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DEVELOPMENT OF 'PAPADANGAN' AS AN EATING CULTURE AMONG UNDER FIVE CHILDREN IN PEKAYON VILLAGE, TANGERANG CITY, INDONESIA: A PARTICIPATORY ACTION RESEARCH

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ABSTRACT

The Indonesian Nutrition Status Study stated that cases of underweight or malnutrition with a weight for age index are around 17%. The efforts made by the government today to overcome the problem of malnutrition of children under five in Indonesia are still not optimal with programs that have been made by the government. The incidence of underweight continues to increase from 2019 to 2022 in Indonesia. The development of a culture-based intervention 'Papadangan' which is a communal eating activity was carried out to reduce this number. This study was conducted to develop the 'Papadangan' culture so that it becomes one of the efforts that can be done by the government. This eating habit can be used as an alternative for the community to increase the appetite of children under five in Tangerang, meaning that indirectly the community has made efforts to improve nutrition in children under five through eating together in the area. This research used Participatory Action Research (PAR) which consists of 2 cycles. This research was conducted from November 2022 to January 2024. Fifty participants consisting of children and caregivers were involved in this study. The Children under five weights were measured before and after the procedure using assessment instruments, the z score table, the camstock feeding scale and the toddler anthropometric table. In-depth interviews were conducted with mothers of children under five to explore the eating habits of Sundanese children under five with underweight and good nutritional status. 'Papadangan' can be developed into a strategy to prevent underweight nutrition problems by adding nutrition and health education: paying attention to the feeding schedule of children under five years old, variations in food consumption, education related to elements of balanced nutrition, and eating hygiene in the implementation of papadangan eating culture activities. 'Papadangan' can be used as one of the strategies to reduce the incidence of underweight in children under five years old. Developing the *papadangan* eating culture has become a new research, and this strategy is effective in changing the eating patterns of toddlers and reducing the rate of malnutrition among toddlers in Pekayon village, Sukadiri District, Tangerang City.

Key words: Eating culture, children under five years old, malnutrition, qualitative, Indonesia



INTRODUCTION

Malnutrition, specifically undernutrition, is a prevalent issue among children under the age of 5 and poses a significant health concern that impacts child development in numerous countries globally. The World Health Organization (WHO) four years ago stated that by 2020, 149 million children under the age of five would experience stunted growth, 45 million would suffer from wasting, and 38.9 million would be classified as overweight. This past report further highlighted that approximately 45% of deaths of children under 5 years of age are caused by malnutrition, and most cases occur in low- and middle-income countries. This problem has spread on a global scale, including in Indonesia [1].

The Indonesia Nutrition Status Survey (INSS) conducted in 2022 revealed a rise in the prevalence of underweight children under five years from 2019 to 2022. Specifically, the percentage of underweight children under five was 16.3% in 2019, increased to 17.0% in 2021, and further rose by 0.1% to 17.1% in 2022. This escalating trend in underweight cases poses significant implications for children affected by this condition [2]. This high incidence rate has many impacts on children. The impacts of underweight in children include: a weakened immune system, slower than expected growth, shorter than expected height, or learning difficulties [3]. Other impacts include increased healthcare costs, lower productivity and slower economic growth which can perpetuate the cycle of poverty and poor health [4]. Several factors cause the high incidence and impact of underweight one of which is insufficient or inappropriate food intake in feeding children.

Underweight in children can cause a weak immune system, weight and height growth will be slower than expected, the body will become shorter for age, and difficulty concentrating on learning. Apart from that, this also causes increased funding for health services, decreased productivity, and slowed economic growth, thereby exacerbating the cycle of poverty and poor health, especially in Indonesia.. The prevalence and severity of underweight are influenced by various variables [5]. Eating problems characterized by the child's inability to consume a variety of foods play an important role in this problem. Parents can prepare a variety of foods, especially serving balanced nutritional foods [5]. Parents and health professionals must immediately address these feeding challenges, as they can have an adverse impact on the child's future growth and development. One thing that can be done is to develop local culture such as the *papadangan* eating culture as a form of contribution in supplementing the types of food that children lack [6].

The Republic of Indonesia's government has implemented notable enhancements to nutrition within the country. These improvements encompass the monitoring of growth in children under the age of five, promoting exclusive breastfeeding,



introducing complementary feeding rich in animal protein, addressing the nutritional needs of vulnerable children, expanding immunization coverage and educating adolescents, pregnant women and families [2]. one effort that can be made to increase nutritional intake through local wisdom in the community. In contrast, culturally appropriate development has the potential to produce meaningful transformations in feeding practices. The development of local culture in the community has benefits that can be adopted by the community to improve the nutritional status of children through a cultural approach which is the result of cultural and health adoption that has been carried out regarding nutritional intake in accordance with general guidelines for balanced nutrition. [7].

The culture of eating "Papadangan" is one that originated from the Sundanese community. '*Papadangan*' is done by eating together and exchanging food in a pleasant place, such as on the terrace of the house and garden. This is done to increase children's appetite [8]. This study aims to develop a "Papadangan" eating culture involving families and communities to improve children's appetite and address the underweight problem in children under five.

Food has an important role in aspects of human life, from fulfilling physical needs to building psychological interactions and expressions. Food has been known as an expression of identity and culture and has emerged as one of the popular aspects of cultural tourism [9]. Eating habits also shape the structure of social relations between members of a society and is an affirmation of everyday cultural identity through the symbolic meaning of rituals, traditions and special events within a social group. It is considered a cultural practice that distinguishes one culture from another [10]. This is proven by participants who said that when eating together is a habit, children look happier because they can play with other children and the food will be finished quickly.

Eating habits are a set of culturally standardized food-related behaviors expressed by individuals who grow up in a particular cultural tradition [11]. Observations were made to determine the nutritional status of children under five in families who implemented the eating habits of the Sundanese tribal family and those families of children under five who did not implement the eating habits of the Sundanese tribe. Data analysis in this study was carried out simultaneously with the data collection process (ongoing analysis). After completion of data collection, transcripts were carried out. Then the transcript results are checked again, then comments are made on what information still needs to be added during the next data collection. This research uses a member check to assess the trustworthiness of interview results. This research received approval from the ethics committee and government around where the research was conducted [12].



Malnutrition status related to height/age indicates retardation due to less than optimal health or poor nutritional status. Nutritional status according to this index is related to socioeconomic conditions, medical conditions and inadequate eating habits [13]. Children's eating habits can be influenced by multifactors. One of the factors that influence eating habits in toddlers is the role of maternal knowledge. Maternal knowledge influences the types of food consumed by family members every day, especially children. There are also economic factors such as the limited ability of a family to provide food consumption needs for family members [14].

Among various human behaviors, eating behavior is one cultural behavior that is relatively difficult to change. Therefore, food and eating behavior represent the culture of the community concerned [15]. Eating habits or culture still need a lot of research. Culture refers to the patterns of life, values, beliefs, norms, symbols and practices of individuals, groups, or institutions that are learned, shared and usually passed from one generation to the next [16]. In Pekayon Village, Tangerang City, there is a habit of eating together that is usually done by parents with their toddlers. This is done at certain times with different foods. Parents and children gather at a certain location and eat together. This study was conducted to explore parents' experiences in implementing eating habits in toddlers.

Eating habits are an important component in the lives of people who have children under five years old who do not like to eat well. This is supported by the statement that eating habits are an individual's view of food, including beliefs, attitudes and choices in consuming food that are obtained continuously with the aim of obtaining balanced nutritional needs. Eating habits begin to form in the first two years of a child's life and influence the following years. Eating habits can be seen as the ways and rules people use to consume food, from how to choose, obtain and distribute food, to who prepares, serves and eats it [17]. Therefore, every parent needs to pay attention to their child's eating habits from toddler age.

Eating habits in children need to be identified. Eating habits that children have can affect their nutritional status. The results of a report from the Ministry of Health of the Republic of Indonesia in 2020 showed that 63.3% of children with stunting were caused by inappropriate eating habits. On the other hand, 70% of toddlers who do not experience stunting have better eating habits [18]. This shows the importance of knowing children's eating habits. Observing the behavior and experiences of other people as a participant learning process, through this model can increase participants' self-efficacy.

Participants have similar eating habits with other *Papadangan* eating culture participants, thus making this eating habit a strategy to increase calorie intake and become an example for other participants to follow, especially participants who have



children under five years old with underweight status. This habit aims to implement *Papadangan* culture-based eating habits that can be implemented well and become a solution for the community. Positive Change focuses on what works and builds on existing strengths, is local, accessible, and acceptable solutions are then shared with other community members through the implementation of interactive programs to encourage positive change in their behavior [19].

Ethnoparenting was introduced to people in Indonesia based on the conditions in Indonesia which has many cultures, one of which is the culture of eating *papadangan*. Ethnoparenting is a parenting activity that is based on a certain local culture or ethnicity, for example, Sundanese Parenting. Ethnoparenting is also said to be indigenous parenting or childcare which is carried out based on the value of local wisdom. The implementation of ethnoparenting is a necessity for the community, given the problems of malnutrition and maternal and child mortality that are still high in Indonesia, while the natural wealth and environment are very rich, including in remote areas. The problem is that there is still a lack of knowledge and initiation to return to local wisdom that is already known in society, while information processes, globalization, and ways of life that are far from the richness of one's own culture are increasingly less adopted. This proves that the use of culture is important to increase benefits in society [20].

The perspectives and experiences of parents, especially mothers, in carrying out the habit of eating together are influenced by their beliefs in carrying out this habit. Cultural factors in a particular community environment will influence how people respond to daily health needs, including how to implement feeding patterns for toddlers. This is in accordance with the transcultural theory which states that culture, values and beliefs, will influence a person's health behavior [21]. Research adds that the factors that influence eating habits are formed by many factors, such as natural resources (for example climate, land and water), beliefs (religion and education), technological advances, colonization and one of them is ethnicity or culture [22].

The eating culture known as '*Papadangan*' has its roots in the Sundanese population. It involves the act of dining and sharing food in a delightful environment, such as a patio or garden within one's home. The primary objective of this practice is to enhance the appetites of children. This study aimed to establish a *papadangan* eating culture that actively involves families and communities, with the ultimate goal of addressing the problem of underweight in children below the age of five.

MATERIALS AND METHODS

Methodology and Design

In this study, the researchers adopted a Participatory Action Research (PAR) approach, working closely with the community to prioritize the well-being of all



participants. The involvement of families with underweight children under the age of five was carried out using a *papadangan* cultural approach.

Sampling

This research involved caregivers or mothers of children under 5 years old with underweight and good nutrition in Pekayon District. The criteria for selecting Fifty participants from families with infants under five include: 1) being of Sundanese ethnic background, 2) being chosen from families with children aged 22 to 59 months, 3) being caregivers or parents with flexible schedules to participate in 'Papadangan' feeding practices. Additionally, supporting participants such as cadres, health workers from the Puskesmas (Public Health Center), nutrition officers and village heads were included. The involvement of participants was decided based on discussions with the local community at the research site to establish guidelines for implementing *papadangan*, including the type of food provided, timing, and the number of participants.

Conceptual Framework

UNICEF Conceptual (2020) states that maternal and child nutrition is the result of determining determinants, basic determinants and enabling determinants. The determining factors are the food and nutrition services and practices available to children and women in their households, communities and environments to enable good nutrition. Cultural aspects have a large contribution to the practice of feeding toddlers. Therefore, it is important to explore cultural-based factors that influence feeding practices for toddlers using a conceptual framework. Apart from that, other factors in determining the nutritional status of toddlers include resources community (community social capital), Norm and cultural (food culture), food availability (types of food, number of calories available), feeding practices (hygiene and practice), and the environment (promotion of healthy food and hygiene). nutrition of children under five years old which can be seen in (Figure 1):



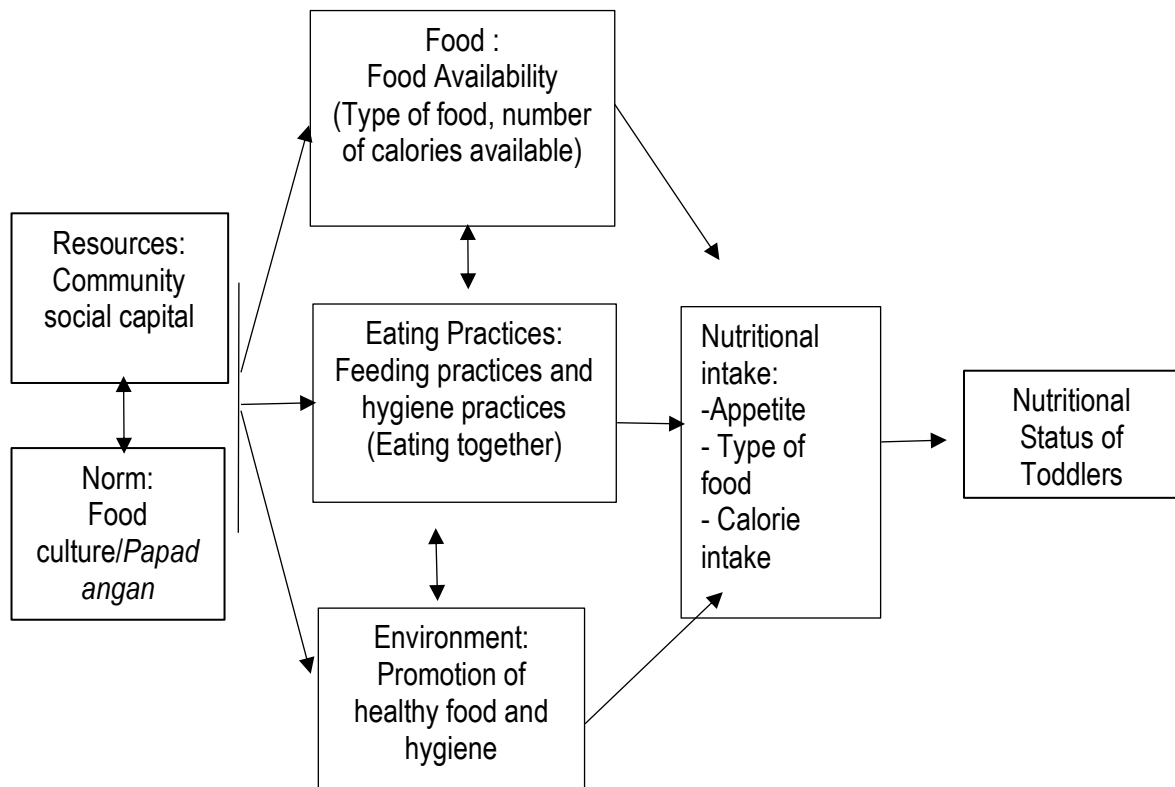


Figure 1: Conceptual Framework [26]

Qualitative Data Collection Techniques

Interviews (*In Depth interview*)

Interviews were conducted in two ways, namely interviews using questionnaires and in-depth interviews. Interviews using a data collection questionnaire that was structured included: family characteristics such as meal times, eating habits and who is involved in the process of *papadangan* eating culture, and the nutritional status of children under five (with food diversity methods). In-depth interviews were focused on research questions that had previously been compiled into an interview guide with the aim that the questions submitted remained focused on problem formulation.

Observation techniques (*observation and measurement*)

Observations were made by researchers to observe and see directly and closely the eating patterns and habits as well as the factors that affect them in families with underweight toddlers.

The researchers carried out observations well and collaborated well with informants during the research process. Apart from that, researchers collect accurate data by living and living together in the informant's environment to achieve data saturation (immersive). Participatory observation was directly carried out by the researcher by interacting with families who applied the eating habits of *papadangan* who had well-

nourished toddlers and other informants (such as community leaders, religious leaders, health workers, cadres and personnel from the health office).

Counseling and Focus Group Discussion (FGD)

Counseling is carried out to provide information to research participants, support groups for the parties involved. The aim of the outreach meeting is to strengthen participants and support groups to implement new programs based on agreements made during the focus group discussion (FGD). counseling to foster community empowerment in changing community behavior for the better in the future. Counseling activities are carried out in the form of visits from community health workers who have been trained in motivational interviewing. Motivational interviewing is a collaborative, goal-oriented communication style commonly used in behavior change in healthcare.

Participatory Action Research (PAR) Cycle

In Figure 1, the data collection for the study is presented through two distinct cycles. Data were collected at different intervals, spanning across and within the time cycles. The first cycle involved a specific methodological approach.

1. Planning. This is done by analyzing the nutritional status of children under five years old and factors that affect appetite, and analyzing social support and the local potential of '*Papadangan*' eating culture.
2. Immersion. This involves living with the community for 6 months.
3. Formulation. The formulation process is done by recognizing the potential of local wisdom as a solution to prevent underweight in children under five years old.
4. Action. This process is the implementation of '*Papadangan*' activities in cycle 1.
5. Process observation. This process critically reviews the changes that occurred after the intervention with the participants.

The progression subsequently continued with the second cycle. The second cycle was carried out using the subsequent process:

1. Planning. The subsequent phase necessitates the re-evaluation and restructuring of development endeavors.
2. Implementation. The implementation phase marks the culmination of the previously planned and developed project.
3. Observation. Researchers made observations or observations of the implementation of the '*Papadangan*' eating culture, including the body weight and nutritional status of children under five years old.
4. Reflection. The process of reflection involves the critical evaluation of the actions that have been undertaken. This stage aims to assess the



effectiveness and outcomes of these actions in order to gain insights and improve future decision-making.

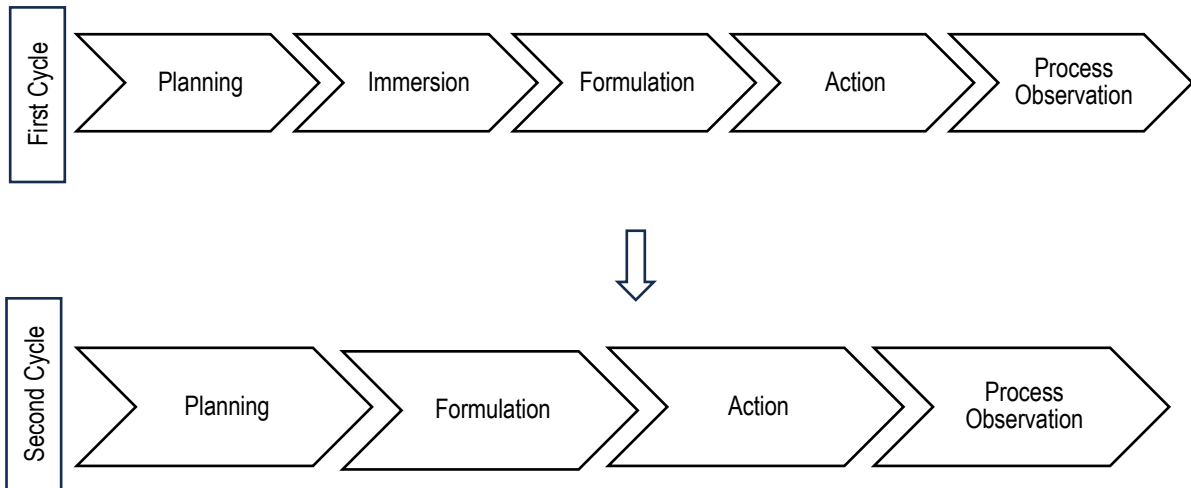


Figure 2: Participatory Action Research Cycle [12]

Data Analysis

Qualitative data analysis uses Nvivo tools to make it easier for researchers to determine themes, subthemes, categories and keywords. Data analysis involves the application of continuous analysis methods that are based on examining data collected in the field. After data collection, qualitative data analysis includes data reduction, data presentation, and drawing conclusions.

Ethics Approval

The Faculty of Public Health at the University of Indonesia granted ethical clearance for this study under the number SK-65/UN2. F12. D1.2.1/ETIK/2023.

RESULTS AND DISCUSSION

Cycle 1 Implementation

Planning

The development of *papadangan* culture was conducted from October 2022 to January 2024. The results of this study showed that there were 50 out of 270 underweight children.

1. Participants' perceptions of the implementation of *papadangan* before development

Implementing the '*Papadangan*' eating culture is one form of improving nutritional status. '*Papadangan*' is local wisdom because its cultural elements frame and shape ways of thinking and transform them into experiences and social capital in improving community health. This participant's statement was expressed as follows:

"...Papadangan culture has been around for a long time. Parents here, if their children have difficulty eating, then the children will be invited to gather to do papadangan with other children. Each parent will bring side dishes when they get together, and then we all exchange side dishes so they complement each other..." (P1-P6).

Another participant's testimony describing the timing of the 'Papadangan' culture is as follows:

"... Typically, papadangan is done in the morning and afternoon. Children assemble in front of the house to eat together. Normally, the food brought by each parent runs out quickly. This is not the case when they dine at home alone. The food will take a while to run out..." (P2 and P4).

Participants described the novelty of implementing Papadangan's eating culture as follows:

"... Children will struggle to eat if they are not invited to eat with their pals. Children enjoy exchanging food; as a result, they tend to get hungrier when eating. They don't like eating at home, therefore the mothers here frequently assemble in the morning and evening..." (P2, P3 and P4).

According to the participants, mothers' sources of information and knowledge are instrumental in shaping children's eating behavior within the cultural practice of papadangan.

"... Mothers who are knowledgeable about children's nutrition needs recognize the significance of serving a diverse range of nutrition foods to their children, rather than sticking to just one type..." (P1, P2, and P5).

2. Family assistance for papadangan implementation

The adoption of 'Papadangan' cultural activities by families plays a crucial role in enhancing the nutritional well-being of children below the age of five. This approach is considered one of the effective strategies employed to improve the overall health status of infants. Participants can elucidate this concept in the following manner:

"... Within the family dynamic, the mother is usually the key figure in providing nourishment to children under the age of five. While fathers may step in to help when necessary, it is primarily the mother who takes on the responsibility of meal preparation. Elder sisters may also assist in feeding children, while fathers typically have a more limited role in this aspect of childcare..." (P2, P6).

Furthermore, participants made the following statements concerning the establishment of a tradition of consuming papadangan with the assistance of other family members:

"... As the mother, I am responsible for the majority of the household chores conducted at home. In moments of distress, my daughter shows her support by occasionally offering assistance, particularly in feeding her sister..." (P3).



The mother is the most involved family member in meal preparation for the child. Other family members can help. Participants stated that other family members would only help in unusual instances, such as when the mother was busy. Other family members' support for nursing does not come naturally, but rather upon the mother's request. Daughters played a larger role and were more willing to assist their mother than sons. Boys were viewed as being less involved than girls.

3. Development of *papadangan* culture

The promotion and advancement of *papadangan* culture involved various stakeholders, including community leaders, cadres, neighborhood and unit heads, village heads, nutrition officers from local health centers, and the wider community. The development process was facilitated through the utilization of Focus Group Discussions (FGDs).

The outcomes of these group discussions highlighted the significance of adopting *papadangan* culture as a means to combat underweight issues among children under the age of five. Furthermore, it was recognized as a valuable approach that incorporates local wisdom into development initiatives. Participants in the FGDs unanimously agreed that the enhancement of *papadangan* culture should encompass elements such as balanced nutrition, well-defined meal schedules, diverse food options, proper food hygiene practices, and the provision of nutrition education during the implementation of *papadangan* culture activities.

The statements provided below contain the outcomes of the Focus Group Discussions (FGDs) conducted to assess the impact of promoting *papadangan* on enhancing the nutritional well-being of children under the age of five. These statements were compiled from the inputs shared by nutrition officers affiliated with the Sukadiri Public Health Center:

"... There are no routine activities to improve the nutritional status of children under five through the local wisdom of 'Papadangan' eating culture, but the Public Health Center already has a program through the Integrated Healthcare Center through nutrition posts and supplementary feeding." Public Health Center's officers currently understand how to improve the nutritional status of children under the age of five. (FGD P1).

FGD report prepared by Pekayon village officials which was conveyed through opinions from various parties regarding health programs that are routinely carried out, sources of information obtained, and external support as follows:

"... Socialization endeavors aimed at averting malnutrition encompass the dissemination of knowledge and information, a commendable approach that warrants more frequent repetition. The community possesses a certain level of awareness, thereby embracing the cultural practice of consuming

papadangan. However, it is imperative to underscore the necessity for policy backing to effectively address this issue..." (FGD P2).

The Public Health Center Office is engaged in efforts to improve the nutritional status of children under five years old, which includes the dissemination of information. There is a need to boost the frequency of educational initiatives. A program focused on enhancing nutrition is presently in progress. Nutrition officers at the Public Health Center are primarily responsible for implementing activities geared toward enhancing the nutritional well-being of children under five years old.

"... Improving the nutritional status of children under five years old is a matter of great concern. The Public Health Centers, or community health centers, undertake various initiatives to address this issue. These initiatives include socialization programs, distribution of eating utensils, community gatherings, and the provision of foster parents. In addition, health information is disseminated through leaflets or flyers, which provide valuable guidance on preventing malnutrition in children under five. This comprehensive approach aims to ensure the well-being and proper development of children under five years old..." (FGD P1).

The 'Papadangan' cultural approach plays a crucial role in fostering community acceptance and enhancing awareness regarding the enhancement of nutritional well-being among children below the age of five. Traditionally, 'Papadangan' cultural customs have emphasized communal dining practices, often overlooking the importance of a well-rounded diet. In response, the Tangerang District Health Office has disseminated informational materials and promotional campaigns concerning the nutritional welfare of children under five years old. Collaborative 'Papadangan' cultural initiatives within the community can significantly contribute to the advancement of nutritional standards for children under the age of five.

Tangerang Regency offers a range of resources to disseminate nutritional status information for children under five years old. Housewives, in particular, are frequently engaged in counseling sessions. The feedback received from these sessions indicates that mothers are eager to participate in more counseling activities to enhance their knowledge about health-related topics. The responsibility of enhancing the nutritional status of children under five years old lies with the Health Office, Public Health Center, and local cadres. This highlights the established role of government agencies in engaging with the community. Nutritional Care and Foster Parents, a non-governmental organization, also contributes to enhancing community awareness of balanced nutrition. Counseling and socialization are utilized for knowledge and information dissemination, representing the prevalent



method of information delivery. Alternative approaches such as simulations and role plays have not been thoroughly explored.

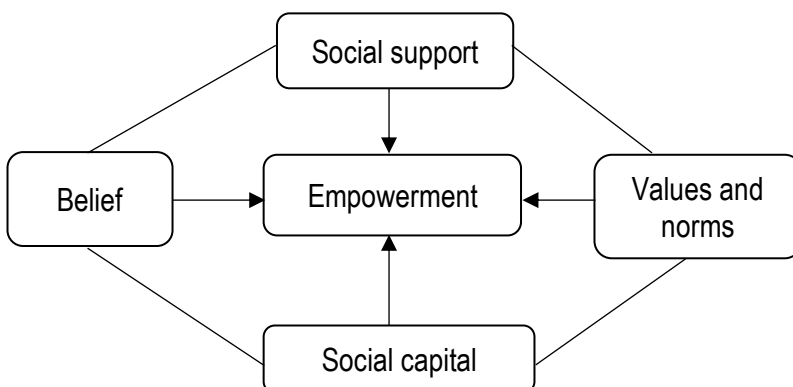
The development of eating culture from the results of focus group discussions was agreed by the participants that the implementation of 'Papadangan' culture-based eating, which previously implemented eating together, was carried out without fulfilling the elements of balanced nutrition, eating irregularly, participants did not pay attention to the cleanliness of the food served, there was no nutritional education and no monitoring nutritional status after implementing the *papadangan* eating culture. Eanwhile, after the updated 'Papadangan' eating culture was developed, participants were required to eat together with groups of 2 or 3 children, paying attention to the elements of balanced nutrition, eating hygiene, food regularity, and monitoring after group eating activities based on 'Papadangan' culture. The differences between traditional *papadangan* eating culture and developed *papadangan* can be seen in the table below:

Immersion

This process generates information on the implementation of the 'Papadangan' eating culture by the community for children under five years old who have difficulty eating, which is done in the morning and evening, gathering to eat together with other children under five years old with a food exchange system.

Formulation

FGDs were conducted by community leaders, cadres, community group leaders, village officials, village heads, nutrition officers at the community health center, and communities involved in implementing the 'Papadangan' eating culture.

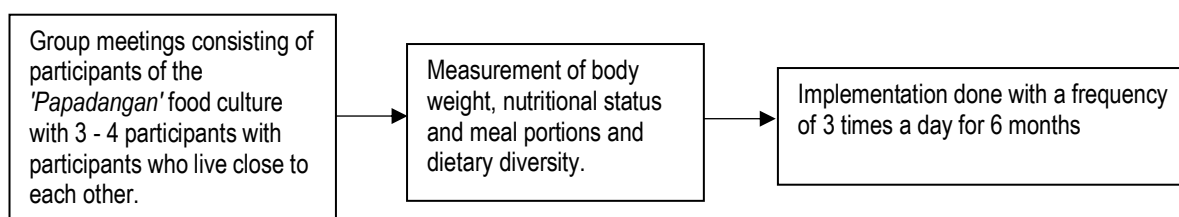


Scheme 1: Components of Empowerment in The Community

Implementation

Implementation of the results of the development of the 'Papadangan' eating culture followed, with 10 groups of children under five years old with assistants. Implementation was carried out for 6 months, involving 50 children under five years

old in 10 groups, with the allocation of implementation time at 07:00 - 08:00 am, 10:30 - 11:30 am, and 04:00 - 05:00 pm.



Scheme 2: Implementation Process

Conducting process observations

The reflection results showed that there was a change in the nutritional status of children under five years before the action was taken, children under five years were underweight and after the action was taken, the nutritional status of children under five years became good nutritional status. Meanwhile, for Commstock's eating scale before the action, it was on a scale of 4 and 5, while after the action it was on a scale of 0 and 1, then for food diversity before the action, they only consumed 3 types of food, then after the action, the food diversity of children under five increased to 5 types of food consumed.

Reflection

This process responds to the actions that have been carried out by considering the shortcomings, and advantages of the actions that have been carried out. The results of reflection in cycle 1 obtained 8 children under five years old who did not like fish, 6 children under five years old who did not like cow's milk, 8 children who did not like the food menu served.

Cycle 2 Implementation

1. Planning

This second cycle focuses on 12 children under five years old who do not have balanced nutrition to consume 6 types of food, then there are 8 children under five years old who do not like animal protein, replacing it with vegetable protein such as green beans and soybeans so that the food served is more attractive. to be spent by children under five years old by forming interesting characters. Then there were also 8 children under five years old who replaced cow's milk with soy milk on the grounds that children under five years old did not like cow's milk.

2. Implementation

The intervention was conducted with a smaller group (3 - 4 people) than before for 6 months and provided a meal menu according to the agreement of the results of the planning to be served to underweight children.



3. Observation

The results showed a change in nutritional status from the average before the action of the average underweight and after the action of good nutrition. The food portion scale uses the Commstock 4 and 5 scale after the action is carried out on a scale of 0 and 1, then for the type of food diversity after the action is taken the type of food diversity consumed becomes 3 meal variants and 5 meal variants after the intervention.

4. Reflection

The study yielded z-scores for various indicators before and after the development activities, revealing significant changes among the participants. Before the development, the weight-for-age indicator had the lowest z-score of -2.98, indicating underweight status. However, after the development, the lowest value improved to -1.44, signifying normal weight. Similarly, the assessment of nutritional status based on the height-for-age indicator showed a pre-development z-score of -2.67, indicating short stature. Following the development activities, the z-score slightly improved to -2.47, still indicating short stature. Lastly, the weight-for-height indicator displayed a pre-development lowest z-score of -2.98, indicating undernutrition. However, after the development, the lowest z-score improved to -0.96, indicating good nutrition.

Following the developmental initiatives in cycle II, it was observed that a high percentage of children under five met the recommended energy and protein intake levels, with 93.3% and 93.1% achieving adequacy, respectively. The average energy intake post-intervention was 82.7% of the recommended amount, while the average protein intake was 82.42%. These positive results were linked to the fact that a significant number of caregivers ensured that their young children consumed a balanced nutrition comprising staple foods, side dishes and vegetables.

Children's nutritional status is projected to improve as '*Papadangan*' food culture, eating patterns, parenting patterns, and food cleanliness practices evolve. Following the cycle II development activities, the nutritional status was assessed using the z-score indicators of underweight (weight for age), stunting (height for age), and malnutrition (weight for height). The weight-for-age indicator was divided into two categories: (1) normal weight (z-score ≥ -2 SD) and (2) underweight (z-score < -2 SD). The height-for-age indicator was divided into two categories: (1) normal (z-score ≥ -2 SD) and (2) short (z-score < -2 SD). The weight-for-height indicator was divided into two categories: (1) good nutrition (z-score ≥ -2 SD) and (2) malnutrition (wasted) if z-score < -2 SD. The link between social culture and nutrition, or reciprocal cause and effect, is extremely close. The relationship between nutrition and socio-culture refers to the link between people, culture, nutrition and public health, or the relationship between a community's culture and its health, which can lead to



malnutrition. This encompasses food culture, priorities, consumption patterns and distribution.

The '*Papadangan*' activity serves as a foundation for promoting the principles of tolerance and mutual respect, fostering a sense of harmony among individuals irrespective of their social standing. Moreover, it provides a platform for sharing and supporting one another, whether it be assisting friends in distress or simply enjoying leisure activities to alleviate fatigue. During the '*Papadangan*' event, each participant contributes by bringing their own prepared meals, which may include a variety of items such as vegetables, rice, side dishes and fruits.

The endeavor to empower families and enhance community participation, enhancing the nutritional well-being of children below the age of five necessitates the motivation of family members. This motivation is expected to be in the form of assistance from individuals who possess knowledge about balanced nutrition, and the companion can serve as a confidant for discussing matters about improving the nutritional status of children below the age of five through the practice of '*Papadangan*' eating culture. By providing guidance, children below the age of five can be motivated to enhance their nutritional status. The active involvement and support of community leaders in '*Papadangan*' cultural dining events may serve as a source of inspiration for families.

'*Papadangan*' can be used to uphold the values of tolerance, mutual respect, maintain harmony between people regardless of social status and can be used as a forum for sharing nutrition with some people who have difficulty in getting adequate nutritional intake so they need help from other people in fulfilling balanced nutrition in children under five years. '*Papadangan*' eating culture can also be used to share information with one another to always pay attention to food with balanced nutrition so that children under five years old can prevent stunting and underweight.

Efforts to empower families and community participation in improving the nutritional status of children under five require family members' motivation. Motivation is expected in the form of assistance from parties who understand balanced nutrition, and the companion can be a friend to discuss matters related to improving the nutritional status of children under five years old through the cultural activities of '*Papadangan*.' Motivation to improve the nutritional status of children under five years old can also be provided with assistance. The involvement and support of community leaders directly in the cultural activities of '*Papadangan*' can encourage families [23].

The assistance provided by cadres or nutrition workers is of utmost importance for families. Serving as facilitators, they offer essential information on the nutritional status of children under five, as well as guiding and supporting families in improving



the nutritional status of young children, especially during the '*Papadangan*' eating tradition.

In this particular investigation, the PAR method was used as a progressive measure to enhance the nutritional status of children below the age of five, utilizing the themes or determinants that were generated. A novel variable introduced in this study was the family task-sharing agreement, which played a pivotal role in the PAR process. The application steps commenced with the initial identification of the nutritional status of children under five, followed by a comprehensive analysis of prevailing conditions and challenges. Subsequently, meticulous planning was undertaken to divide tasks, and a consensus was reached regarding the allocation of responsibilities. The subsequent stages involved the diligent implementation of the agreed-upon tasks and the vigilant monitoring of activities [22].

The development of the '*Papadangan*' eating culture was put forward based on the representation of conditions and the application of family empowerment. The results of the development of a food culture are expected to be one of the strategies to prevent underweight in children under five years old. The development results can be applied to children under five years old who have difficulty eating to increase the number of calories so that the expected target is good nutritional status obtained by children under five years old who follow the development of the '*Papadangan*' eating culture.

Regular mealtimes make children disciplined and live orderly. This is the same as getting children used to eating the right way without having to be fed, eating while sitting at the table, and getting used to washing hands before eating and using cutlery. This can train children to understand ethics and teach children to live independently, as well as educate them on good hygiene. Food arrangements should include the type of food, the time the food is given, the size of the portion of food, and the frequency of food given at each meal per day. Parents need to make a daily schedule so that children get used to a regular eating pattern [25].

The evaluation results of activities to develop the '*Papadangan*' eating culture in underweight children were considered effective. There were changes in the toddler's eating patterns and the z-score value of nutritional status. The lowest weight indicator based on age before the intervention was -2.98 (underweight) after the intervention the lowest value was -1.44 (normal body weight); Indicators of height based on age, before the intervention, the lowest z-score was -2.67 (short body) and after the intervention activity, the z-score was -2.47 (short body). Meanwhile, the indicator for abdominal weight based on height, before the intervention, the lowest z-score was -2.98 (malnutrition) and after the intervention the lowest z-score was -0.96 (good nutrition). Cultural habits about health influence the way people think



about their health problems, when they seek out the health services that society needs, and how society responds to changes in lifestyle, health service interventions, and nutrition education for children under five years old [24].

CONCLUSION AND RECOMMENDATION FOR DEVELOPMENT

The emergence of the '*Papadangan*' eating culture holds great importance in preventing underweight conditions among children under the age of five, as it stimulates their appetite. By tapping into local knowledge, the community can effectively utilize the social capital associated with the '*Papadangan*' eating culture to enhance the nutritional status of children under the age of five. The community and local authorities must work together to ensure the integration of this practice into their regular developmental activities.

The establishment of *papadangan* culture represents a newfound pursuit that exemplifies the utilization of indigenous knowledge within the Sundanese community in Indonesia. Conversely, this investigation adopts the Participatory Action Research (PAR) approach, which involves the active engagement of various stakeholders, including community members, village officials, and healthcare practitioners from the local health center. To date, no prior research has explored the potential of *papadangan* culture as an intervention strategy to address the issue of underweight among children under the age of five.

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Conflict Interest

The authors assert that there are no conflicts of interest present in this study.

Availability of Data and Materials

The datasets generated and analyzed in the current study are available from the corresponding author upon reasonable request.

Authors' Contribution

All authors contributed to conceptualization, study design, and data acquisition, data analysis, and data interpretation. In addition, all authors drafted and revised the manuscript until the final version was approved. We thank Dr. Fikarwin Zuska, Professor Evawany Yunita Aritonang and Professor Etti Sudaryati for their assistance in making the paper complete, especially Professor Evawany Yunita Aritonang and Professor Etti Sudaryati for their assistance in making thematic analysis of qualitative data and interpreting data from interviews with participants.



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Table 1: Development of ‘Papadangan’

Traditional ‘Papadangan’	Development of ‘Papadangan’
Eating together without paying attention to the diversity of the food served.	Eating together by emphasizing aspects of food diversity such as protein, fat, carbohydrates, vitamins, and minerals.
Not paying attention to meal times	Pay attention to meal times of children under five years old.
Completed only 2 times and irregularly	Completed 3 times and routinely every day.
Not paying attention to food hygiene	Food hygiene is observed
Using shared cutlery	Do not use shared utensils such as spoons, plates and cups.
Unlimited number of ‘Papadangan’ participant members	Limiting the number of ‘Papadangan’ participants to ensure effectiveness and efficiency.
No child nutrition and health education information.	There is nutrition instruction and child health information.
There is no monitoring of the nutritional health of children under five.	Regular assessment are carried out to monitor the nutritional status of children who are under five years old.

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