

## The Effectiveness of a Structured Teaching Module in Increasing Mother's Awareness of the Nutritional Status of Children under Five Years Old

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### **Abstract**

*Malnutrition among children under five remains a critical global health issue, particularly in developing nations. A mother's awareness of her child's nutritional status plays a vital role in preventing and addressing malnutrition. This review examines the effectiveness of structured teaching modules in enhancing mothers' knowledge of child nutrition, with a focus on malnutrition prevention, dietary diversity, and early detection of nutritional deficiencies.*

**Keywords-** Child nutrition, Complementary feeding, Malnutrition, Structured Teaching Modules (STMs), Stunting prevention

### **INTRODUCTION**

Nutrition education programs can help mothers learn how to feed toddlers and infants (1). Many healthcare professionals educate the community particularly mothers about nutrition to help prevent stunting in children (2). Low economic status is one factor that contributes to mothers experiencing malnutrition (3). Stunting occurs due to unmet needs, including the essential nutrition required during pregnancy (4). Unbalanced nutrition during motherhood can lead to malnutrition, and chronic dietary failures can negatively affect newborns and children (5). A child's nutrition is heavily influenced by the food their mother consumes, especially during pregnancy (6). Chronic malnutrition resulting from a long-term lack of sufficient food intake is referred to as stunting (7). Mothers are crucial in the home, greatly influencing the upbringing of

children. Providing moms with enough nourishment is essential for supporting the growth and development of infants and children as well as preventing several illnesses (8). The World Health Organization (WHO) reports that 36.4% of Indonesian children under five suffer from stunting in 2018. This makes it one of the three nations in Southeast Asia with the greatest prevalence, behind Timor Leste (50.5%) and India (38.4%). According to basic health research conducted in 2018, children between the ages of 24 and 59 months account for about 30.8% of stunting cases in Indonesia (9). Numerous studies have demonstrated that nutrition education can increase mothers' awareness of how to prevent stunting. According to research conducted in Pakistan (1991-2013), mothers can use stunting diagnostic tools to promote nutritional education, enabling them to identify stunting in their children and teach them how to

prevent high-impact stunting (10). The first five years of a child's life are crucial for growth and development, making proper nutrition essential. According to the World Health Organization (WHO), malnutrition contributes to nearly 45% of deaths in children under five (WHO, 2020). Maternal knowledge about child nutrition influences feeding practices, which in turn affects a child's health status. Structured Teaching Modules (STMs) are educational interventions designed to enhance maternal knowledge and improve child health outcomes. This review evaluates existing research on the effectiveness of STMs in increasing maternal awareness and improving children's nutritional status.

### **The Importance of Maternal Awareness in Child Nutrition**

A mother's awareness of nutritional requirements is crucial in shaping dietary habits that promote healthy growth. Poor maternal knowledge is associated with inadequate feeding practices, leading to conditions such as stunting, wasting, and micronutrient deficiencies (11). Education interventions like structured teaching modules aim to provide accurate information and practical guidance on child nutrition. Maternal awareness plays a crucial role in ensuring optimal child nutrition, significantly impacting a child's growth, cognitive development, and overall health. Mothers who possess knowledge about proper nutrition are better equipped to make informed dietary choices, ensuring that their children receive essential nutrients necessary for physical and mental development. Studies indicate that maternal education and awareness directly influence dietary diversity, meal frequency, and nutrient intake among children, reducing the risk of malnutrition and diet-related illnesses (12). Moreover, research suggests that mothers with greater nutritional knowledge are more likely to adopt healthy feeding practices, such as exclusive breastfeeding for the first six months and appropriate complementary

feeding thereafter, which are critical for a child's immune system and long-term well-being (13). A study by Victora et al., (14) further highlights the importance of maternal awareness in preventing stunted growth and micronutrient deficiencies, particularly in low- and middle-income countries where access to diverse and nutritious foods may be limited. In addition, maternal awareness about food hygiene and safety plays a significant role in preventing foodborne diseases, which can lead to malnutrition and other health complications in children (15). Educational programs, community interventions, and healthcare initiatives aimed at improving maternal nutrition literacy have been shown to yield positive outcomes in child health and nutrition (16). Therefore, increasing maternal awareness through targeted nutrition education programs and accessible healthcare services is a vital strategy for addressing child malnutrition and fostering a healthier future generation.

### **OBJECTIVE**

The objective of this article is to provide structured teaching modules in enhancing mothers' knowledge of child nutrition, with a focus on malnutrition prevention, dietary diversity, and early detection of nutritional deficiencies.

### **Structured Teaching Modules: Definition and Implementation**

Structured Teaching Modules (STMs) are systematically designed instructional materials or frameworks that organize content, teaching strategies, and learning activities in a logical sequence to facilitate effective learning. These modules are often based on instructional design principles and aim to provide learners with clear objectives, guided learning experiences, and measurable outcomes. STMs are widely used in various educational settings, including schools, universities, healthcare

training, and professional development programs. They incorporate a step-by-step approach to teaching, ensuring consistency and effectiveness in knowledge delivery (17).

### IMPLEMENTATION

The implementation of Structured Teaching Modules follows a systematic process to ensure their effectiveness. Key steps include:

- **Needs Assessment** – Identifying the learning gaps, target audience, and specific educational objectives to tailor the module accordingly (18).
- **Content Development** – Structuring the learning material into well-defined units, ensuring clarity, coherence, and alignment with learning goals. Content can be presented in various formats, including text, videos, case studies, and interactive activities.
- **Instructional Strategies** – Choosing appropriate teaching methods such as lectures, discussions, problem-solving tasks, and hands-on practice to enhance comprehension and retention.
- **Delivery Methods** – Implementing the module through in-person sessions, online platforms, blended learning, or self-paced study, depending on the learners' needs and available resources.
- **Assessment and Feedback** – Incorporating formative and summative assessments, such as quizzes, assignments, and practical evaluations, to measure learning progress and effectiveness (19).
- **Revision and Improvement** – Continuously updating the module based on learner feedback, performance data, and new developments in the subject area to maintain relevance and quality.

Structured Teaching Modules are particularly effective in professional and technical education, including healthcare training, where they ensure standardization and competency-based learning. Their structured nature enhances learner engagement, knowledge retention, and application of skills

in real-world scenarios (20).

### EVIDENCE FROM RESEARCH STUDIES

#### Study 1: Impact of STMs on Malnutrition Awareness

A study by WHO assessed the impact of a structured teaching program on maternal awareness of malnutrition among mothers of under-five children. The study used a pre-test and post-test design, where mothers received an educational intervention on child nutrition. The results indicated a significant increase in maternal knowledge, leading to improved feeding practices (20).

#### Study 2: Improving Complementary Feeding Practices

A randomized controlled trial conducted by WHO examined the effectiveness of an STM focusing on complementary feeding. The study found that mothers who participated in the teaching module had a better understanding of appropriate complementary feeding methods compared to those who did not receive the intervention. This resulted in improved dietary diversity scores in their children (21).

#### Study 3: Effect of STMs on Stunting Prevention

A longitudinal study by Soviyati et al., (22) evaluated the role of structured teaching in preventing stunting among children under five. The findings showed that children of mothers who received structured nutrition education had lower rates of stunting compared to a control group.

### CHALLENGES AND LIMITATIONS OF MATERNAL AWARENESS IN CHILD NUTRITION

Maternal awareness of child nutrition is essential for ensuring healthy growth and development, but several challenges and

limitations hinder its effectiveness, particularly in low- and middle-income countries. One major challenge is limited access to education, as mothers with lower literacy levels often struggle to understand nutritional guidelines, food labels, and health recommendations.

Socioeconomic constraints further exacerbate the issue, as financial instability restricts the availability of diverse and nutrient-rich foods, leading to dependence on inexpensive, calorie-dense, but nutrient-poor diets. Cultural beliefs and traditional feeding practices also influence maternal decisions, sometimes contradicting scientific recommendations. For instance, early introduction of solid foods or restrictions on certain nutritious foods due to cultural myths can contribute to malnutrition.

Additionally, healthcare accessibility remains a significant limitation, as many mothers in rural and underserved areas lack access to professional guidance on child nutrition, vaccinations, and supplementation programs. Even when information is available, misinformation and lack of awareness about nutritional needs such as the importance of exclusive breastfeeding for six months persist due to inadequate health communication and the spread of misleading marketing from formula companies. Time constraints and workload, especially among working mothers, further affect feeding practices, as reliance on processed and ready-to-eat foods increases due to convenience, leading to potential deficiencies in essential nutrients.

Furthermore, food insecurity and environmental factors, such as droughts, price fluctuations, and seasonal food shortages, significantly impact dietary diversity and nutrient availability. Addressing these challenges requires multi-sectorial interventions, including improved maternal education, community-based nutrition programs, economic support for vulnerable families, and strengthened healthcare services to ensure sustainable maternal awareness and better child nutrition

outcomes (23,24).

## CONCLUSION

Structured Teaching Modules are effective in increasing maternal awareness of the nutritional status of children under five. Evidence from multiple studies indicates significant improvements in maternal knowledge, which translates into better feeding practices and improved child health outcomes. However, challenges such as accessibility, cultural beliefs, and literacy barriers must be addressed to maximize the impact of these interventions. Future research should focus on the long-term effects of structured teaching programs and explore innovative methods, such as mobile-based learning tools, to reach a larger population.

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There are no conflicts of interest

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