

Innovation in Baby Massage Services "Rembulan" (Relaxation for Healthy, Active, and Comfortable Growth) to Reduce Stunting Prevalence at Lontar Health Center, Surabaya

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ABSTRACT

This study aims to explore and analyze the effectiveness of the "Rembulan" baby massage service innovation at Lontar Health Center, Surabaya, in reducing stunting prevalence. This service enhances infant health and well-being through massage methods that support relaxation, optimal growth, and motor development. In the context of efforts to reduce stunting rates, the program focuses on infants and children under two years old who are at risk of malnutrition and growth delay. This research employs a qualitative approach with in-depth interviews, field observations, and secondary data analysis. Respondents include healthcare workers, parents, and stakeholders directly involved in the baby massage service. The results indicate that the "Rembulan" baby massage program increases infants' nutritional intake by boosting appetite, optimizing digestion, and improving sleep quality. These benefits contribute to better growth and development, reducing the risk of stunting. The study concludes that baby massage innovation has significant potential as a non-pharmacological intervention in public health programs. This service is effective when integrated with nutrition education and continuous health monitoring. Proper implementation can make baby massage a comprehensive solution in government efforts to reduce stunting prevalence in Indonesia

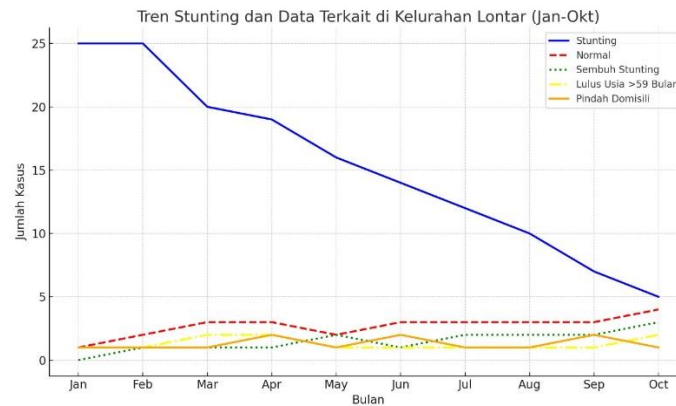
INTRODUCTION

Stunting is a chronic nutritional issue among toddlers, characterized by shorter stature compared to children of the same age. Children suffering from stunting are more susceptible to illnesses and, as adults, are at higher risk of developing degenerative diseases (Ministry of Health of the Republic of Indonesia, 2018). Stunting is a major public health concern in low- and middle-income countries due to its association with increased childhood mortality rates. Based on the severity of stunting, a region is considered to have mild stunting problems if the prevalence ranges between 20–29%, moderate if 30–39%, and severe if $\geq 40\%$. Stunting also poses long-term risks, such as chronic diseases including diabetes mellitus (DM), coronary heart disease, hypertension, cancer, and stroke (Risnawati & Munafiah, 2022).

According to epidemiological data, stunting cases remain relatively high globally and in Indonesia. Globally, an estimated 21.9% or 149 million children under five were stunted in 2018. In Southeast Asia, 14.4 million children under five were stunted. Despite a decline compared to previous years, the numbers remain alarmingly high. The World Health Organization states that a stunting rate exceeding 20% is a public health concern (Azwar & Fikri, 2024). Meanwhile, UN statistics from 2020 recorded that more than 149 million (22%) children under five worldwide were stunted, with 6.3 million being young children or toddlers from Indonesia. By mid-2023, stunting prevalence in Indonesia stood at 21.6%, while the government aims to reduce it to 14% by 2024.

One of Indonesia's stunting prevention strategies is the National Strategy for Accelerated Stunting Prevention 2018–2024. This government program is set to run until 2024. To address stunting, the President of Indonesia issued Presidential Regulation No. 72 of 2021 on accelerating stunting reduction. The goal is to reduce growth delays or stunting cases, targeting a prevalence rate of 14% by 2024. Achieving this target is challenging, but the government remains committed to striving toward this goal.

Data from Riskesdas (2018) showed that the prevalence of stunting among toddlers in Indonesia was 30.8%. According to WHO standards, Indonesia is categorized as having a high stunting problem. In East Java, data from the Central Statistics Agency (BPS) indicated a stunting prevalence of 32.8%, above the national average. In Surabaya, the stunting prevalence decreased significantly, from 23.75% in 2013 to 8.92% in 2018. However, stunting cases persist in the Lontar area. As reported by the Lontar Health Center's stunting data in July 2022, the number of stunting cases in Lontar reached 23 children in January 2022. These numbers have fluctuated, showing monthly increases and decreases in stunting cases. The stunting data for Lontar Village over the past 11 months is presented below:



Source: Researcher, 2024

Figure 1. Data on Stunting Cases in Lontar Subdistrict

The government has undertaken various preventive programs to combat stunting in villages. These programs include: first, training (enhancing knowledge and skills) for community cadres; second, care and assistance for pregnant women, postpartum mothers, and breastfeeding mothers; and third, monitoring growth and providing supplemental/healthy foods to improve the nutrition of infants, toddlers, and school-age children (Wardah & Reynaldi, 2022).

Specific efforts include interventions implemented by the Surabaya City Health Office targeting toddlers, such as stunting assistance provided by nutritionists from health centers to support child growth and development. These efforts include providing snacks or high-protein animal-based nutrition. The intervention also targets pre-stunted and malnourished toddlers to prevent stunting and addresses malnourished toddlers. Additionally, the provision of PKMK (Special Medical Nutritional Food) involves specially processed and formulated nutritional food, such as specialized milk prescribed by pediatricians.

To prevent stunting, the Surabaya City Health Office continues efforts such as anemia screening for adolescent girls, the provision of iron tablets, and pre-wedding counseling to ensure healthy childbirth outcomes. Furthermore, innovative services like baby massage programs are introduced as part of stunting reduction efforts. For example, in the Lontar subdistrict, the innovative service called the "Rembulan" Baby Massage Service (Relaxation for Healthy, Active, and Comfortable Growth) has been implemented.

Baby massage is a form of stimulation that promotes infant growth and development (Yurissetiowati Yurissetiowati, 2023). Among the benefits of baby massage is an increase in appetite. This increase is associated with enhanced activity of the vagus nerve (a cranial nerve that operates from the neck to the chest and abdominal cavity), which stimulates peristaltic cells (cells involved in gastrointestinal movement). This activity promotes smoother digestion, making the baby feel hungry more quickly and increasing their desire to eat.

Based on these findings, this study aims to broadly describe and analyze the innovation of the "Rembulan" Baby Massage Service (Relaxation for Healthy,

Active, and Comfortable Growth) and its role in reducing stunting prevalence at the Lontar Health Center.

LITERATURE REVIEW

According to John Clark and Ken Guy (as cited in Yulistivira et al., 2023), innovation is the process and outcome of utilizing knowledge, skills, and experience to create or improve goods, services, processes, or systems that provide significant value. Innovation can also refer to renewing existing products or services or developing new ones. A distinctive feature or uniqueness is an essential indicator of innovation, where it must have specific characteristics and uniqueness in its application. These unique characteristics can be observed in terms of ideas, programs, systems, and expected outcomes.

In the public sector, innovation is necessary to deliver services to the community. Government services to the public, commonly referred to as public services, are a strategic issue due to the interaction between the government and society. The theory of service innovation relates to the process of introducing and applying new ideas, products, or methods in services to enhance their efficiency, effectiveness, and quality. This theory involves understanding how innovations are designed, disseminated, accepted, and adopted by individuals, groups, or organizations within the service system.

Service innovation refers to the application of new practices or technologies in the service sector aimed at improving quality, efficiency, customer satisfaction, or providing added value. These innovations may involve changes in how services are delivered, the adoption of new technologies, the introduction of new procedures, or better approaches to service management and operations (Eprilianto, 2022). Key Elements of Service Innovation Theory:

1. **Relative Advantage:** This relates to the extent to which an innovation is perceived as better than previous ideas or concepts by specific groups or service users. Relative advantage can be measured in terms of economic benefits, social prestige, convenience, or satisfaction. The greater the perceived relative advantage, the faster the innovation is likely to diffuse.
2. **Compatibility:** Compatibility refers to the extent to which an innovation aligns with prevailing values, past experiences, and social needs. Innovations that are inconsistent with societal norms and values are less likely to be adopted than those that align with them.
3. **Complexity:** Complexity pertains to how easily an innovation can be understood, learned, and practiced. The easier it is to comprehend and apply, the faster it will be adopted.
4. **Trialability:** Trialability refers to the extent to which an innovation can be tested on a limited scale. Innovations that can be tried in real settings are typically adopted more quickly. Thus, innovations should demonstrate their advantages to encourage adoption.
5. **Observability:** Observability is the extent to which the results of an innovation are visible to others. The more observable the outcomes, the greater the likelihood of adoption.

According to West and Farr (as cited in Ancok, Vidayanti et al., 2022), innovation involves shifting from traditional principles, processes, and practices to new management methods. Innovation is defined as the intentional introduction and application of new ideas, processes, products, and procedures within a unit, designed to benefit individuals, groups, organizations, and society as a whole. Additionally, innovation often involves novelty and the effective use of information technology within organizations. Moore and Benbasat (as cited in Eprilianto, 2022) identify three key characteristics of innovation in the public sector:

- a) Image: The extent to which an innovation is perceived as enhancing the image or status of an individual or institution within a particular system.
- b) Voluntariness of Use: The extent to which the use of an innovation is considered a voluntary activity or a matter of free will.
- c) Result Demonstrability: The extent to which the results of an innovation trial are tangible and beneficial, increasing the likelihood of adoption.

Innovation is understood as planned change, involving the introduction of technology and the use of new tools within institutions. It encompasses more than just creation and renewal, broadly defined as utilizing new ideas to create products, processes, and services. This perspective highlights that innovation is a carefully planned transformation. It begins with a thorough study of the intended innovation. In governance, innovation may involve the use of information technology and new equipment, developed to improve service quality for the public (Breemer, 2022).

Public service theory focuses on the effectiveness and efficiency of services provided by governments and related entities to meet societal needs, including child health services. In the context of reducing stunting, public service efforts involve providing adequate nutrition, regular health monitoring, and educating parents on proper nutritional practices. Effective public health services aim to ensure children receive sufficient care and nutritional support from conception to early childhood growth stages.

Stunting results from chronic nutritional deficiencies, particularly during the first 1,000 days of life—from pregnancy to the child's second year. Public health services to reduce stunting prevalence include monitoring nutrition, providing health interventions, educating communities, and ensuring children's rights to optimal growth and development.

These programs are carried out by the government through health facilities, particularly primary healthcare centers such as puskesmas, and are supported by various stakeholders, including communities and the private sector. Public health services in child health play a crucial role in reducing stunting prevalence and improving overall child development outcomes.

METHODOLOGY

This research on the "Rembulan" Baby Massage Service innovation in reducing stunting prevalence at the Lontar Health Center employs a qualitative approach. As qualitative research, it differs from quantitative research, although certain aspects may share similarities. By using a qualitative approach, the researcher aims to obtain an in-depth understanding of the research topic.

The research focus is crucial for identifying the criteria and insights needed to provide relevant field information. This ensures the researcher collects only essential and relevant data, excluding irrelevant data (Strauss and Corbin, 2009). The informants in this study will be determined continuously using a purposive sampling technique. The informants include the Head of Lontar Health Center in Surabaya, program implementers of the Baby Massage Service Innovation, Posyandu workers, and community members who utilize the service.

The researcher aims to gather and describe objective data to understand public service innovation comprehensively. The data used in this study consist of primary and secondary data. Primary data are directly obtained through interviews with informants, while secondary data are sourced from documents and records. The collection of secondary data involves utilizing pre-recorded or reported data sets.

To collect comprehensive and in-depth data, researchers used several data collection techniques, through in-depth interviews conducted with parents of infants, health workers, and related parties at the Lontar Health Center. This interview technique allows researchers to obtain rich qualitative data, including personal experiences, views, and perceptions of informants related to the implementation of the "Rembulan" baby massage service (Kvale & Brinkmann, 2009). This interview is semi-structured, where researchers have a list of main questions, but allows flexibility to follow the flow of conversation and explore further information.

Researchers also conducted participant observations to understand the process of implementing baby massage services directly at the Lontar Health Center. This observation helps researchers to capture the social context and interactions that occur during the implementation of the service, as well as how health workers interact with infants and parents. This observation provides more contextual data regarding the dynamics of the implementation of baby massage services.

Researchers collect documentation data that includes medical records, program reports, and other related data that can provide an overview of the implementation of the "Rembulan" baby massage service and efforts to prevent stunting at the Lontar Health Center. This documentation helps enrich the findings from the interviews and The collected data will be analyzed using thematic analysis, which aims to identify the main themes that emerge from qualitative data. This technique allows researchers to understand the patterns that emerge in the data and provide a clearer picture of the phenomenon being studied (Braun & Clarke, 2006). The analysis process begins with data coding, which is labeling pieces of data that are relevant to certain themes. After coding, researchers will organize the data into broader categories to find the main

themes. Data triangulation techniques are also used to ensure the validity and reliability of the findings. Triangulation is done by comparing the results of interviews, observations, and documentation to get a more comprehensive view (Patton, 2015).

RESULT AND DISCUSSION

Public service refers to the provision of services delivered by public service providers as an effort to meet the needs and requirements of service recipients or the community, as well as to implement regulations in accordance with the established rules and procedures (Suryantoro & Kusdyana, 2020). This is in line with Law No. 25 of 2009 on Public Services, which mandates the establishment of service organizations by the government to implement public services.

Providers include any state institution, corporation, independent body established under the law for public service activities, and other legal entities solely created for public service purposes. Providers and all parts of the organization are accountable for any failure, violation, or inefficiency in service delivery. High-quality public service is a primary concern for public organizations. Transparency in information encourages public awareness of their rights and responsibilities, fostering higher expectations for excellent service delivery from government organizations (Suryantoro & Kusdyana, 2020). The quality of public services depends significantly on the condition of a country's bureaucracy, which creates the framework for optimal service delivery. Unfortunately, optimal public service delivery has not yet been realized in Indonesia, where the quality of public services remains low.

Innovation is essential in the public sector to enhance service development. Innovation introduces new products or replaces outdated methods, signifying that every public service must incorporate new and improved practices. Efforts to address stunting include education on balanced nutrition, serving as a guideline for determining proper nutritional intake for toddlers. One notable initiative from the Lontar Health Center is the "Rembulan" Baby Massage Service Innovation (Relaxation for Healthy, Active, and Comfortable Growth) aimed at reducing stunting prevalence.

Massage is one of the oldest therapeutic methods globally. It involves the art of health care and treatment, which can relax stiff joints and improve body function through firm strokes. Massage therapy is now widely used in hospitals and health centers to enhance infant health and weight gain (Amru et al., 2022).

Research on the "Rembulan" Baby Massage Service shows that one way to prevent stunting is through stimulation to increase toddlers' appetite via baby massage. Toddlers experiencing reduced appetite and mothers lacking knowledge about baby massage can benefit from educational counseling to prevent stunting. Baby massage intervention plays a role in weight gain, as studies suggest that massage increases the activity of the neurotransmitter serotonin, which enhances receptor cell capacity to boost glucocorticoids (adrenaline, stress hormones) (Azwar & Fikri, 2024).



Source: Researcher 2024

Figure 2. Queue for Baby Massage

This aligns with the results of an interview with the Head of the Health Center, who explained, “The ‘Rembulan’ Baby Massage program is a flagship initiative aimed at reducing stunting prevalence. This baby massage is performed by trained staff, and the service can be booked online through e-Health.” This is consistent with innovation theory, particularly the concept of relative advantage, which highlights how an innovation is perceived as superior to previous ideas or methods by specific groups or service users. Unlike earlier stunting prevention efforts that focused solely on nutritional improvements, this innovative service incorporates baby massage to stimulate appetite enhancement.



Source: Researcher 2024

Figure 3. Baby Massage

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The "Rembulan" Baby Massage (Relaxation for Healthy, Active, and Comfortable Growth) involves gentle massage movements on the baby's body, aiming to provide physical and emotional stimulation beneficial for the baby's development. Launched in 2021, this program is implemented at the health center and also through 25 posyandu (integrated health service posts) across two urban villages, which conduct regular meetings to provide education on preparing nutritious food.

In terms of innovation diffusion, the service demonstrates compatibility, as it aligns with community values, past experiences, and social needs, influencing the speed of its adoption. However, innovation complexity also plays a role, as it refers to how easily the innovation is understood, practiced, and adopted. At Lontar Health Center, the massage service is provided by only one trained therapist. According to Ms. Rini, the massage therapist, *"The massage service also includes outreach to the community to maximize its impact, as many people lack awareness about the importance of good nutrition for toddlers and the benefits of baby massage offered by the health center. However, a significant challenge is the limited availability of trained massage therapists – there is currently only one therapist."*



Source: Researcher 2024
Figure 4. Baby Massage

Despite its many benefits, baby massage services face various challenges that can affect their effectiveness and adoption, such as the lack of parental knowledge and awareness. Many parents, particularly in areas with limited access to information, do not fully understand the benefits of baby massage or how to perform it properly, which hampers the widespread adoption of the service. Another challenge is the limited number of skilled therapists. Providing quality baby massage services requires trained and experienced professionals, but the shortage of personnel remains a significant barrier.

To address these challenges, a comprehensive approach is needed. This includes enhancing public education to raise awareness of the benefits of baby massage, training qualified baby massage therapists to improve service quality, and garnering government support through policies that promote baby massage services, particularly in high-need areas, to effectively reduce stunting prevalence. Other complementary programs include requiring pregnant women to undergo at least four routine check-ups during pregnancy at healthcare facilities. These check-ups aim to monitor fetal growth, detect early risks of complications, and provide appropriate nutritional interventions. Through these

various innovative service programs, the government aims to synergize efforts to effectively reduce stunting prevalence.

CONCLUSION AND RECOMMENDATION

Conclusion

Research on the innovation of baby massage services at the Lontar Health Center in Surabaya demonstrates a positive impact in reducing stunting prevalence. Baby massage, as a method of physical and emotional stimulation, has been shown to enhance child health and development, including improved nutrient absorption. Through the relaxation provided by massage, infants tend to have a more stable appetite, better sleep quality, and smoother digestion, all of which contribute to improved growth and development.

In addition to the direct health benefits for infants, this service innovation also impacts family education, particularly for mothers. Participation in the program increases mothers' knowledge about the importance of nutrition, child care, and parenting practices that support optimal development. Greater parental awareness and involvement have proven to ensure that infants receive more holistic care, thereby reducing the risk of stunting.

Overall, the implementation of the baby massage service innovation at the Lontar Health Center demonstrates that this community-based approach can be an essential part of stunting prevention strategies. By combining physical stimulation, education, and increased family engagement, the program not only improves children's physical health but also lays a strong foundation for long-term well-being. The findings of this research emphasize the importance of integrating innovative and family-centered health services to accelerate the reduction of stunting prevalence in local communities.

Recommendation

The baby massage service innovation, as developed in the "Rembulan" program, holds great potential for helping reduce stunting prevalence at Lontar Health Center in Surabaya. Baby massage has been shown to stimulate physical and cognitive growth and improve infants' appetite, which is crucial for preventing malnutrition. Through structured and sustainable implementation, the health center can offer a holistic solution that not only focuses on nutritional improvement but also enhances relaxation and sleep quality in infants, all of which contribute to optimal growth.

To make this program more effective, it is recommended to provide structured training for healthcare workers and educate parents on the importance and benefits of baby massage. Educational activities can be conducted through practical classes at the health center or by disseminating digital educational materials. Additionally, regular monitoring of the growth of infants receiving these services is necessary to ensure significant improvements in their nutritional status.

Furthermore, to broaden the impact, collaboration with other organizations such as “*posyandu*” (integrated health service posts), mother-and-baby communities, and health organizations could strengthen the program's implementation. Integrating baby massage with nutrition education programs and maternal health initiatives can also help create a comprehensive approach that addresses the root causes of stunting. With this synergy, it is hoped that stunting prevalence can be more effectively reduced, and the infants served can grow to be healthy, active, and comfortable, aligning with the goals of the innovation.

FURTHER STUDY

Since all research has limits, you can quickly discuss them here and offer ideas for additional studies.

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