 2022 (2).

INTRODUCTION

Poor nutrition and recurrent infections in a child's first 1,000 days of life mostly result in stunting. In toddlers, stunting describes a chronic nutritional problem that is influenced by the health conditions of the mother, fetus, and infant, including diseases suffered during infancy. Stunting reflects malnutrition and the mother's short height that is passed on to her baby, which then affects the baby's birth length. Stunting in children under five is the main indicator in assessing children's welfare and is an accurate reflection of social inequality (1).

The issue of stunting is rife in Indonesia. Based on the results of the Toddler Nutritional Status Survei of Indonesia (*Survei Status Gizi Balita Indonesia/SSGBI*) in 2019 and 2020, the noted prevalence of stunting was 26.9 percent. The Ministry of Health declared the SSGBI in the National Work Meeting of National Population

The number of stunted babies in Pamekasan in 2021 reached thousands. This was based on the records of the Pamekasan Health Service, which found that there were 5,457 stunted babies in this regency in 2022. Even though this number was smaller than that of the previous year (where there were 7,506 stunted babies), the areal scope in the 2022 research was greater. Thus, it can be concluded that the prevalence in 2022 decreased compared to 2021 (3).

According to data from the Regional Government Work Plan in 2023, the percentage of toddlers suffering from malnutrition in East Java Province in 2020 was 0.92 percent. Meanwhile, in 2021, it was found that 21,511 or 1.5 percent of the 1,462,285 toddlers that were inputted to the integrated nutrition application suffered from malnutrition. It cannot be denied that the data above showed that stunting is one of the current social urgencies in Indonesia (4,5).

According to the Republic of Indonesia's Ministry of Finance in 2022, stunting was caused by a lack in adequate nutrition that fulfills children's needs. It may also be caused by wrong parenting methods due to inadequate knowledge and a lack of education for pregnant and breastfeeding women. Improper sanitation in the place of residence such as the lack of facilities to obtain clean water as well as the lack of adequate toilets is another factor that increases the prevalence of stunting. Then, the limited access of pregnant women, breastfeeding women, and toddlers to health facilities may also become a cause (6).

Communication for behavioral impact or COMBI is a planning framework and implementation method for strategically using communication to achieve positive social and behavioral outcomes. Commonly known as Behavior Change Communication, is a social mobilization activity aimed at mobilizing all individuals and communities that influence individuals and families in encouraging individual and family action (7). This research is very important because the COMBI method can change the cultural mindset that is detrimental to reducing stunting.

The good potential of human resources that manage the COMBI will influence the process of the COMBI activity implementation, making it run well and yield useful results. This research studies the application of the COMBI method to the phenomenon of stunting. The COMBI method is a novelty in reducing the incidence of stunting. In the end, it is hoped that this study may achieve the specific objective of reducing the incidence of stunting in Pamekasan Regency, Madura Island, East Java Province, Indonesia using the COMBI method.

MATERIALS AND METHODS

This qualitative research utilized social capital that influenced the prevalence of stunting in Pamekasan Regency, Madura Island, East Java Province, Indonesia to produce the COMBI method model instrument for analyzing stunting prevention programs. This research used the methods of in-depth interviews, unstructured observation, and secondary data analysis on the results of the COMBI activity implementation report. The analyzed informants were divided into several groups, namely the policy-determining group, the actively-involved intersectoral officer group, the health worker group, the public figure group, and the community group. This research began with a preliminary study of various stunting prevention efforts in Pamekasan. Data were collected through interviews with 20 health workers in charge of stunting eradication programs in 10 region Pamekasan regency. The authors collected data through the techniques of questionnaires, observation, interviews, and documentation studies, which were supported by focus group discussions and field notebooks/logbooks. This research's ethical clearance

was obtained before data collection. This study was approved by the Research Ethics Committee, Health Polytechnic, Ministry of Health Surabaya No. EA/1927/KEPK-Poltekkes_Sby/V/2023.

RESULTS

Communication for behavioral impact (COMBI) is a community mobilization method that integrates health education; communication, information and education (IEC); and social marketing techniques. COMBI aims to change behavior, which is based on changes in people's knowledge, attitudes, and actions/behavior.

The COMBI method or communication for behavioral impact is a method that represents a combination of various approaches, i.e., marketing, education, communication, promotion, advocacy, and mobilization. It aims to undergo actions that have an impact on changing individual behavior and help develop cooperation in the community. This approach is made in a structured and strategic manner, with innovative and comprehensive managerial insights to plan social mobilization and communication that have an impact on changes in individual behavior (8).

The communication for behavioral impact method is an approach that places a greater emphasis on the cohesiveness of teamwork, which is referred to as a dynamic work team. The delivery of messages, materials, and communication media is planned based on problems found by the community. It is carried out by solving problems which were mutually agreed upon. It is hoped that with the COMBI method approach, changes in community behavior towards empowerment to prevent stunting can optimally be achieved (9).

This research intends to develop a model using the COMBI method for treating stunting in Pamekasan. This was a multiyear research which was planned to be carried out for three years. To improve the quality of service through the development of a model using the COMBI method, all important elements, including the health department and the community, must gain an understanding of the importance of social capital. Social capital is obtained from elements in the community. In this study, the authors obtained social capital through in-depth interviews with coordinating midwives and nutrition officers in the Pamekasan District Health Center's ten working areas which became the locus of stunting.

The preliminary study found that there were ten Community Health Centers in Pamekasan Regency which were areas with a high locus of stunting. These ten health centers were: 1) Tlanakan Health Center, 2) Kadur Health Center, 3) Larangan Health Center, 4) Sopaah Health Center, 5) Galis Health Center, 6) Talangn Health Center, 7) Panaguan Health Center, 8)

Proppo Health Center, 9) Pegantenan Health Center, and 10) Bulangan Haji Health Center.

Based on the obtained data and interviews with health workers, it was shown that the stunting conditions in Pamekasan Regency were still high. So, it is necessary to analyze what causes the high incidence of stunting in this area.

In-Depth Interview Analysis on Stunting Incidents with the COMBI Method

Step 1: Setting the General Objectives

To contribute to reducing the incidence of stunting, a discussion on stunting was organized. It was followed by the signing of a banner which contained an agreement to commit to accelerating the reduction of stunting. It was added with a converged strategy for tackling and preventing stunting in Pamekasan.

Step 2: Setting the Results/Behavioral Objectives

Specific objectives:

- a. It is hoped that 70% of the public obtain information on how to accelerate the reduction of stunting with a convergence strategy for stunting prevention and control in Pamekasan through counseling and socialization.
- b. It is hoped that 70% of the public improve their parenting methods towards their children as early as possible.
- c. It is hoped that 70% of the distribution of the local additional food program (program makanan tambahan/ PMT) can be fulfilled by the community to overcome and prevent stunting in Pamekasan.

Step 3: Analyzing the "Market" Situation

a. Analyzing the market situation using the public figure method

Analyzing the thoughts of public figures allows the exploration of perceptions related to a particular issue. By giving questions related to stunting prevention, the authors generated a number of possible main thoughts related to stunting prevention, such as preventing chronic energy deficiency; fulfilling people's nutritional needs since before marriage; paying attention to the first 1000 days of life; as well as caring for the health condition and development of pregnant women, postpartum mothers, breastfeeding mothers, toddlers, and adolescents.

b. Analyzing the situation/the communication issue with MS. CREFS

Information on behavior to prevent stunting by fulfilling nutrition from an early age needs to be conveyed. Adequate nutrition leads to the increase in antibodies which help hinder diseases that inhibit growth and development. The conveying of this information can be carried out using the MS. CREFS technique (message, source, channels, receiver, effect, feedback, and situation) as explained below:

a. Message

The message that needs to be conveyed is stunting

prevention. The message can sound somewhat like: "Let's eradicate stunting! Prevent stunting in Pamekasan by improving parenting!"

b. Source

The Sources of information are female cadres or health workers from community health centers in each area.

c. Channels

To deliver information about overcoming and preventing stunting in Pamekasan, counseling and outreach to mothers in villages in Pamekasan may be organized. Intervention may also be carried out by posting posters regarding stunting prevention in Pamekasan, so the public can easily remember every step in parenting.

d. Receiver

The receivers in this case are all citizens of Pamekasan as a locus of stunting. It also targets societies that are not a locus of stunting as a means of protection.

e. Effect

The expected effect of applying the stunting prevention program in Pamekasan is the decline in the number of stunting incidents.

f. Feedback

Feedback can be seen from the decreasing number of stunting incidents in each health center in Pamekasan.

g. Situation

Communication intervention in the form of counseling can be organized for the public, especially in gatherings for women such as Qur'an studying groups and routine group gatherings. Then, communication interventions in the form of posters can be posted in the community hall, each resident's house, and frequently visited public locations.

Step 4: Developing the COMBI Strategy to Change Behavior

a. Setting the objective for behavioral change

The goals of behavioral change are based on an analysis of the situation. The goal is to lower *stunting* incidents in Pamekasan by enhancing community knowledge through outreach and counseling regarding overcoming and preventing *stunting* in Pamekasan by improving parenting patterns.

b. Setting "goals of behavioral change" to achieve

The majority of the public does not know good parenting styles. This leads to the high rate of stunting incidents. So, it is necessary for people to understand how to overcome and prevent stunting in Pamekasan by improving parenting patterns.

c. Achieving active communication

In this case, active communication means that related parties must undergo an interaction with the community related to the problem. These parties must listen to their complaints in preventing stunting as well as its control programs in Pamekasan.

Step 5: Creating the COMBI Action Plan

There must be programs or activities to provide families or children's caretakers such as their grandmothers or closest relatives with information on good parenting

methods. It may be carried out through counseling at the elderly integrated service posts in villages or through Family Assistance in the houses of children who are indicated to suffer from stunting.

There are several stages in the stunting prevention and control program by improving parenting in Pamekasan, namely:

1) Conducting socialization and counseling regarding the prevention of stunting in Pamekasan by improving parenting methods. This is carried out by visiting the public and schools as well as by distributing food from the additional food program. In this socialization and counseling, there must be an explanation of the stages of the stunting prevention and control program in Pamekasan by improving parenting, such as:

- a) Exclusive breastfeeding for babies up to 6 months;
- b) Providing balanced high-calorie and high-protein nutritious food to adolescents, pregnant women, mothers, toddlers, and babies;
- c) Checking the growth and development of toddlers at integrated service posts/community health centers; and
- d) Integrated antenatal care and optimizing the first 1000 days of life (10).

2) It is the right step to use all channels in the efforts to reduce and prevent stunting in Pamekasan. This is to ease people in accessing such information. There must also be printed media (posters) which explain the stunting prevention and control program in Pamekasan by improving parenting methods in public places, especially in health service areas (community health centers, integrated service posts, clinics, hospitals, etc).

Step 6: Management

a. Forming a team to implement the stunting prevention program in Pamekasan by improving parenting methods There needs to be a team that implements the stunting

prevention and control program in Pamekasan. There must be a chairman as the person in charge of the program and staff who aid the program implementation. The team works to monitor the program’s ongoing process, overcome all existing obstacles, and conduct evaluations. This is to make sure that the program runs smoothly and effectively. This team may be formed from the health cadres in the health centers in Pamekasan Regency.

b. Forming an advisory group

An advisory group is a group which has the job to review existing developments. There is an advisory group in the stunting prevention and control program in Pamekasan, namely the stunting control and prevention program section at the Pamekasan Regency Health Office.

Step 7: Monitoring

Monitoring is carried out to see the implementation progress and changes in behavioral impact from the stunting prevention and control program in Pamekasan. There must be plans for survey tracking in Pamekasan, including in the areas of: 1) Tlanakan Health Center, 2) Kadur Health Center, 3) Larangan Health Center, 4) Sopaah Health Center, 5) Galis Health Center, 6) Talangn Health Center, 7) Panaguan Health Center, 8) Proppo Health Center, 9) Pegantenan Health Center, and 10) Bulangan Haji Health Center. These areas were chosen as they were the locus of stunting. The survey was carried out on 100 mothers. They were asked about the implementation of stunting prevention in Pamekasan, what has been applied in every house and what has not. For the things that have not been done, the “study, repeat, and modify” strategy needs to be applied.

Step 8: Impact Assessment

Table I: Specific objectives and Result Indicators

Objective special	Indicator results
Society gets it information regarding prevention and prevention of <i>stunting</i> in Pamekasan through counseling And socialization	Based on survey field, is known 70% public get information about prevention and prevention of <i>stunting</i> in Pamekasan through counseling and socialization
Public apply method overcoming and preventing <i>stunting</i> in Pamekasan	Based on survey field, 80% public has apply method overcoming and preventing <i>stunting</i> in Pamekasan
Good and quality parenting styles from parents and families will have an impact on overcoming and preventing <i>stunting</i>	Based on survey field, 85% <i>stunting</i> is exceeded, so that quality Parenting has been effective done public

Step 9: Work Plan Schedule

The work plan schedule is arranged based on the stunting prevention program with quality parenting for three months (October-December), starting from counseling,

socialization, and evaluation by seeing the indicators of success. The details of these activities are shown in the following table:

Table II: The activities and work plan

Activity	Time implementation											
	Month number 1				Month 2nd				Month the 3rd			
	1	2	3	4	5	6	7	8	9	1	1	1
1. Formation of an extension team and socialization <i>stunting</i> with Quality parenting	■											
2. Implementation counseling and socialization <i>stunting</i> with Quality parenting		■			■							
3. Implementation of counter measures <i>Stunting</i> prevention with Quality parenting		■	■	■	■	■	■					
4. Monitoring implementation program <i>stunting</i> with Quality parenting						■	■	■	■	■	■	
5. Program Evaluation Prevention of <i>stunting</i> with Quality parenting											■	■

Step 10: Budget

The budget sources originate from government health funds which were distributed to community health centers as well as independent funds from the village community.

Focus Group Discussion Analysis

The focus group discussion analyzed cases of stunting. It was found that a policy on the first 1000 days of life already exists and is being implemented. Unfortunately, cross-community collaboration has not yet been established. There needs to be a synergy between the central government, regional health offices, and educational institutions. All activities in the community must be in line with this policy. Then, there must also be campaigns with the message of preventing stunting with quality parenting methods.

Recommendations for Stunting Prevention Programs

After conducting a focus group discussion analysis, the authors obtained recommendations for Stunting Prevention Programs, including a synergized program between the central government and regional governments in preventing stunting; the supervision in implementing the first 1000 days of life by the community; and human resource commitment in preventing stunting in all sectors.

DISCUSSION

Based on the analysis of these research results, it was found that several factors cause the incidence of stunting, namely the improper practice of parenting as well as mothers' lack of knowledge on health and nutrition before, during, and after pregnancy. Some facts and information showed that 60% of babies aged 0 to 6 months did not exclusively consume breastmilk. Then, it was found that two out of three babies aged 0 to 24 months did not obtain solid foods. Solid foods function to introduce new types of food to babies, complete babies' bodies' nutritional needs, form good immunity, as well as develop children's immunological system on foods and drinks (11).

It was found that health services were still limited. Based on the information collected from the publication of the Indonesian Ministry of Health and the World Bank, it was found that the level of children's attendance to integrated service posts decreased from 79% in 2007 to 64% in 2013. Children have not obtained adequate access to immunization services. Another fact showed that two out of three pregnant women have not adequately consumed iron supplements. Apart from that, there was still a lack of access to quality early education services, as one out of three children aged 3 to 6 years are registered in early education services/preschool (12).

Next, it was found that households/families lack access to nutritious food. According to several sources (Basic Health Research of 2013, Indonesian Nursing Diagnosis Standards 2012, National Socioeconomic Survey), the food commodity in Jakarta was 94% more expensive compared to New Delhi, India. The price of fruits and vegetables in Indonesia was found to be more expensive than that in Singapore. It was found that the limited access to nutritious food in Indonesia has contributed to one out of three pregnant women experiencing anemia (13).

Then, it was found that there was a lack of access to clean water and sanitation. The collected data in the field showed that 1 out of 5 households in Indonesia still defecate in open spaces. Apart from that 1 out of 3 households still lack access to clean drinking water.

Apart from the above factors, there were several indirect factors in the issue of stunting, such as the level of income and economic gap, trade, urbanization, globalization, food system, social security, health system, agricultural development, and women's empowerment. In this case, there is also a need for supporting prerequisites that encompass political commitment and policies for implementation, the influence of the government and inter-sectoral parties, as well as the capacity to implement such policies (14).

The East Java Provincial government has carried out

several efforts in handling the issue of stunting through nutritional improvement in the first a thousand days of life. The programs include the rife socialization on exclusive breastfeeding, nutritional education for pregnant women, the administration of iron supplement tablets for pregnant women, early initiation of breastfeeding, the administration of micronutrients (Taburia multivitamin), the provision of foods to babies and children, as well as improving the program on increasing environmental health.

It is crucial to prevent stunting as early as possible to prevent the impacts of failure of growth, the suboptimum physical size, as well metabolic illnesses. Apart from increasing the risk of inhibiting physical growth and increasing children's vulnerability to diseases, stunting also causes limitations to cognitive development. Therefore, it is vital to provide education to teenage girls in maintaining their health, socialization on the prevention of early marriage before fulfilling economic needs and having adequate knowledge, and increasing the access to information to women before, during, and after pregnancy. Apart from that, all parents in Indonesia must participate in parenting education. There must also be the fulfillment of adequate nutrition for children. By implementing these efforts, it is hoped that the prevalence of stunting may decrease in Indonesia. The decrease in the prevalence of stunting will lead to an increase in the quality of Indonesia's human resources (15).

Concerning the incidence of stunting around the world, according to UNICEF in 2019, 149 million children under the age of 5 were stunted. Stunting has an impact on the lives of toddlers. Stunting causes disruption in brain development, hindering intelligence, as well as causing physical growth disorders and metabolic disorders. These are the negative impacts of stunting problems in the short term. Meanwhile, long-term impacts can result in decreased cognitive abilities and learning achievements as well as decreased body resistance, which can make toddlers vulnerable to disease. Stunted children are at a high risk of diabetes, obesity, heart attack, blood diseases, blood vessel diseases, cancer, stroke, and disabilities in old age. Stunting may also result in uncompetitive work quality which has an impact on low economic productivity (16).

Development during adolescence greatly determines the quality of a person's life in adulthood. Nutritional problems that occur in adolescence will increase one's vulnerability to diseases in adulthood and the risk of giving birth to a generation with nutritional problems. Adolescent girls who suffer from anemia are at risk of becoming women of childbearing age who are anemic. They can also experience a lack of protein energy. This can increase their chances of giving birth to low-birth-weight babies. Their babies are at risk of stunting. They may face complications during childbirth and several

other pregnancy-related risks (17).

Various efforts to prevent stunting have been made by health workers at the Pamekasan Public Health Center. Among them is the implementation of integrated service posts for toddlers once a month, where they provide free immunizations, give anti-worm medicine, and give biscuits as additional nutrition to children. Effective breastfeeding depends on the method of breastfeeding or the correct position of the mother and baby as well as the latching of the baby to the mother's breast. Correct positioning and latching of the baby during breastfeeding can result in an effective breastfeeding process that facilitates the production and release of breast milk, thereby increasing the duration of breastfeeding. If the mother can breastfeed her baby in the correct way, the baby's nutritional needs will be met. This will lower the risk of stunting in babies (18).

According to Leininger on the theory of transcultural nursing, culture is a complex whole, which encompasses science, belief, art, morals, law, customs, as well as other abilities and habits acquired by humans as a society. Bad habits that are formed based on culture can affect nutritional status and lead to malnutrition (19).

Based on the results of this research, the authors summarized several cultural values and lifestyles of respondents. For instance, before the age of 6 months, parents give coconut water to newborn babies with the aim of making the baby healthy and strong. Babies are given banana smoothies. Based on the local culture, the people like to give lots of rice porridge and little food containing protein such as fish and eggs. This is in accordance with previous research which found that there is a culture of consuming more sticky rice while consuming less vegetables, eggs, milk, and meat. Apart from that, there is the tradition of early feeding. They consider "cloudy breast milk" which is actually colostrum not good for consumption. Then, some people also suggest not giving breast milk for two years when they regard that the child is already too big to drink breast milk.(20).

Based on the explanation above, it was shown that such cultural values do not support specific nutrition needs. Such cultural values have negative effects. Respondents always follow the advice of their parents or elders, even though they are advised that such suggestions are detrimental to health. Respondents consider older people more experienced in childcare. This condition has a negative impact on the provision of specific nutritional interventions in the efforts to prevent stunting. Cultural negotiation is a necessary intervention as it helps parents adapt to more beneficial and healthful cultures (21).

The government has carried out political and legal efforts by supporting specific nutritional interventions to prevent stunting. There is no prohibition on providing

specific nutritional interventions in customary rules, customary policies, or norms. However, there are also no customary policies, customary rules, and norms issued by community leaders that support the provision of special nutritional interventions in an effort to prevent stunting (22).

Researchers assume that family habits regarding baby care are often dominated by family, customs, and the beliefs of respondents in this study appear to be detrimental to certain nutritional interventions. Social and family factors were found to be unsupportive. People have started to provide food for babies aged less than six months, such as giving their children spoons, giving them bananas, coconut water, and processed rice. They believed that in doing so, they were making children fuller, healthier and less fussy. Each family member plays a dual role in the family as a motivator, educator, and facilitator. Husbands also need to facilitate wives in providing food to their children. In this study, grandparents brought specific and significant nutritional interventions as they were considered experienced in caring for children. Social support related to the habits, customs, and beliefs of families and communities in the area influences efforts to fulfill special nutritional interventions for this problem. In this case, respondents have strong family support, but they lack specific nutritional interventions.

CONCLUSION

The difference between COMBI and health education/counseling/promotion is that the former combines the principles and techniques of education and health promotion. There is a need to emphasize the importance of cross-sectoral and cross-program cooperation in controlling and reducing the stunting rate. Midwives as officials of integrated service posts need to improve the coordination with the local community and emphasize the promotion of stunting-eradication programs.

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