



(REVIEW ARTICLE)



Policy analysis of nutrition education programs in Indonesia: A literature study on the nutrition-conscious family program (*Kadarzi*)

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Abstract

Nutrition education is a crucial strategy to address the Triple Burden of Malnutrition in Indonesia, which encompasses undernutrition, overnutrition, and micronutrient deficiencies. This study aims to analyze the policies and implementation of the Nutrition-Conscious Family Program (Keluarga Sadar Gizi or *Kadarzi*) in Indonesia, focusing on identifying challenges and proposing improvements. Using a literature review methodology, this research evaluates the program's strengths, weaknesses, and effectiveness in promoting balanced nutrition behavior. Key findings indicate that while *Kadarzi* is effective in raising awareness about balanced nutrition, its implementation is hindered by inadequate health workers, limited funding, and insufficient cross-sectoral coordination. Furthermore, many activities remain undocumented, and uneven resource distribution affects the program's reach. Strategies for improvement include enhancing nutrition education, leveraging cross-sector partnerships, and increasing training for health cadres. The study concludes that tailored nutrition education programs, based on research and community needs, are essential for achieving better nutritional outcomes in Indonesia. Strengthening the *Kadarzi* program can significantly contribute to addressing persistent nutritional challenges and improving public health.

Keywords: Nutrition Education; *Kadarzi* Program; Nutrition Awareness; Public Health

1. Introduction

Every individual has the right to receive adequate education to enhance their knowledge and skills, enabling them to become a quality individual. As human resources, individuals are one of the main factors determining the performance level of a company in achieving its goals and represent an important tangible asset for the company⁽¹⁾. Education can be applied to various aspects of life, including nutrition and health. Nutrition education is an educational approach aimed at changing individual and community behavior to improve or maintain good nutritional status. It is one of the government's efforts to empower communities in addressing persistent nutritional problems⁽²⁾.

Currently, Indonesia still faces challenges related to nutritional issues known as the Triple Burden of Malnutrition. This includes problems such as undernutrition among children under five, overnutrition (overweight and obesity), and a high prevalence of micronutrient deficiencies, which occur simultaneously in the country. Severe nutritional problems, particularly stunting, are a primary focus for the government, with a stunting prevalence of 27.67% among children under five⁽³⁾, wasting at 10.2%, anemia in pregnant women at 48.9%⁽⁴⁾, and obesity among individuals over 18 years old at 21.8%, which also requires serious attention⁽⁵⁾.

In accordance with the Indonesian Ministry of Health Regulation No. 23 of 2014 on Nutritional Improvement Efforts, nutrition education is part of nutrition services aimed at creating Nutrition-Aware Families (*Kadarzi*) who can implement a balanced nutritional diet. This policy is essential for improving the community's nutritional status. Various interventions have been developed to support the implementation of this policy in addressing existing nutritional

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issues⁽⁶⁾. Efforts to improve nutrition through the *Kadarzi* program need to be reactivated because this program can help identify the factors contributing to severe nutritional problems, enabling interventions to begin by addressing these factors.

Moreover, families with children in the First 1,000 Days of Life (HPK) critically need nutritional awareness from all members. Children's nutritional knowledge and parental education have a positive relationship with balanced nutrition patterns and the consumption of healthy foods, such as fruits, vegetables, animal proteins, plant proteins, and others⁽⁷⁾.

1.1. Intervention

Nutrition education intervention, as a form of sensitive intervention in efforts to improve nutrition, should be able to encourage behavioral changes in the community toward adopting balanced nutrition patterns. Support from multiple cross-sectoral stakeholders is essential for the successful implementation of such interventions⁽⁵⁾. However, considering the current situation, these efforts appear to be less than optimal. Therefore, a policy analysis of the program is necessary to understand the type and implementation process of nutrition education programs in Indonesia—particularly the *Kadarzi* program—identify challenges faced, and evaluate the strengths and weaknesses of the program to provide recommendations for improvement.

2. Material and methods

This study is a descriptive type of research and adopts a normative juridical or doctrinal legal research approach (Legal Research)/Library Research. The literature used in this study includes primary and secondary legal materials, which encompass various regulations and related research findings⁽⁸⁾. The study also employs a literature review methodology, analyzing program policies from various sources such as the Basic Health Research reports, municipal health department reports, journal articles, books, mass media, and other scientific publications related to the research topic, "Policy Analysis of Nutrition Education Programs in Indonesia."

Secondary data collection was conducted through a literature study, beginning with reviewing theories and previous research findings relevant to the research topic. Policy analysis was carried out in several stages, including assessment, analysis, intervention, communication, monitoring, and evaluation, using a descriptive analysis method. This approach involves compiling, interpreting, and analyzing data to provide insights that explain the research topic effectively.

3. Results

3.1. Assessment

The implementation of health promotion programs in Indonesia is one of the six primary health programs (Basic Six) conducted at community health centers (*Puskesmas*). This is in accordance with the Indonesian Minister of Health Decree No: 128/Menkes/SK/II/2004, which states that the primary function of *Puskesmas* is to provide public goods-oriented services with the main goal of maintaining and improving health, as well as preventing diseases, while not neglecting disease treatment and health recovery⁽⁹⁾.

As the frontline of the National Health System, *Puskesmas* serves as a vital government-provided institution operating under standardized guidelines from the World Health Organization (WHO). Its main responsibility is the development of public health, focusing on health education programs and disease prevention⁽¹⁰⁾. Thus, nutrition education should be prioritized within *Puskesmas* programs as part of Public Health Efforts (UKM).

The Nutrition-Aware Family (Keluarga Sadar Gizi or *Kadarzi*) program aims to enable families to identify, prevent, and address nutritional problems within their members. This program is designed as an indicator of the success of nutrition education programs, along with the adoption of balanced nutrition behavior. The indicators for assessing *Kadarzi* include regular weight monitoring, especially for infants and toddlers, exclusive breastfeeding, providing a variety of foods, cooking with iodized salt, and consuming nutritional supplements as recommended⁽¹¹⁾.

The implementation of *Kadarzi* should reflect the effectiveness of nutrition education and promotion programs in Indonesia. This aligns with the assumption that if a family receives proper nutrition education (promotion), they will achieve *Kadarzi* status and adopt balanced nutrition behavior. This is supported by research conducted by Wijayanti and Nindya (2017), which demonstrates that the implementation of *Kadarzi* behavior positively affects the nutritional status of toddlers. The study found a positive correlation between *Kadarzi* behavior and the nutritional status of

toddlers, where better *Kadarzi* practices result in improved nutritional status among toddlers⁽¹²⁾. Thus, *Kadarzi* is a nutrition education program that indirectly plays a role in addressing nutritional issues in Indonesia.

3.2. Analysis

3.2.1. At-Risk Populations

Nutrition education can be implemented through various channels tailored to the target audience, such as Posyandu (integrated health posts) for mothers of infants and toddlers, schools for children and adolescents, and mass media for adults and the elderly. This approach ensures that the programs designed are more focused and aligned with the needs of the target groups, thereby increasing their enthusiasm to participate in the program⁽¹³⁾. Nutrition education is especially important to begin at an early stage, particularly within families.

School children are a primary focus for nutrition education campaigns because they can develop healthy eating habits and have the potential to become agents of change in the future. Therefore, they need to be taught how to choose foods, proper eating habits, and the relationship between food, growth, and health. School children, who are generally more flexible in their attitudes toward food, are easier to guide in forming eating habits. It is expected that, after receiving nutrition education, they will develop healthy eating patterns and acquire skills in the field of nutrition^(14,15).

3.2.2. Risk Factors

Eating habits can be influenced by environmental, individual, educational, and food-related factors. According to the Ministry of Health Regulation No. 23 of 2014, families generally have basic knowledge of nutrition, but their attitudes and skills to improve family nutrition remain low. Many families perceive their food intake as sufficient because they do not experience immediate adverse effects, even though they are aware of higher-quality foods but lack the willingness or skills to prepare them. Utilization of healthcare services is also still low⁽⁶⁾.

Although 80.3% of parents bring their toddlers to Posyandu for early detection of growth disorders, the coverage of Vitamin A supplementation for toddlers and iron tablet consumption (TTD) by pregnant women is still below target. Additionally, only 54.3% of mothers exclusively breastfeed their babies, and dietary patterns remain insufficiently varied^(16,6).

3.2.3. Strategies

The government has a basic strategy to create a nutrition-aware society through the *Kadarzi* program, which includes community empowerment, social environment creation, advocacy, and partnerships⁽⁶⁾.

Community Empowerment

Community empowerment involves the continuous dissemination of information about *Kadarzi*, aiming to transform individuals and families from being unaware to being nutrition-conscious and enhancing their ability to adopt nutrition-conscious behaviors. The community is the primary target for empowerment to encourage them to take responsibility for their health. Empowerment activities are usually conducted by healthcare workers and aim to improve public health quality by providing health information so that people become aware of their health, their families, and their surroundings⁽¹⁷⁾.

Social Environment Creation

Social environment creation focuses on establishing a supportive social environment that encourages nutrition-conscious behavior. Individuals are motivated by positive opinions from family members and role models around them. People are more likely to adopt certain behaviors if their social environment supports or approves of such actions. Therefore, to strengthen the empowerment process, especially in moving individuals from awareness to willingness, creating a supportive social environment is essential⁽⁶⁾.

Advocacy

Advocacy is a strategic process aimed at gaining support from relevant stakeholders to ensure public policies favor the implementation of *Kadarzi*, including regulations at the national and regional levels. Research by Septiani (2021) indicates that advocacy efforts involve identifying, prioritizing, and planning work programs to evaluate initiatives that have not met their targets⁽¹⁷⁾.

Partnerships

Partnerships are formal collaborations between individuals and organizations based on equality, transparency, and mutual benefit. These collaborations enhance the effectiveness of empowerment, social environment creation, and advocacy efforts. Strategies will be more effective when implemented through partnerships and using appropriate methods and techniques⁽⁶⁾.

3.3. Intervention

Nutrition education is a long-term sensitive nutrition intervention that can be implemented by both the government and the community to achieve Nutrition-Conscious Families (*Keluarga Sadar Gizi* or *Kadarzi*). According to Government Regulation No. 42 of 2013, sensitive nutrition interventions involve activities outside the health sector that contribute to improving community nutrition. Nutrition-Conscious Families are expected to identify, prevent, and address nutrition-related issues within the family, making them more resilient. The *Kadarzi* program is conducted monthly by community health center (*Puskesmas*) cadres, who survey 10 households to monitor and map the nutritional status within their work area⁽¹⁸⁾.

Cross-sector coordination is critical to enhancing the effectiveness of nutrition education programs in Indonesia. Nutrition education aims to raise individual and community awareness of the importance of nutrition by teaching them how to choose nutritious foods and understand their benefits. The ultimate goal is to change attitudes and behaviors toward fulfilling nutritional needs for better health. Schools are ideal venues for instilling nutrition education in children early on, and nutrition-related topics should be part of the curriculum, integrated with other subjects. Through school-based education, students can share their nutrition knowledge with their parents, while teachers have a significant influence on students^(19,20).

The Ministry of Health of Indonesia, in collaboration with the Ministry of Education and Culture (*Kemendikbud*), monitors and detects the health and nutritional status of children in schools, ensuring integrated nutrition improvement efforts and providing all children with adequate nutrition⁽²¹⁾. The School Nutrition Program, launched by *Kemendikbud*, emphasizes the importance of nutrition education and the provision of balanced nutrition through healthy breakfasts. The program targets at least one-third of children's daily nutritional needs, providing 400–500 kcal and 10–16 grams of protein per day. Additionally, the program has the potential to boost local economies by utilizing regional food products. Key nutrition interventions in schools include:

- Restricting the sale of unhealthy foods.
- Conducting health checks for prospective students and recording the results in health reports.
- Tracking students' health development through a report card similar to the *Kartu Menuju Sehat* (*KMS*).
- Utilizing apps to monitor children's snack nutrition by teachers and parents.
- *Puskesmas* monitoring students' nutritional intake through weight checks, physical growth measurements, and blood tests.

In addition, nutrition education is also crucial at home, starting with maintaining hygiene as a foundation for family-based nutrition improvements.

3.4. Communication

3.4.1. Message Strategy

The messaging strategy for the *Kadarzi* program encompasses several key aspects ^(6,22):

Purpose of Messaging

The goal is to introduce the *Kadarzi* program as five main behaviors that must be prioritized based on needs. It also emphasizes *Kadarzi* as a program that collaborates with the government, communities, private sectors, and international donors to address nutritional issues in Indonesia.

Message Creativity

Messages should be delivered positively, without fear-mongering, highlighting the role of families and the benefits of good nutritional behavior. In the first two years, messages should be explicit, transitioning to a more illustrative approach in the subsequent three years. It is crucial that the messages are engaging and consistent, focusing on *Kadarzi*-

related content. The initial campaign should emphasize the *Kadarzi* brand, followed by promoting other *Kadarzi* behaviors.

Stages of Message Delivery

- Year 1–2: The focus is on introducing *Kadarzi*, emphasizing the importance of exclusive breastfeeding and weighing toddlers.
- Year 3: The message shifts to the importance of consuming a variety of foods.
- Year 4: Emphasis moves to the consumption of iodized salt.
- Year 5: The campaign highlights the importance of consuming nutritional supplements.
- Each year, the main message is supplemented with additional information and health benefits to enhance public understanding.

3.4.2. Message Channels

Various channels can be utilized to convey *Kadarzi* messages, including:

- Electronic Media: Radio, television, cinema, telephone, and video.
- Print Media: Newspapers, magazines, brochures, leaflets, booklets, calendars, and posters.
- Online Media: Websites, Facebook, Twitter, and YouTube.
- Audio Media: Songs, jingles, and chants.
- Public Relations Activities: Recruitment of *Kadarzi* champions from celebrities, *Kadarzi* promotional launches, and event organization.

The use of these diverse media aims to expand the reach and effectiveness of *Kadarzi* messaging. It also enables direct interaction with the public through various media, transcending spatial and temporal boundaries, thus providing flexibility for the community⁽²³⁾.

3.4.3. Message Delivery Methods

The primary principle of *Kadarzi* message delivery is participatory or two-way communication, serving as a bridge between the government and the community in implementing the *Kadarzi* program. The community is regarded as the primary resource for understanding potential and recurring issues. Thus, community participation can occur effectively and align with their needs⁽²⁴⁾.

Message delivery methods include:

Direct Delivery

- Social marketing through campaigns, counseling, and disseminating information via social media.
- Competitions and contests.
- Appointing *Kadarzi* ambassadors as role models to motivate behavioral change.

Indirect Delivery

- Tiered training and education.
- Seminars, workshops, and discussion forums.
- Establishing focused discussion groups (Focus Group Discussions).

Research by Widiyanti (2015) demonstrates that engaging delivery methods and effective media usage can enhance knowledge. For instance, the use of audiovisual media increased understanding of nutrition concepts, such as balanced nutrition for elementary school children, by 17.78%⁽²⁵⁾.

3.5. Monitoring and Evaluation

Monitoring of *Kadarzi* promotion is conducted in a tiered and continuous manner, covering inputs, processes, and outputs.

3.5.1. Monitoring Indicators

- Input Indicators: Availability of guidelines, work plans, funding, facilities, and trained personnel for *Kadarzi* promotion.

- Process Indicators: Implementation of advocacy, socialization, capacity building for the private sector, development of promotional media, databases, formation of *Kadarzi* networks, journalist forums, journalist capacity building, and *Kadarzi* campaigns.
- Output Indicators: Cross-sector policies and partnerships, promotional activities by partners, and improvements in family knowledge, attitudes, and behaviors.
- Outcome Indicators: Increase in the number of families implementing *Kadarzi* behaviors.

This monitoring activity aims to ensure the program's effectiveness in raising family awareness and improving nutritional behaviors.

Monitoring Schedule

Conducted throughout promotional activities, which can be monthly, quarterly, or in line with radio and television broadcast schedules.

Monitoring Implementers

Executed by program managers at various administrative levels, trained journalists, radio and television station personnel, and trained partners.

Monitoring Methods:

- Interviews with health workers, community leaders, NGOs.
- Focus group discussions.
- Analysis of listener letters.
- Evaluation of promotional materials.

Monitoring Instruments: Utilization of checklists to ensure all aspects are well-monitored.

Evaluation of the *Kadarzi* program is also necessary to assess the achievement of its established goals. Research by Ridwan et al. (2014) indicates that the implementation of the *Kadarzi* program, as part of nutrition education in Indonesia, remains suboptimal. The findings highlight several challenges, including:

- Insufficient number of health workers, with a need for more nutritionists and supporting cadres.
- Limited funding affecting activity execution, leading to some activities being omitted.
- Uneven distribution of guideline materials to cadres.
- Program implementation processes not adhering to the *Kadarzi* guidelines.

The target groups of this program include infants aged 0–6 months, toddlers, pregnant women, postpartum mothers, and parents of toddlers from low-income families⁽²⁶⁾.

Many activities within the *Kadarzi* program are difficult to implement and undocumented due to funding limitations, manpower shortages, and lack of cross-sector support. Research by Abas (2005) underscores the need for intersectoral coordination and community involvement for nutritional improvement. Minimal training for supporting cadres and low maternal knowledge are also major barriers, as highlighted by Febry (2013)^(27,28). Therefore, there is a need to enhance nutrition education, program socialization for implementers and supporting cadres, and family assistance to ensure *Kadarzi*'s success.

4. Conclusion

Nutrition education is an educational approach aimed at transforming community behavior into nutrition-conscious families that apply balanced nutritional practices. However, various nutritional issues persist in Indonesia, such as low public awareness of diverse food consumption, physical activity, hygiene practices, and weight monitoring. Despite government support for nutritional improvement through regulations and communication strategies, *Kadarzi* program implementation often faces obstacles such as a lack of intersectoral coordination, implementing personnel, operational costs, and the challenging social conditions of the community. Therefore, nutrition education programs need to be tailored to community conditions and based on theories and research to be more effective and targeted.

Suggestion

It is necessary to conduct intensive and periodic socialization of *Kadarzi* across all relevant sectors to raise awareness among the Indonesian public about the importance of paying attention to daily nutritional intake for a better life.

Compliance with ethical standards

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Disclosure of conflict of interest

The author reports no conflicts of interest in this work.

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