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Strategy for Appropriate Complementary Feeding (MPASI) Education through a Multi-Media Approach in the Catchment Area of Puskesmas Sentolo II

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ABSTRACT

Child malnutrition remains a pressing challenge in Indonesia, including in the catchment area of Sentolo II Health Center, Kulon Progo. In 2025, despite high coverage of child weighing (D/S 88.8%), only 50.88% of children gained weight (N/D), falling below the national target of 60%. Suboptimal complementary feeding (CF) practices, particularly in terms of dietary quality and limited family involvement, were identified as contributing factors. This community service introduced the **SEKAR MPASI program (Srawung Edukasi Keluarga lan Anak Remen MPASI)**, a multi-media nutrition education strategy combining short recipe videos, an illustrated booklet with QR codes, interactive "Ngobrol Pawon" discussions, and local complementary feeding competitions. Evaluation showed a marked improvement in maternal knowledge (post-test scores increased from 82 to 97), stronger family engagement, and competition participation exceeding targets. The program demonstrates that participatory, culturally rooted multimedia education can effectively improve complementary feeding practices and is feasible for integration into routine *posyandu* activities.

Keywords: complementary feeding; multimedia education; posyandu; behaviour change; child nutrition

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1. Introduction

Complementary feeding (CF) for children aged 6–23 months is a pivotal component of child survival, growth, and development. The World Health Organization (WHO) emphasizes that appropriate CF, along with continued breastfeeding, prevents malnutrition and supports optimal health outcomes during the critical 1,000 days of life (WHO, 2023)(1). Globally, poor CF practices contribute substantially to undernutrition, with 148 million children under five years stunted and 45 million wasted in 2022. The burden is disproportionately high in low- and middle-income countries (LMICs), where structural, cultural, and economic challenges restrict families' ability to provide diverse and adequate diets (WHO, 2023)(1).

In Indonesia, the issue is no less alarming. National data indicate that the prevalence of stunting remained at 21.6% in 2022, which is still above the global target of less than 20% (Kementerian Kesehatan RI, 2023)(2). Although the majority of infants begin complementary feeding at the recommended age, the quality of food provided is often inadequate. National surveys show that only about half of Indonesian children meet minimum meal frequency (MMF) and dietary diversity (MDD), while fewer than 40% achieve the minimum acceptable diet (MAD). These gaps underscore that challenges lie not only in *when* CF begins, but also in *what* and *how* children are fed (Yunitasari et al., 2022)(3).

Caregiving practices around feeding are complex, as decisions are influenced by mothers, fathers, grandparents, and extended family members. In many communities, cultural norms encourage early introduction of low-nutrient foods such as plain rice porridge, biscuits, or sweetened tea. At the same time, misinformation and conflicting advice from health workers, peers, and relatives create confusion for caregivers (Astuti et al., 2020)(4). As a result, even when mothers are aware of recommended practices, they may struggle to translate knowledge into consistent action at home.

Health promotion strategies in Indonesia have traditionally relied on direct counseling during *posyandu* (integrated health post) sessions and mother classes. These settings, however, often rely on one-way lectures with limited visual aids, resulting in low engagement and poor knowledge retention. A study on nutrition education methods found that conventional lecture-style counseling failed to change long-term feeding behaviors effectively (Astuti et al., 2020)(4). This highlights the need for innovative strategies that are more interactive, participatory, and culturally adapted.

Evidence suggests that multimedia interventions can address these gaps. Systematic reviews have shown that mass media combined with interpersonal counseling leads to greater improvements in infant and young child feeding (IYCF) practices than single-channel interventions (Graziose et al., 2018)(5). In Bangladesh and Viet Nam, programs that integrated mass media campaigns with cadre-led interpersonal support achieved significant gains in breastfeeding and complementary feeding practices (Menon et al., 2016)(6). In rural Tanzania, a cluster randomized trial showed that structured education packages, including practical demonstrations with local foods, significantly improved children's dietary adequacy and growth outcomes (Kulwa et al., 2014)(7). These findings reinforce that reinforcing key messages across multiple channels is essential to drive behavior change.

In Indonesia, digital platforms such as WhatsApp and YouTube have become increasingly popular sources of information. Recent studies highlight the effectiveness of WhatsApp-based nutrition education in improving maternal knowledge and practices regarding complementary feeding (Rachmah et al., 2023)(8). Similarly, social media interventions have been shown to significantly increase mothers' awareness and attitudes toward feeding children diverse diets (Setyawan et al., 2022)(9). However, despite the potential of digital health promotion, many primary health centers (*puskesmas*) have yet to adopt systematic multi-media strategies, leaving an untapped opportunity to strengthen maternal and child nutrition education.

The local context of **Puskesmas Sentolo II, Kulon Progo**, illustrates the problem vividly. In 2025, the coverage of weighing children under five (D/S) was high at 88.8%. Yet, only 50.88% of these children gained weight (N/D), falling

short of the 60% target set by the Ministry of Health (Sigizi Kesga, 2025)(10). Data also showed that while 72.2% of children received complementary foods on time, many did not consume them, as meals were shared with siblings or adults. Field observations revealed that educational media used at *posyandu* were outdated, unattractive, and poorly adapted to local culture. Furthermore, caregivers often reported difficulties applying generic nutrition messages to their daily household realities, particularly when food security was limited.

To address these challenges, the **SEKAR MPASI program (Srawung Edukasi Keluarga lan Anak Remen MPASI)**was developed as part of a community service residency. The program integrates four key components: (i) short educational videos (*Resep Sekar Dino Iki*) featuring nutritious local recipes; (ii) a pocket-sized illustrated booklet with step-by-step guides and QR codes linking to the videos; (iii) interactive post-weighing discussions (*Ngobrol Pawon*) facilitated by cadres and health workers; and (iv) community-led MPASI competitions to encourage creativity and participation. The Javanese word "SEKAR" means "flower," symbolizing the hope for children to bloom, while "remen" means "to like," reflecting the program's vision of children enjoying and consuming nutritious foods consistently.

The theoretical foundation of SEKAR MPASI draws from **Behavior Change Communication (BCC)**, which emphasizes repeated, tailored messages to influence attitudes and practices; the **Health Promotion Model**, which highlights the importance of perceived benefits, self-efficacy, and social support in behavior adoption; and **Supportive Supervision frameworks**, which stress participatory capacity building for cadres (Schneider et al., 2021)(11). By embedding multi-media education within the *posyandu* context, the program creates repeated opportunities for mothers and families to learn, practice, and reinforce positive feeding behaviors.

Therefore, the objective of this community service program was to improve the proportion of children achieving adequate weight gain by strengthening complementary feeding practices through a participatory, multi-media approach. Specifically, the program aimed to (i) enhance caregivers' knowledge and skills in preparing nutritious local foods; (ii) involve families in supporting feeding practices; (iii) provide culturally adapted media tools that reinforce learning; and (iv) establish a replicable model of integrated multi-media education within routine *posyandu* activities.

2. Targets and Output

The primary target of the SEKAR MPASI program was caregivers of children aged 6–23 months living in four villages within the working area of Puskesmas Sentolo II. These caregivers, predominantly mothers, were directly responsible for preparing and providing complementary foods, but often received limited guidance and support. In addition, cadres, as community-based health volunteers, were included as secondary targets since their role as facilitators was crucial for sustaining educational activities at the *posyandu*.

The expected outputs of the program were fourfold. First, the program sought to improve the knowledge and skills of mothers in preparing diverse, nutritious, and affordable complementary foods using locally available ingredients. Second, the intervention aimed to ensure consistency of health messages through a combination of multimedia channels, including videos, printed booklets, and interactive sessions, thus reinforcing learning across contexts. Third, the program was designed to promote stronger family involvement by encouraging fathers and grandparents to support child feeding practices, recognizing that feeding decisions are often collective in Indonesian households. Finally, the program aimed to establish a replicable model of participatory nutrition education that could be integrated into routine *posyandu* activities and scaled to other regions.

Method

This community service program was conducted in July 2025 using a mixed approach that combined multimedia health education with community participation. The activities were centered around routine *posyandu* weighing days to maximize attendance and leverage existing community health infrastructure.

The intervention comprised four integrated activities. First, short educational videos titled *Resep Sekar Dino Iki* (Today's Recipe)

were produced and disseminated. Each video, lasting one to two minutes, demonstrated practical recipes for complementary feeding using affordable and culturally relevant local ingredients. Second, a pocket-sized **SEKAR MPASI booklet** was developed. It contained illustrated step-by-step guides for preparing complementary foods, simple nutrition messages, and QR codes linking to the videos. The booklet also included a "Remen MPASI card" that mothers could fill in daily to monitor whether their children consumed the foods provided.

Third, interactive sessions called **Ngobrol Pawon** (Kitchen Talk) were held immediately after the weighing sessions at the *posyandu*. These discussions, facilitated by cadres and supported by midwifery students, allowed mothers to share experiences, ask questions, and receive practical advice in a relaxed environment. Finally, a **local recipe competition** was organized, in which mothers submitted their own creations of complementary foods using local ingredients. This activity was designed to build motivation, creativity, and recognition within the community.

Evaluation of the program was conducted through both quantitative and qualitative approaches. Mothers' knowledge was measured using a pre–post test, with scores compared before and after exposure to the educational package. Participation levels were documented through attendance records at *Ngobrol Pawon* sessions and submissions in the recipe competition. The use of the Remen MPASI card was monitored to assess consistency in child feeding practices at home. In addition, cadres provided observational feedback regarding the receptiveness of mothers and the feasibility of implementing the activities. The N/D indicator (proportion of children gaining weight) was tracked through routine health records to assess potential impact at the community level.

3. Discussion

The findings from the SEKAR MPASI program reinforce global evidence that multi-media educational strategies are more effective than conventional one-way health talks in changing child feeding practices. Mothers who were exposed to videos and booklets demonstrated significant improvements in knowledge, with average post-test scores increasing from 82 to 97. This aligns with prior studies showing that visual and digital media enhance learning retention compared to verbal counseling alone (Graziose et al., 2018)(5); (Azak, 2023)(11).

The use of **short videos** proved particularly impactful. More than 85% of mothers reported watching the videos in full, and many replayed them at home. This reflects findings from Bangladesh and Viet Nam, where mass media interventions significantly improved feeding practices when combined with interpersonal support (Menon et al., 2016)(6). The visual demonstrations provided concrete examples, bridging the gap between abstract nutritional advice and practical household application.

The **booklet and Remen MPASI card** also contributed positively, though with some limitations. While the booklet was well received and easy to understand, only six mothers consistently completed the monitoring card. This suggests that while written tools are valuable, they require reinforcement by cadres to sustain use. Similar challenges have been noted in Indonesian studies, which emphasize that the presence of cadres as facilitators is critical in encouraging consistent use of monitoring tools (Setyawan et al., 2022)(9).

The **Ngobrol Pawon sessions** provided a valuable space for dialogue. Approximately one quarter of mothers actively participated by asking questions or sharing experiences. This participatory approach mirrors the concept of supportive supervision, where community health workers are guided through dialogic and capacity-building processes rather than hierarchical instruction (Schneider et al., 2021)(11). Although participation rates could be improved, the sessions demonstrated the feasibility of integrating interactive discussions into routine *posyandu* activities without imposing significant additional resource burdens.

The **recipe competition** exceeded expectations, with 16 mothers participating compared to the original target of 10. The competition generated enthusiasm, fostered peer learning, and validated the creativity of mothers

in preparing nutritious foods with local ingredients. Community mobilization strategies of this type have been shown in previous studies to increase engagement and ownership of health interventions (Sarkar et al., 2023)(19).

Despite these successes, challenges remain. Feeding continues to be perceived as the sole responsibility of mothers, with limited involvement from fathers or grandparents. Yet, studies consistently highlight the importance of engaging the broader household to achieve sustainable improvements in complementary feeding (Saaka et al., 2021)(20). Future iterations of the program must therefore expand efforts to include fathers and other family members more explicitly. Moreover, while the Remen MPASI card was innovative, its uptake suggests the need for further simplification or digital alternatives to facilitate daily use.

In summary, the SEKAR MPASI program confirmed that a blended multimedia strategy anchored to *posyandu* routines can improve caregiver knowledge, stimulate creativity, and encourage participatory learning. These findings align with broader literature on community empowerment, which emphasizes that health promotion is most effective when it combines technical knowledge with culturally relevant, participatory methods (Noeroel Arham et al., 2023)(13).

4. Conclusion

The implementation of the SEKAR MPASI program demonstrated that multimedia, community-based education can effectively strengthen complementary feeding practices in rural Indonesia. By integrating videos, booklets, interactive discussions, and competitions into *posyandu* routines, the program enhanced mothers' knowledge, fostered creativity, and encouraged greater community involvement. However, sustaining behavior change will require continued cadre support, stronger family engagement, and adaptive monitoring tools. The model offers promise for replication and scale-up in other rural settings, contributing to national efforts to reduce stunting and improve child nutrition.

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