



## Behaviour Prevention of Stunting among the Indigenous People on The Coast of Bintan Island, Kepulauan Riau Province, Indonesia

*Research article*

Rahma Syafitri<sup>1</sup>, Nikodemus Niko<sup>1,2</sup>, Casiavera<sup>1</sup>, Suryaningsih<sup>1</sup>, Sri Wahyuni<sup>1</sup>, Francis Reginio<sup>3</sup>

<sup>1</sup>Universitas Maritim Raja Ali Haji, Indonesia; <sup>2</sup>Chulalongkorn University, Thailand;

<sup>3</sup>University of Southeastern Philippines

Received: 2025/10/30

Accepted: 2026/02/16

### Abstract

*The behaviour program demonstrates the potential of localized, culturally sensitive interventions in addressing public health issues in marginalized communities. The Suku Laut people are a marginalized community facing numerous health challenges, with stunting among children being a significant issue. This study focuses on the rantang sehat initiative, a targeted early intervention program aimed at preventing stunting within this vulnerable population. The research examines the effectiveness of the program, which provides nutritionally balanced meals to pregnant women, nursing mothers, and young children (Bayi Lima Tahun/Balita). The findings indicate a noticeable reduction in stunting prevalence among the children who participated in the program, highlighting the importance of consistent access to nutritious food during critical periods of growth. This study reveals the community's perceptions of the program, noting an increase in awareness regarding the importance of nutrition for maternal and child health.*

**Keywords:** Rantang Sehat, Suku Laut, Prevention, Indigenous People, Coast Community

The Suku Laut community, residing along the coastal areas of Bintan Island in the Kepulauan Riau Province, represents one of Indonesia's most marginalized ethnic groups. These coastal-dwelling communities

continue to face significant social, economic, and health-related challenges that jeopardize their overall well-being (Indriani et al., 2024). Among the most urgent health issues confronting indigenous groups is childhood

stunting—a condition marked by chronic undernutrition that results in children being shorter than average for their age (Niko et al., 2024; Suhardiman et al., 2025). Beyond its visible physical impact, stunting has far-reaching consequences for cognitive development and long-term health outcomes. The prevalence of stunting among the Orang Laut is intensified by limited access to healthcare services, persistent poverty, and a general lack of nutritional awareness (Syafitri et al., 2024). These conditions create a pressing need for interventions that address both the immediate and structural factors contributing to stunting (Rahmaniah et al., 2025).

To respond to this complex issue, the *Rantang Sehat* program was introduced as a targeted nutritional intervention. Its primary objective is to reduce the incidence of stunting through early-stage preventive measures focused on vulnerable groups, particularly pregnant women, breastfeeding mothers, and children under five. The program provides regular distributions of nutritious meals tailored to meet the specific dietary needs of these populations. The overarching aim is to not only improve nutritional intake but also to raise awareness about the critical role of proper nutrition in maternal and child health (Baker et al., 2018). More broadly, addressing stunting is not merely a health concern but a strategic investment in the future of communities and the nation at large. Children suffering from stunting often face cognitive delays, reduced educational attainment, and limited economic opportunities later in life (Adnan et al., 2025). On a macro level, high stunting rates can undermine national productivity and the competitiveness of Indonesia's future human capital (Shrimpton, 2018; Attree, 2005; Jones et al., 2019).

However, the success of interventions like *Rantang Sehat* cannot be determined solely by the distribution of nutritious food. Cultural and structural dimensions deeply shape health behaviors within the Orang Laut community. These groups possess a rich repertoire of indigenous knowledge and cultural beliefs that influence dietary practices and health-related decisions (Wahyuni et al., 2024). As such, the program was developed using a culturally sensitive framework, integrating local leaders into the implementation process

and relying on familiar food sources. This culturally embedded approach seeks to enhance community acceptance and ensure the program's long-term sustainability. Recognizing that behavioral change requires more than material provisions, the program also includes an educational component aimed at improving nutritional literacy (Nutbeam et al., 2018; Yardley et al., 2016). Through community workshops and guided support, mothers are taught about the importance of adequate nutrition during pregnancy and early childhood, methods of preparing healthy meals using local ingredients, and the broader implications of maintaining good health practices (Suryaningsih et al., 2025; Niko et al., 2024).

This research focuses on answering the research question: How does the *Rantang Sehat* program reduce stunting among the Suku Laut population on the coast of Bintan Island and become a behavior prevention among the Indigenous Suku Laut? The study aims to assess not only the program's impact on nutritional outcomes but also to identify the structural and cultural challenges that arise during implementation. Furthermore, the findings may serve as a blueprint for developing similar interventions in other marginalized coastal communities experiencing comparable health disparities.

Ultimately, this research underscores the value of preventive approaches in addressing stunting. By focusing on nutritional improvement and educational empowerment from the earliest stages of life, the *Rantang Sehat* program aspires to break the cycle of chronic undernutrition within the Orang Laut community. Through this initiative, children are given the opportunity to grow and thrive, free from the constraints imposed by stunting. The implications of this research extend beyond the immediate context of Bintan Island. Its findings offer insights into the broader challenge of combating stunting in other underserved coastal regions across Indonesia. By highlighting both the successes and limitations of the *Rantang Sehat* model, this study contributes valuable knowledge to ongoing national and regional efforts aimed at reducing health inequities and fostering inclusive development among Indigenous and marginalized populations.

## Methods

This study employs a qualitative research design with a case study approach, focusing on the implementation of the *Rantang Sehat* (Healthy Meal Container) program currently underway in Berakit Village, Bintan Regency, Riau Islands Province. The case study approach was selected to gain a nuanced understanding of the lived experiences and contextual dynamics of the program's execution, particularly within the Suku Laut (Sea Nomad) community residing in Panglong Hamlet. This approach allows for in-depth exploration of how the program operates in a localized setting, offering insights into the cultural, social, and structural factors that influence its success or limitations. The selection of informants in this study is considered sufficient to address the research questions of a qualitative inquiry, as they constitute key actors directly involved in both the implementation of and response to the program. The six Suku Laut mothers who are either breastfeeding or caring for children under the age of five represent the program's primary target group; their lived experiences, perceptions, and responses enable an in-depth exploration of how the program is understood, perceived in terms of its benefits, and internalized within everyday childcare practices. Meanwhile, the four *posyandu* (integrated health post) cadres who are directly engaged in program delivery provide insights from the implementers' perspective, including implementation mechanisms, communication strategies, on-the-ground challenges, and forms of interaction with the community. The inclusion of these two groups facilitates the triangulation of perspectives between beneficiaries and implementers, generating data that are not only rich in narrative depth but also sufficiently robust to illuminate the processes and social dynamics central to the qualitative focus of the study.

The primary aim of these interviews was to explore participants' personal experiences and narratives related to the *Rantang Sehat* program. For the mothers, the interviews sought to understand how they perceive the nutritional support provided, the relevance and accessibility of the program to their everyday lives, and the ways in which the intervention has influenced their feeding

practices, health behaviors, and perceptions of child development. The interviews also aimed to identify any barriers they encountered in accessing or fully benefiting from the program, such as cultural beliefs, transportation challenges, or a lack of information.

Interviews with the *posyandu* cadres, on the other hand, focused on operational perspectives—how the program is being implemented, the extent of community participation, logistical challenges, and the strategies they employ to promote nutritional awareness. These cadres serve as intermediaries between the community and the health service infrastructure, and their insights are crucial in assessing the practical viability of the program at the grassroots level. They also play a role in shaping the program's cultural sensitivity and adaptability, given their familiarity with local values, traditions, and practices.

The case study method is particularly suited for this type of inquiry, as it facilitates a holistic examination of the program within its real-life context. Rather than isolating variables or testing hypotheses, the study aims to capture the complexity of social processes and local knowledge that shape health interventions in marginalized settings. Through rich, narrative data, the study attempts to illustrate how broader policy objectives intersect with the lived realities of a specific indigenous community, revealing the mechanisms that support or hinder the program's outcomes.

In conducting the fieldwork, purposive sampling was used to identify informants who could offer diverse yet relevant perspectives. Mothers were selected based on their participation in the *Rantang Sehat* program and their caregiving roles, ensuring that they could speak directly to the program's impact on household nutrition and child health. The *posyanducadres* were chosen for their involvement in the day-to-day operations of the program and their sustained engagement with the Suku Laut community. The combination of these perspectives provides a more comprehensive understanding of the program's multifaceted implementation.

All interviews were conducted in Bahasa Indonesia, the participants' primary language, to ensure comfort and clarity during the data collection process. With informed consent

obtained from each participant, interviews were audio-recorded, transcribed, and subsequently translated into English for analytical purposes. Thematic analysis was employed to identify recurring patterns, key themes, and significant divergences in the data. Particular attention was paid to issues of power, access, and knowledge—how health information is communicated, who has the ability to act on that information, and what social or cultural logics influence health-related decision-making.

Cultural sensitivity was prioritized, especially given the historical marginalization of the Suku Laut. The research team made efforts to engage respectfully with local norms, customs, and community leaders, seeking permission and fostering trust before initiating any formal data collection. By situating the study within the Suku Laut community, the research contributes to a growing body of literature on health equity and indigenous well-being in coastal and maritime regions. The case study design allows for the articulation of grounded, community-specific insights that might otherwise be overlooked in larger-scale evaluations. In doing so, it highlights the importance of contextually embedded, culturally responsive interventions that not only deliver material aid but also engage meaningfully with local knowledge systems and social realities.

## Results and Discussion

### Stunting Trends and Program Reach

Based on official records from the local health center (*Puskesmas*) and Posyandu, the number of children classified as stunted in Berakit Village decreased from 7 cases in 2023 to 11 cases in 2024 following the implementation of the *Rantang Sehat* program. The *Program Rantang Sehat* (Healthy Meal Delivery Program) is a community-driven initiative collaboratively implemented by residents and the local government of Berakit Village in 2023. This initiative was developed to address the issue of childhood stunting, specifically targeting three-year-old children identified as at risk. According to local health records, Berakit Village had 13 children officially classified as stunted—a slight decline from the previous year, which reported 14 cases. While this decrease is modest, it indicates a gradual

improvement in child health outcomes.

*“Kami kader jalan kaki atau naik sepeda motor. Setiap anak yang masuk dalam daftar stunting kami kunjungi langsung. Kadang kami juga bantu menyuapi kalau ibunya sibuk atau belum tahu caranya,”* (Translated: we usually walk or ride motorbikes. Every child identified as stunted is visited directly. Sometimes we even help feed them if the mother is busy or unsure how to do it), interview Mrs. Ln.

According to her, the program was launched in early 2023 as a collaboration between the local *Puskesmas*, the Health Department, and the village administration. Each community health worker is assigned to deliver meals to stunted children every two days. The meals follow a nutritional plan developed by a *Puskesmas* nutritionist, with an emphasis on animal proteins—such as fish, eggs, and chicken—alongside vegetables and fruits.

Cadres like Mrs. Ln must develop relational approaches rooted in empathy, communication, and cultural negotiation. The program’s success depends largely on their ability to build trust and navigate cultural resistance to the term “stunting,” which is often perceived as shameful or misaligned with local understandings of child health.

The program is administered by trained community health volunteers (*Posyandu* cadres) who are responsible for preparing and delivering nutritionally balanced meals. These meals are carefully designed by medical professionals at the local community health center (*Puskesmas*) and are tailored to support the physical development of children in the critical early years of life. The meals include a range of protein-rich and vitamin-dense foods, intended to meet the specific dietary needs that promote recovery from stunting.

Operationally, the program runs for six months, with meals delivered every other day. Cadres personally visit each household with a stunted child, offering not only the food but also feeding assistance to ensure the child consumes the meal properly. This direct engagement reflects a culturally sensitive and trust-building approach, particularly important in rural and traditional communities.

Despite its potential health benefits, the program has encountered mixed reactions among the villagers. A portion of Berakit

residents welcomed the initiative, allowing posyandu cadres to perform their duties and accepting the meals as a form of communal care. However, another segment of the community expressed resistance. Some parents refused to acknowledge their child's stunted classification, believing they could manage childcare independently. Their resistance was expressed through subtle defiance—such as feeding children snacks shortly before scheduled deliveries—thus diminishing the effectiveness of the nutrition program.

This tension is partly rooted in differing perceptions about how stunting is identified. According to health authorities, classification is based primarily on height-for-age indicators. In contrast, many Berakit villagers argue for a broader assessment framework. They believe stunting should also consider behavioral and cognitive development, such as delayed motor skills or lower intelligence, rather than height alone. For these villagers, the label of 'stunted' does not align with their understanding of child health and is sometimes perceived as stigmatizing. Furthermore, there is a notable perception among locals that stunting is not strictly correlated with economic status. Several children categorized as stunted come from middle-income households. This observation leads to the conclusion that parenting practices, especially feeding habits, may be more influential than material deprivation. These beliefs highlight the need for culturally responsive public health strategies that do not rely solely on biomedical metrics but engage with community perspectives.

*“Ada banyak juga ibu-ibu yang tidak mau anaknya dibilang stunting. Mereka merasa malu atau tersinggung. Kadang kami datang, anaknya sudah dikasih makan jajan-jajan yang tidak sehat duluan. Padahal itu mengganggu program ini. Kalau kita beritahu mereka tidak peduli dengan kehadiran kita,”* (Translated: many mothers reject the idea that their child is stunted. They feel embarrassed or offended. Sometimes, when we arrive, the child has already eaten unhealthy snacks, which disrupts the program. If we try to explain, they often disregard us).

Mrs. Ln noted that community responses vary. While many mothers are welcoming, appreciative, and gradually recognize the importance of balanced nutrition, others

respond with subtle refusal or apathy—offended by the classification of their children as stunted. This resistance reveals an epistemic gap between biomedical frameworks and vernacular knowledge. For the Berakit community, a child's health is not measured solely by height but also by behavior, intelligence, and motor skills. Here, we witness a tension between technocratic indicators and more holistic, contextual vernacular understandings of well-being. According to Mrs. Ln, the main challenge lies in building trust. Furthermore, not all cadres are sufficiently equipped to explain nutritional issues in scientific terms. Training sessions are limited and often inaccessible due to time and transportation constraints. In this context, the Suku Laut community, residing in coastal Berakit, stands out. While not significantly affected by stunting based on height measurements, the Suku Laut are still included in educational outreach efforts. Public health educators emphasize the importance of a balanced diet, including fresh fish and safe food, and promote positive parenting strategies to prevent malnutrition and related developmental issues.

The Suku Laut people, indigenous to the coastal regions of Bintan Island in the Riau Archipelago, rely heavily on the sea for their livelihood and sustenance. As modern health challenges increasingly affect marginalized communities, the Suku Laut face complex health vulnerabilities, particularly among mothers, children, and the elderly. This paper examines their health conditions and the socio-cultural and economic factors shaping their wellbeing, drawing on a range of ethnographic observations and secondary studies. Maternal health is a key concern. Limited access to formal health services means that many indigenous women rely on traditional birth attendants (*dukun beranak*), who may lack formal medical training (Niehof, 2014). Research has shown that maternal mortality rates in areas like Berakit exceed national averages, often due to poorly managed birth complications. Nutritional deficiencies during pregnancy further exacerbate risks. Dietary patterns heavily reliant on fish but lacking in vegetables and other essential nutrients contribute to inadequate maternal nutrition.

Children in the Suku Laut community face equally serious health risks. Restricted access to healthcare and early education

services makes them more susceptible to illness. Stunting remains a significant issue due to poor dietary diversity and suboptimal sanitation. Children also frequently suffer from respiratory infections and skin diseases, such as scabies, largely due to humid living conditions and insufficient sanitation infrastructure.

The elderly in Berakit Village also contend with pressing health challenges. Life expectancy is generally lower than in other regions, and chronic diseases like hypertension and diabetes are on the rise. Unfortunately, the local healthcare system is ill-equipped to provide consistent care for aging populations. Many older adults continue to engage in strenuous labor, such as fishing, out of economic necessity. This continued physical burden further deteriorates their health.

A number of interrelated factors contribute to these health disparities. Geographic isolation and poor transportation

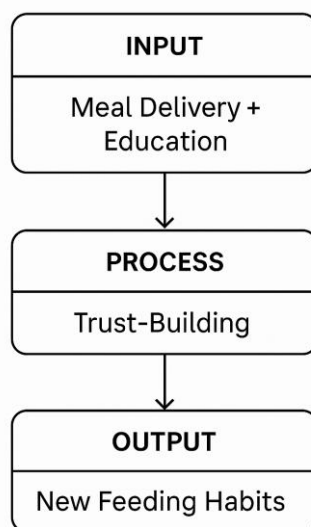
options limit access to health facilities. Health centers are often understaffed and lack essential supplies. Low levels of formal education among the Suku Laut impede public health outreach, as many individuals are unaware of preventative care practices or the importance of balanced nutrition. Poor sanitation and lack of clean water further contribute to disease spread, particularly among the most vulnerable groups.

### Community Response: Acceptance and Resistance

Cultural beliefs and traditions also shape health behaviors. Strong reliance on traditional healers and spiritual practices may delay or substitute for medical treatment. For example, childbirth is often managed outside the clinical system, and certain illnesses are attributed to spiritual causes rather than physical ones. These practices underscore the importance of culturally competent health interventions.

**Figure 1.**

*Maternal Behavior Influences*



The *Rantang Sehat* program thus represents more than a nutritional intervention; it embodies a culturally grounded, community-centered approach to health education and care delivery. It functions as a platform to bridge biomedical knowledge with indigenous perspectives, fostering dialogue and cooperation. By engaging mothers directly and respecting local customs, the program has the potential

to reduce resistance and promote long-term behavioral change.

However, for the program to be truly effective and sustainable, it must be embedded within a broader, multisectoral framework. This includes improving healthcare infrastructure, enhancing educational outreach, and addressing structural inequalities that affect health outcomes. Programs like *Rantang Sehat*

should not operate in isolation but as part of integrated efforts that consider the social determinants of health.

*“Alhamdulillah ada yang berubah. Beberapa ibu sudah mulai masak sendiri makanan sehat. Mereka tanya ke kami, ‘Bu, kalau saya bikin sup ikan buat anak saya boleh?’ Nah itu artinya sudah ada kesadaran. Tapi masih banyak juga yang belum paham. Program ini perlu waktu dan kesabaran,”* (Translated: thankfully, some changes are happening. A few mothers have started preparing healthy meals themselves. They ask, ‘Bu, is it okay if I make fish soup for my child?’ That’s a sign of awareness. But many still don’t fully understand. This program takes time and patience), Mrs. emphasized.

The *Rantang Sehat* program in Berakit Village illustrates that community-based interventions can be vital in reducing stunting, particularly in coastal areas where healthcare and nutrition education face unique barriers. However, as reflected in the experiences of the health cadres, the effectiveness of such programs hinges on the community’s socio-cultural dynamics and the capacity of local actors.

While early signs of success—such as increased maternal initiative in preparing nutritious meals—are promising, behavioral change is a long-term process requiring sustained engagement. The true measure of the program’s success extends beyond stunting statistics. It lies in the transformation of caregiving practices, nutritional awareness, and the social relationships that sustain such change. The pursuit of zero stunting cannot rely solely on technocratic interventions. It must be grounded in a broader framework of social transformation, where state initiatives and community efforts align in nurturing, understanding, and securing the health of future generations. The *Rantang Sehat Program* in Berakit offers

a valuable case study in how grassroots public health initiatives can be designed and implemented in culturally complex settings. The experiences of the Suku Laut community demonstrate the importance of combining biomedical approaches with cultural sensitivity, community engagement, and structural reform. Only through such holistic approaches can the long-term goal of eradicating stunting and improving health equity be achieved.

### **Cadre Challenges and Implementation Gaps**

The posyandu (integrated health post) is a key initiative by the Indonesian government aimed at enhancing maternal and child healthcare. In Bintan Regency, these activities are supported by the local Health Office and the Berakit Village Community Health Center (Puskesmas). The services provided through posyandu include immunization, stunting detection, regular weight and height monitoring, health education, and the distribution of supplementary nutrition. By establishing posyandu at the community level, mothers, children, and the elderly gain easier access to essential healthcare services, especially in rural and coastal areas.

The posyandu program plays a critical role in reducing maternal and infant mortality rates during pregnancy, childbirth, and the postnatal period by promoting community-based healthcare empowerment. In Berakit Village, the posyandu initiative has become a vital access point for the Suku Laut, particularly mothers, children, and the elderly, to receive basic health services. Routine weighing and health checks for toddlers and the elderly not only track their growth and condition but also contribute to broader public health goals.

**Table 1.**  
*Cadre-Reported Operational Barriers*

Barrier Category	Frequency Reported	Notes
Lack of nutrition training	3	Especially among new cadres
Cultural resistance	6	Particularly around "stunting"
Transport/time challenges	2	Long distance to some RTs

Barriers reported by cadres during interviews (n = 6).

Posyandu operations in Berakit Village are managed by a team of ten health volunteers (*kader*), each assigned to different neighborhood units (RT - Rukun Tetangga). Berakit Village consists of eight RTs distributed across four *dusun* (sub-villages): H. Abd Salam, Teluk Merbau (RT 001/RW 01, Dusun I), H. Abd Salam, Berakit (RT 002/RW 01, Dusun I), H. Aman, Penginam (RT 003/RW 02, Dusun I), H. Ahmad, Bukit Balau (RT 004/RW 02, Dusun I), Bathin Muhammad Ali, Teluk Asah (RT 005/RW 03, Dusun II), Bathin Muhammad Ali, Semelur (RT 006/RW 03, Dusun II), Beringin, Sialang Timur (RT 007/RW 04, Dusun II), and Beringin, Sialang Barat (RT 008/RW 04, Dusun II).

For efficiency and logistical coherence, *posyandu* activities are organized into three clusters: Group 1 serves residents of RT 01 and RT 02; Group 2 covers RT 03, RT 04, RT 05, and RT 06; and Group 3 is responsible for RT 07 and RT 08. The Suku Laut community resides in Kampung Panglong, located within RT 07. *Posyandu* services are held consistently on the 7th of each month and primarily target mothers and children aged 0–5 years, although services are also extended to the elderly population.

### Early Sign of Behavior Changes

Community participation in *Posyandu* activities is notably strong, reflecting a gradual yet significant shift in health-related behaviors and attitudes among community members. Regular attendance at *Posyandu* sessions, particularly among mothers of young children, indicates increased awareness of the importance of maternal and child health services, including growth

monitoring, immunization, and nutritional counseling. Beyond physical presence, participation is marked by more active engagement, as mothers increasingly ask questions, follow health recommendations, and apply the information received in their daily caregiving practices. This behavioral change is also evident in improved compliance with scheduled visits and a greater willingness to collaborate with *Posyandu* cadres, suggesting a transition from passive recipients of services to more informed and proactive participants. Collectively, these patterns demonstrate that strong community participation in *Posyandu* activities is not merely procedural, but indicative of deeper transformations in health-seeking behavior and community responsiveness to preventive care initiatives (Wuna et al., 2025).

For expectant mothers with specific health conditions, the village midwife often performs home visits to monitor their status and provide care. After childbirth, newborns are closely observed by healthcare workers for the first 44 days, with daily visits to ensure proper development and address any early complications. Mothers are also offered family planning services, such as oral contraceptive pills, as part of postnatal care. Infants and children aged 0–5 years receive multiple health interventions during *posyandu* sessions. These include immunizations, anthropometric measurements (height and weight), health counseling, and supplementary feeding to support their nutritional intake. When families are unable to bring their children to the health post—due to logistical, economic, or cultural barriers—volunteers initiate a

door-to-door approach. Through this method, healthcare teams provide home-based check-ups, vaccinations, and educational outreach aimed at improving parental awareness and encouraging regular participation. The inclusive approach of the Posyandu, especially in reaching marginalized groups like the Suku Laut, demonstrates a model of community-centered healthcare that is both proactive and adaptive. By recognizing the unique sociocultural and geographic contexts of these communities, the program avoids a one-size-fits-all model and instead adopts a responsive structure that accounts for local realities (Niko, 2025). In this sense, the Posyandu is not merely a static health service but a dynamic system that works collaboratively with residents, adapting to their needs while promoting sustainable health outcomes (Latifah & Puspitawati, 2025).

Furthermore, the role of *kader* - local volunteers is indispensable. As trusted community members, they bridge the gap between formal healthcare institutions and the everyday lives of residents. Their presence fosters trust, encourages compliance with medical advice, and ensures that health promotion efforts are both culturally sensitive and logistically feasible. The dedication of these volunteers, who are embedded in the social fabric of each family, helps maintain consistent engagement and follow-up with target groups such as pregnant women, infants, and the elderly.

This decentralized and participatory model contributes significantly to the broader goal of eliminating stunting among children under five. Stunting, which reflects chronic malnutrition and has long-term effects on cognitive development and physical health, is tackled through a combination of preventive

and promotive actions (Soliman et al., 2021; Reinhardt & Fanzo, 2014). By routinely monitoring growth indicators, distributing nutritious food, and educating parents on child-rearing practices, the Posyandu system serves as an early intervention mechanism with long-term developmental implications (Jaya et al., 2025). In the case of the Suku Laut community, some mothers began cooking healthy meals independently and showed increased interest in nutritional advice, indicating behavior change.

The Posyandu program in Berakit Village, supported by trained volunteers and closely integrated with local government health services, has generated significant behavioral change as a direct outcome of its interventions. Community members—particularly mothers from the Suku Laut community—have shifted from irregular or minimal engagement with formal health services to consistent participation in monthly posyandu sessions, home-based follow-ups, and health education activities. This intervention has strengthened preventive health behaviors, as evidenced by increased adherence to child growth monitoring, improved infant feeding practices, and greater responsiveness to referrals and medical advice. The program has also fostered a sense of community ownership, with families demonstrating heightened responsibility for maternal and child health outcomes rather than relying solely on external assistance. These changes indicate that the posyandu program functions not only as a service delivery mechanism but as a catalyst for transforming health-seeking behaviors, thereby contributing meaningfully to the reduction of maternal and child health risks and advancing the broader objective of zero stunting in the region.

**Table 2.**

*Interlinked health challenges in the Suku Laut Community*

Population Group	Key Health Issues	Contributing Factors
Mothers	Anemia, unsafe childbirth	Lack of formal care, poor diet
Children	Stunting, infections	Poor hygiene, limited nutrition
Elderly	Chronic illness, fatigue	Continued labor, no routine check-ups

Overview of health challenges across age groups in the Suku Laut population.

## Conclusion

This study concludes that the *Rantang Sehat* program constitutes an anticipatory and community-oriented intervention for the early prevention of stunting among the Suku Laut community. Through its emphasis on balanced nutrition provision and focused health education for mothers, the program demonstrates a culturally attuned approach that responds to the specific vulnerabilities of this marginalized coastal population on Bintan Island. Nevertheless, the findings also highlight persistent structural obstacles that constrain the program's overall effectiveness. Restricted access to healthcare services, precarious socio-economic conditions, and limited formal education among Suku Laut mothers continue to impede the consolidation of behavioral change and the realization of long-term outcomes, indicating that stunting prevention cannot rely on isolated interventions alone.

In this context, the qualitative insights generated by this research are particularly important for future scholars, as they illuminate the lived experiences, social constraints, and everyday negotiations that shape program implementation and community response—dimensions often overlooked in quantitative assessments. Building on these findings, subsequent research can refine intervention designs, inform policy adaptation, and develop more integrated strategies that combine community-based programs with structural support. Ultimately, while *Rantang Sehat* program shows considerable potential, its sustainability and scalability depend on sustained multisectoral engagement and a stronger commitment to addressing health inequities affecting the Suku Laut population.

## Acknowledgements

We extend our sincere gratitude to the Suku Laut community in Kampung Panglong for their generosity in sharing their time, insights, and lived experiences throughout the data collection process. Their openness and cooperation were invaluable to the depth and richness of this research. We are also thankful to the Secretary of Berakit Village for the logistical support and assistance provided during our fieldwork. Additionally, we acknowledge the support of LPPM Universitas Maritim Raja Ali Haji, whose

research facilitation made this study possible.

## Conflict of interest

The authors declare that they have no conflicts of interest.

## Formatting of funding sources

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors

## References

- Adnan, M., Marwiyati, M., Zurriyani, Z., & Thahira, Z. (2025). Daughters at Risk: Analyzing the Impact of Maternal Son Preference on Stunting and Wasting in Indonesia. *Jurnal Ilmiah Peuradeun*, 13(1), 745-770. <https://doi.org/10.26811/peuradeun.v13i1.1351>
- Attree, P. (2005). Low-income mothers, nutrition and health: a systematic review of qualitative evidence. *Maternal & child nutrition*, 1(4), 227-240. <https://doi.org/10.1111/j.1740-8709.2005.00022.x>
- Barker, M., Dombrowski, S. U., Colbourn, T., Fall, C. H., Kriznik, N. M., Lawrence, W. T., & Stephenson, J. (2018). Intervention strategies to improve nutrition and health behaviours before conception. *The Lancet*, 391(10132), 1853-1864. [https://doi.org/10.1016/S0140-6736\(18\)30313-1](https://doi.org/10.1016/S0140-6736(18)30313-1)
- Indriani, M., Tammardhiah, R., Natasha, F., Faiqah, E. C., Abdianto, A., & Niko, N. (2024). Pemetaan Jaringan Kebutuhan Hidup Dasar Masyarakat Suku Laut di Pulau Mensemut Provinsi Kepulauan Riau. *Jurnal Sosiologi USK (Media Pemikiran & Aplikasi)*, 18(2), 226-236. <https://doi.org/10.24815/jsu.v18i2.41885>
- Jones, R., Haardörfer, R., Ramakrishnan, U., Yount, K. M., Miedema, S., & Girard, A. W. (2019). Women's empowerment and child nutrition: The role of intrinsic agency. *SSM-population health*, 9, 100475. <https://doi.org/10.1016/j.ssmph.2019.100475>
- Niehof, A. (2014). Traditional birth attendants and the problem of maternal mortality in Indonesia. *Pacific Affairs*, 693-713. <http://dx.doi.org/10.5509/2014874693>
- Niko, N., Widianingsih, I., Sulaeman, M., and Fedryansyah, M. (2024). Indigenous Women's Connection to Forest: Colonialism, Lack of Land Ownership and Livelihood Deprivations of Dayak Benawan in Indonesia. *Feminist Encounters: A Journal of Critical Studies in Culture and Politics*. 8(1),

22. <https://doi.org/10.20897/femenc/14233>
- Niko, N. (2025). Dayak Benawan Indigenous Futures: Tropical Rainforest Knowledge in Kalimantan, Indonesia. *eTropic: electronic journal of studies in the Tropics*, 24(1), 218-239. <https://doi.org/10.25120/etropic.24.1.2025.4144>
- Nutbeam, D., McGill, B., & Premkumar, P. (2018). Improving health literacy in community populations: a review of progress. *Health promotion international*, 33(5), 901-911. <https://doi.org/10.1093/heapro/dax015>
- Rahmaniah, S., Hasni, A., Halida, H., Syarmiati, S., Ghozali, A., & Rabbani Lubis, A. (2025). *Biopolitics and stunting treatment: Barriers to community participation in Sambas Regency, Indonesia*. *Jurnal Ilmiah Peuradeun*, 13(2), 1263–1290. <https://doi.org/10.26811/peuradeun.v13i2.1872>
- Shrimpton, R. (2012). Global policy and programme guidance on maternal nutrition: what exists, the mechanisms for providing it, and how to improve them?. *Paediatric and Perinatal Epidemiology*, 26, 315-325. <https://doi.org/10.1111/j.1365-3016.2012.01279.x>
- Suhardiman, D., Ariando, W., Supriadi, D. A., & Indrabudi, T. (2025). Bakelam: Sea nomads' knowledge systems and potential building block for living with change. *Political Geography*, 119, 103335. <https://doi.org/10.1016/j.polgeo.2025.103335>
- Suryaningsih., Niko, N., Wahyuni, S., Rahma Syafitri, Valentina, A., Qurdiansyah, A., Saputra, A. E., Fauziandi, R., Ulfa, R. N., & Medisa, R. (2025). Utilization of Environmental Potential for Stunting Prevention in Berakit Village, Bintan Regency. *Yummary: Jurnal Pengabdian Kepada Masyarakat*, 5(3), 551-560. <https://doi.org/10.35912/yummary.v5i3.3394>
- Syafitri, R., Suryaningsih, S., Casiavera, C., Niko, N., & Wahyuni, S. (2024). Breaking Barriers: Healthcare Access for the Suku Laut's Elderly, Mothers, and Children. *BIO Web of Conferences* (Vol. 134, p. 07003). EDP Sciences. <https://doi.org/10.1051/bioconf/202413407003>
- Wahyuni, S., Samnuzulsari, T., Suryaningsih, S., Igiyasi, T. S., Niko, N., & Qurdiansyah, A. (2024). Membangun Kemandirian Ekonomi Perempuan Suku Laut Melalui Home Industry Berbasis Sumber Daya dan Potensi Lokal di Pulau Lipan Kabupaten Lingga. *Room of Civil Society Development*, 3(1), 21-29. <https://doi.org/10.59110/rcsd.304>
- Yardley, L., Spring, B. J., Riper, H., Morrison, L. G., Crane, D. H., Curtis, K., & Blandford, A. (2016). Understanding and promoting effective engagement with digital behavior change interventions. *American journal of preventive medicine*, 51(5), 833-842. <https://doi.org/10.1016/j.amepre.2016.06.015>
- Jaya, P. H. I., Izudin, A., Aditya, R., & Saptoni, S. (2025). Exploring local experiences in reducing childhood stunting in Indonesia: towards an agenda of welfare provision. *Asia Pacific Journal of Social Work and Development*, 1-24. <https://doi.org/10.1080/29949769.2025.2485912>
- Soliman, A., De Sanctis, V., Alaaraj, N., Ahmed, S., Alyafei, F., Hamed, N., & Soliman, N. (2021). Early and long-term consequences of nutritional stunting: From childhood to adulthood. *Acta Bio Medica: Atenei Parmensis*, 92(1), e2021168. [10.23750/abm.v92i1.11346](https://doi.org/10.23750/abm.v92i1.11346)
- Reinhardt, K., & Fanzo, J. (2014). Addressing chronic malnutrition through multi-sectoral, sustainable approaches: a review of the causes and consequences. *Frontiers in nutrition*, 1, 13. <https://doi.org/10.3389/fnut.2014.00013>
- Wuna, S. K., Mutmaina, R., Zakiah, V., Rahmawati, D. A., & Nasrun, E. K. (2025). Determinants of pregnant women's knowledge about antenatal care and compliance with pregnancy check-ups at Poasia Health Center. *World Journal of Advanced Research and Reviews*, 25(1), 213-225. <https://doi.org/10.30574/wjarr.2025.25.1.0004>
- Latifah, K. A., & Puspitawati, H. (2025). Determinants of The Quality of Care For Stunted Children: The Role Of Gender Roles, Posyandu Check-Ups, and Household Characteristics. *Journal of Child, Family, and Consumer Studies*, 4(1), 24-39. <https://doi.org/10.29244/jcfcs.4.1.24-39>