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INNOVATIONS IN THE PROCESSING OF LOCAL FOOD-BASED SUPPLEMENTARY FEEDING PROGRAMS (PMT) AT THE POSYANDU IN ASTAMBUL SUB-DISTRICT BANJAR REGENCY

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Abstrak: Posyandu memiliki peran penting dalam pemantauan tumbuh kembang balita dan pencegahan stunting, namun partisipasi masyarakat di Kecamatan Astambul masih rendah. Salah satu penyebabnya adalah kurangnya inovasi dalam pemberian makanan tambahan (PMT). Program pengabdian ini bertujuan meningkatkan aktivitas posyandu melalui pemanfaatan pangan lokal, yaitu daun kelor (Moringa oleifera) dan ikan patin (Pangasius sp.). Metode pelaksanaan yaitu penyuluhan kesehatan, pelatihan pengolahan PMT lokal, serta uji organoleptik dengan melibatkan 55 ibu balita. Evaluasi dilakukan menggunakan pretest–posttest. Hasil menunjukkan peningkatan signifikan pengetahuan ibu setelah intervensi. Nilai rata-rata pretest 59,25 ± 12,75 meningkat menjadi 85,41 ± 8,36 (p = 0,000; Cohen's d = 2,45). Penyuluhan tentang PMT berbasis pangan lokal juga meningkatkan nilai rata-rata dari 61,80 ± 11,32 menjadi 87,25 ± 7,94 (p = 0,000; Cohen's d = 2,33). Uji organoleptik menunjukkan penerimaan tinggi terhadap nugget ikan patin daun kelor dan bubur nasi daun kelor, terutama pada aspek rasa dan warna. Temuan ini membuktikan bahwa inovasi PMT berbasis pangan lokal dapat diterima masyarakat dan berpotensi diterapkan secara berkelanjutan di posyandu. Program ini tidak hanya meningkatkan pengetahuan dan keterampilan ibu balita, tetapi juga memperkuat layanan posyandu dalam mendukung perbaikan gizi dan pencegahan stunting.

Kata Kunci: Posyandu, edukasi gizi, pangan lokal, program Pemberian Makanan Tambahan (PMT)

Abstract: Posyandu plays a crucial role in monitoring child growth and development and in preventing stunting; however, community participation in Astambul Subdistrict remains low. One contributing factor is the limited innovation in supplementary feeding programs (PMT). This community service program aimed to enhance Posyandu activities by utilizing local food resources, specifically moringa leaves (Moringa oleifera) and catfish (Pangasius sp.). The program was implemented through health education, training on local food–based PMT processing, and organoleptic testing involving 55 mothers of toddlers. Evaluation was conducted using a pretest–posttest design. The results showed a significant increase in maternal knowledge following the intervention, with mean pretest scores of 59.25 ± 12.75 increasing to 85.41 ± 8.36 (p = 0.000; Cohen's d = 2.45). Education on local food–based PMT also significantly improved knowledge scores from 61.80 ± 11.32 to 87.25 ± 7.94 (p = 0.000; Cohen's d = 2.33). Organoleptic evaluation indicated high acceptance of moringa–catfish nuggets and moringa rice porridge, particularly in terms of taste and color. These findings demonstrate that local food–based PMT innovations are well accepted by the community and have strong potential for sustainable implementation in Posyandu. The program not only improved maternal knowledge and skills but also strengthened Posyandu services in supporting nutritional improvement and stunting prevention.

Keywords: Posyandu, nutrition education, local food, supplementary feeding programs (PMT)

Introduction

Posyandu (Integrated Health Service Post) is a community-based frontline health facility focused on improving maternal and child health (Lumongga et al., 2020). Its core functions include monitoring toddler growth, early detection of nutritional problems, providing immunizations, and delivering nutrition and health education. Posyandu is fundamental in

promoting community-level prevention of morbidity and enhancing public health quality. Research shows that effective, high-quality posyandu significantly improve toddler nutritional status and health (Suhendra et al., 2020).

Despite its highly strategic role, community participation in posyandu activities in several areas remains relatively low. This condition is also observed in Pingaran Ulu Village, Astambul Subdistrict, Banjar Regency, where the coverage of toddler visits to posyandu is still below 60% of the total target population that is expected to attend regularly (Noorhasanah, 2022). The low level of participation is influenced by various factors, including limited parental awareness of the importance of monitoring toddler growth and development, a lack of innovation in posyandu services, and limited facilities and activities that interest mothers and toddlers (Atik & Susanti, 2020). In addition, the lack of variation in educational and recreational activities makes posyandu appear monotonous, thereby limiting the community's access to basic health services (Mudhawaroh et al., 2020). On the other hand, the Astambul Subdistrict, particularly Pingaran Ulu Village, has abundant local food resources with high nutritional value, especially moringa leaves (Moringa oleifera) and pangasius catfish, which are widely cultivated in South Kalimantan. Moringa leaves are well known as a rich source of vitamins, minerals, and plant-based protein, while pangasius catfish provide high-quality animal protein that is relatively accessible to the community (Priyanto et al., 2023).

Local food resources offer significant potential as the foundation for supplementary feeding programs (PMT) at posyandu. Leveraging these nutritious, affordable, and accessible local foods can drive sustainable improvements in toddlers' nutritional status. However, this local food potential has not yet been optimally utilized in the implementation of PMT programs at posyandu. Currently, PMT preparation is monotonous and still relies heavily on instant foods, limiting the effectiveness of the PMT program in improving toddlers' nutritional status. In addition, the limited skills of posyandu cadres in processing local foods into nutritious, attractive options for toddlers. This challenge restricts PMT innovation and reduces community motivation to participate in posyandu activities (Kurniawan, 2019).

Improving posyandu service activities should not be limited to the provision of nutritious supplementary feeding (PMT) alone, but must also be accompanied by strengthened nutrition education for the community (Kemenkes RI, 2022). Education on the functions and benefits of posyandu, the importance of supplementary feeding (PMT) in supporting toddler growth, and the use of local food resources for family nutrition represents a strategic approach to increasing awareness and participation among mothers of toddlers. Posyandu is expected not only to serve as a venue for routine health services but also to function as a center for family nutrition education. These efforts align with the Sustainable Development Goals (SDGs), particularly Goals 2 on ending hunger and strengthening food security and 3 on improving health and well-being.

Based on the aforementioned challenges and local potentials, a community service program is needed to integrate the enhancement of posyandu activities with the utilization of local food resources. This program is designed to include training for posyandu cadres in processing local food–based supplementary feeding, such as moringa leaf–pangasius nuggets

and moringa leaf rice porridge, accompanied by health education on the importance of posyandu and evaluation of product acceptability through organoleptic testing. Through this approach, posyandu in Astambul Subdistrict is expected to become more active, innovative, and effective in improving toddler nutritional status and strengthening food security, based on local potential. Based on these conditions, a community service program that integrates enhancing posyandu activities with the use of local food resources is required. The program includes cadre training in processing moringa leaf–pangasius nuggets and moringa leaf rice porridge, health education on the importance of posyandu, and evaluation of product acceptability through organoleptic testing. It is expected that, through these activities, posyandu in Astambul Subdistrict will become more effective in improving toddler nutritional status and strengthening food security using local resources.

Method

This community service activity was conducted at posyandu facilities in the Astambul Subdistrict, Banjar Regency, using participatory and educational approaches. The participatory approach positioned the community as active participants at every stage of the activity, from planning and implementation to program evaluation, while the educational approach aimed to improve the knowledge and skills of posyandu cadres and mothers of toddlers through interactive, context-based learning. This approach is consistent with the principles of community empowerment–based community service, which emphasize active community involvement in addressing local health and nutrition problems (Kemenkes RI, 2022).

Participants in this activity consisted of posyandu cadres and mothers of toddlers residing in the service area of the Pingaran Ulu Village Posyandu, Astambul Subdistrict. A total of 55 mothers of toddlers were actively involved as participants in health education sessions and as panelists in the organoleptic testing of supplementary feeding (PMT) products. The participants were mothers of toddlers who attended posyandu activities regularly or irregularly, and were therefore expected to reflect the real conditions of the program's target population. In addition, posyandu cadres were involved as key partners in PMT processing training to strengthen program sustainability at the community level.

The initial stage of the activity involved coordinating with posyandu cadres, village officials, and community leaders to identify problems, map needs, and develop an implementation plan. At this stage, a preliminary survey was also conducted to assess the level of posyandu participation, the condition of supporting facilities, and the availability of local food resources within the community, particularly moringa leaves (Moringa oleifera) and pangasius catfish. This planning stage was essential to ensure that the interventions implemented were aligned with local needs and context (Ambarwati et al., 2023).

The implementation phase included program socialization and health education for mothers of toddlers regarding the importance of posyandu, the role of PMT in supporting toddler growth, and the utilization of local food resources as sources of family nutrition. Health education was delivered through interactive lectures, discussions, presentations, and leaflets.

To measure the effectiveness of the education sessions, pretest and posttest knowledge questionnaires were administered based on the delivered materials. Improvements in knowledge were evaluated by comparing pre- and post-intervention scores, as recommended in community health education evaluation methods (Chandra et al., 2019).

Subsequently, training on the processing of local food–based PMT was conducted, involving posyandu cadres and mothers of toddlers. The training was carried out through cooking demonstrations and hands-on practice, with products developed including moringa leaf–pangasius nuggets and moringa leaf rice porridge. The hands-on practice method was chosen because it has been shown to effectively improve skills and understanding among adult learners through experiential learning. To assess the acceptability of the local PMT products, an organoleptic test was conducted involving 55 mothers of toddlers as panelists. The instrument used was a hedonic test sheet with a 1–5 scale for color, aroma, taste, and texture. Data from the organoleptic test were analyzed descriptively to illustrate the community's level of product acceptance. This approach is commonly used in evaluating food acceptability in community-based nutrition intervention activities (Kalselprov, 2024).

Program success was evaluated comprehensively using several indicators, including changes in mothers' knowledge as reflected in pretest–posttest results, improvements in cadres' skills in processing locally sourced PMT, and changes in posyandu activities, as reflected in increased menu variety and community participation. Quantitative data were analyzed using appropriate statistical tests to compare pre and post-intervention values, while qualitative data from field observations were used to support the interpretation of the results. As part of the sustainability effort, follow-up assistance was provided to posyandu cadres through monitoring and technical guidance after the activity. In addition, cadres were given a pocketbook of local food–based PMT recipes as a practical guide to enable continuous and independent implementation of PMT innovations at posyandu. This mentoring approach was intended to ensure that the community service program did not end as a one-time activity but generated long-term impacts on improving posyandu service quality and community nutritional status.

Results and Discussion

Based on pretest and posttest results from 55 mothers of toddlers at the posyandu, the mean knowledge score before the health education session was 59.25 ± 12.75 (see Table 1). After receiving health education on the importance of attending posyandu, the mean score increased to 85.41 ± 8.36. This represents a 26.16-point increase in the mean score, equivalent to a 44.1% increase. Statistical analysis using a paired t-test showed that this difference was significant ($p = 0.000$; $p < 0.05$). Furthermore, the effect size, measured using Cohen's d, was 2.45, which falls into the very large category, indicating that the health education intervention had a strong effect on improving mothers' knowledge of the importance of posyandu.

Table 1. Effect Test Before and After Health Education on the Importance of Attending Posyandu in Pingaran Ulu Village

Measure	Pretest	Posttest
n	55	55
Mean Score	59,25 ± 12,75	85,41 ± 8,36
Mean Difference	-	+26,16
Percentage Increase in Mean	-	+44,1%
Paired t-test	-	*p-value 0,000*
Cohen's d, paired	-	2,45 (very large)

The findings indicate a significant improvement in mothers' knowledge after receiving health education on the importance of attending posyandu in Pingaran Ulu Village. The mean pretest score before the education session was 59.25 ± 12.75, and the posttest score increased to 85.41 ± 8.36, yielding a mean difference of 26.16 points (44.1% increase). These results were reinforced by the paired t-test, which yielded a p-value of 0.000 ($p < 0.05$), confirming that the educational intervention had a statistically significant effect on respondents' knowledge. The very large effect size (Cohen's d, paired value = 2.45) further indicates that the impact of the health education was not only statistically significant but also practically meaningful.

These findings are consistent with health communication theory, which states that nutrition and health education are effective interventions for changing community knowledge, attitudes, and behaviors (Hanum et al., 2022). Educational processes delivered through interactive methods, discussions, and simple educational media can enhance mothers' understanding of the importance of posyandu. Improved knowledge is expected to increase mothers' awareness of the importance of monitoring their toddlers' growth and development, which, in turn, may lead to increased participation in posyandu visits.

The results also support previous studies reporting that health education interventions can enhance community awareness and promote positive behavioral changes in maternal and child health practices. For example, a study by Atik & Susanti (2020) showed that counseling on supplementary feeding at posyandu significantly improved mothers' knowledge of healthy feeding practices for toddlers. Similarly, research by Aswan & Harahap (2021) found that health education at posyandu increased parents' interest in attending posyandu activities more regularly with their children.

Improving community knowledge about posyandu is essential to support government programs aimed at reducing stunting and improving toddler nutritional status (Rahma & Nuradhiani, 2019). With increased awareness among mothers of toddlers, it is expected that posyandu service coverage can exceed 80%, in line with public health program targets. This is particularly relevant in the context of Pingaran Ulu Village, where posyandu attendance had previously been low. However, it should be noted that increased knowledge alone does not automatically guarantee long-term behavioral change. Therefore, health education activities should be accompanied by other innovations, such as the provision of local food–based supplementary feeding, educational play facilities at posyandu, and continuous support for health cadres. These integrated efforts can provide positive experiences for mothers and toddlers, thereby fostering sustained participation in posyandu activities.

Table 2. The Results of Pretest and Posttest

Measure	Pretest	Posttest
n	55	55
Mean Score	61,80 ± 11,32	87,25 ± 7,94
Mean Difference	-	+25,45
Percentage Increase in Mean	-	+41,2%
Paired t-test	-	p-value 0,000
Cohen's d, paired	-	2,33(Very large)

The results of the community service program describe the dynamics of the mentoring process, including the range of activities implemented and the forms of action, such as technical or programmatic interventions, used to address community problems. Meanwhile, the discussion of the results focuses on theoretical perspectives relevant to the findings from the mentoring activities.

The pretest and posttest results presented in Table 2, involving 55 mothers of toddlers, show a significant increase in knowledge after health education on the importance of local food–based supplementary feeding (PMT). The mean pretest score was 61.80 ± 11.32, increasing to 87.25 ± 7.94 on the posttest, with a mean difference of 25.45 points (41.2% increase). The paired t-test yielded a p-value of 0.000 ($p < 0.05$), indicating a statistically significant difference. Furthermore, Cohen's value (2.33) is categorized as very large, confirming that the educational intervention had a strong effect on improving mothers' knowledge.

This improvement in knowledge is closely related to the participatory and contextual mentoring approach applied in the program. A variety of activities, such as socialization sessions, group discussions, and demonstrations of PMT processing using moringa leaves and pangasius catfish, provided participants with hands-on learning experiences. Technical actions in the form of practical sessions on preparing moringa leaf–pangasius nuggets and moringa leaf rice porridge enabled mothers not only to receive information but also to acquire practical skills. Through this approach, participants were better able to understand the nutritional benefits of local foods and apply the practices independently at home (Farhat, 2018).

From the perspective of health education theory, adult learning processes (andragogy) are more effective when participants are actively involved (Ayupir, 2021). Health education combined with hands-on practice can enhance understanding while fostering positive attitudes toward using local food resources. These findings are consistent with research by Widaryanti & Rahmuniyati (2019). which reported that practice-based nutrition education using local food processing significantly improved mothers' knowledge and skills in preparing nutritious supplementary foods. The findings are also relevant to national efforts to reduce stunting rates (Bridgman & von Fintel, 2022).

One of the main causes of stunting is low-quality nutrient intake among toddlers, particularly in protein and micronutrients. The utilization of local food resources such as moringa leaves, which are rich in iron, calcium, and vitamin A, and pangasius catfish, which provide high-quality animal protein, offers a sustainable solution. With increased knowledge among mothers regarding the importance of local food–based PMT, it is expected that household dietary patterns will gradually shift toward healthier and more nutritious choices (Priyanto et al., 2023). In addition to nutritional

aspects, the results of this community service program also contributed to increased posyandu activity. Posyandu cadres who previously relied mainly on instant PMT products can now provide more varied menus using local ingredients (Amaliyah & Mulyati, 2020). This improvement not only enhances the quality of posyandu services but also strengthens the role of posyandu as a center for family nutrition education. More creative and engaging posyandu activities are expected to increase community participation, which in turn will have a positive impact on routine monitoring of toddler growth and development (Damayanti et al., 2024).

Table 3. Organoleptic Test of Local Supplementary Food (PMT): Moringa Leaf–Pangasius Nugget

Criteria	n	Like Very Much (5)		Like (4)		Moderate (3)		Dislike (2)	
		n	%	n	%	n	%	n	%
Color	55	25	45,5	20	36,4	8	14,6	2	3,6
Aroma	55	22	40,0	23	41,8	8	14,6	2	3,6
Taste	55	28	50,9	18	32,7	7	12,7	2	3,6
Texture	55	24	43,6	21	38,2	9	14,6	2	3,6

Based on the organoleptic test results presented in Table 3 for the local supplementary food (PMT) in the form of pangasius fish nuggets with moringa leaves, involving 55 mothers of toddlers at the posyandu, the majority of respondents provided positive evaluations. In terms of color, 45.5% of mothers stated that they liked it very much, and 36.4% stated that they liked it, resulting in more than 80% of respondents giving positive assessments. The aroma evaluation showed similar results: 40.0% liked it very much, 41.8% liked the nugget aroma, and only 3.6% disliked it.

The taste aspect received the highest evaluation, with 50.9% of respondents stating that they liked it very much and 32.7% liking it, yielding an overall acceptance rate of more than 80%. For texture, 43.6% of respondents reported liking it very much and 38.2% liking it, with only a small proportion rating it as moderate or disliked. These results indicate that pangasius fish nuggets supplemented with moringa leaves are well accepted by mothers of toddlers, particularly for taste and color, which were the most preferred attributes. Therefore, this product has strong potential to be developed as a sustainable and acceptable local supplementary food for use in posyandu programs.

Figure 1. Moringa Leaf–Pangasius Nugget (Local Supplementary Food)

The results of the organoleptic test of the pangasius fish nuggets with the addition of moringa leaves (shown in Figure 1), indicate a relatively high level of acceptance among respondents, as presented in Table 3. Overall, the aspects of color, aroma, taste, and texture received positive evaluations, with the majority of respondents assigning "like" and "like very much" scores. This finding indicates that the local food product innovation developed in this study was well accepted by the community, particularly by mothers of toddlers who served as panelists.

In terms of color, 45.5% of respondents reported liking it very much, and 36.4% reported liking it, resulting in more than 80% of panelists perceiving the nugget's color as attractive. The product's color is influenced by the combination of raw materials, namely the pale white flesh of pangasius fish and the greenish hue contributed by moringa leaves. This natural coloration enhances the product's aesthetic value, as communities are increasingly aware of healthy foods made with natural ingredients, free of synthetic coloring. The high level of color acceptance indicates that the product's appearance aligns well with local consumer preferences.

Regarding aroma, acceptance was also relatively high, with 40.0% of respondents stating that they liked it very much and 41.8% indicating that they liked it. The aroma of the nuggets is influenced by the characteristic yet mild scent of pangasius fish protein, combined with the fresh aroma of moringa leaves. Although a small proportion of respondents (3.6%) expressed dislike, this remains within acceptable limits, as aroma perception is often subjective and influenced by individual dietary habits. Overall, these results demonstrate that the product is well accepted in terms of smell and overall sensory characteristics.

Taste was the attribute with the highest acceptance level. As many as 50.9% of respondents reported liking it very much, and 32.7% reported liking it, resulting in a total acceptance rate of more than 80%. The savory flavor of pangasius fish combined with moringa leaves created a novel taste profile that was well received by the community. This is particularly important, as taste is a key determinant of the sustainability of food consumption. When a product's taste is preferred, the likelihood of repeated production and regular consumption increases.

Texture also received favorable evaluations: 43.6% of respondents stated they liked it very much, and 38.2% indicated they liked it. The moringa leaf–pangasius nuggets had a soft texture due to the fine flesh of the fish, while still maintaining the elasticity characteristic of nugget products. Only 3.6% of respondents disliked the texture, which may be attributed to individual preferences for food softness. These findings suggest that the product's texture aligns with consumer preferences, including those of toddlers who require foods that are easy to chew and swallow.

Overall, these findings demonstrate that moringa leaf–pangasius nuggets have strong potential to be developed as a local supplementary food (PMT). The high level of acceptance, particularly in terms of taste and color, indicates that the product is not only nutritious but also appealing and aligned with community preferences. By utilizing abundant local raw materials, this product also contributes to regional food security and community empowerment through healthy culinary innovation. In the future, if combined with appropriate marketing strategies

and continuous training for posyandu cadres, this product could become a flagship PMT menu to support stunting reduction efforts in the region.

Table 4. Organoleptic Test of Local Supplementary Food (PMT): Moringa Leaf Rice Porridge

Criteria	n	Like Very Much (5)		Like (4)		Moderate (3)		Dislike (2)	
		n	%	n	%	n	%	n	%
Color	55	22	40,0	40,0	25	7	12,7	1	1,8
Aroma	55	18	32,7	27	49,1	8	14,5	2	3,7
Taste	55	24	43,6	23	41,8	7	12,7	1	1,8
Texture	55	20	36,4	26	47,3	7	12,7	2	3,6

Based on the organoleptic test results presented in Table 4 for the local supplementary food (PMT) in the form of moringa leaf rice porridge, involving 55 mothers of toddlers at the posyandu, the color was generally well accepted. A total of 40.0% of respondents reported liking it very much, 45.5% reported liking it, and 1.8% reported disliking it.

Regarding aroma, the majority of respondents reported positive acceptance: 49.1% liked it, and 32.7% liked it very much, while 3.7% reported disliking the aroma of moringa leaf rice porridge. The taste aspect received the most favorable rating, with 43.6% of respondents liking it very much and 41.8% liking it, while only 1.8% expressed dislike.

Regarding texture, 47.3% of respondents reported liking it, 36.4% reported liking it very much, and only 3.6% reported not liking it. These findings suggest that moringa leaf rice porridge is well accepted across sensory attributes by mothers of toddlers and has strong potential as a local supplementary food for posyandu programs.

Figure 2. Moringa Leaf Rice Porridge (Local Supplementary Food)

Overall, the organoleptic test results indicate that the moringa leaf rice porridge shown in Figure 2 was well accepted by the respondents, particularly in terms of taste and color, which received the highest percentages of "like very much" ratings. This finding suggests that local food–based PMT innovations fortified with moringa leaves are acceptable to the community and have strong potential to be developed as nutritious alternative supplementary foods for toddlers.

The organoleptic evaluation of the moringa leaf rice porridge was well received by mothers of toddlers at the posyandu. In general, the attributes of color, aroma, taste, and texture received high scores, with the majority of respondents providing "like" and "like very

much" ratings. This indicates that rice porridge fortified with moringa leaves can be accepted by the community as a practical and nutritious form of local food–based PMT.

In terms of color, the product was considered attractive, with 40.0% of respondents reporting liking it very much and 45.5% reporting liking its appearance. The slightly greenish color of the rice porridge resulting from the addition of moringa leaves did not hinder acceptance; instead, it was perceived as adding a natural and healthy impression. Only 1.8% of respondents expressed dislike, which may be attributed to individual preferences regarding food appearance. This level of color acceptance indicates that natural ingredients can be well-received without the need for artificial coloring.

Regarding aroma, most respondents provided positive evaluations: 32.7% liked it very much, and 49.1% liked it. The characteristic aroma of moringa leaves combined with rice porridge produced a fresh scent that enhanced the product's appeal. Although 3.7% of respondents reported disliking the aroma, this proportion was relatively small and did not affect overall acceptance. These findings suggest that the natural aroma of local food ingredients remains acceptable, especially when presented in a familiar food form such as porridge.

Taste was the most decisive attribute and received very favorable evaluations. As many as 43.6% of respondents reported liking it very much, and 41.8% reported liking it. The savory taste of rice combined with moringa leaves produced a distinctive yet familiar flavor for the local community. Only 1.8% of respondents expressed dislike, indicating that nearly all panelists accepted the product's taste. A pleasant taste is a critical factor in ensuring the sustainability of PMT consumption, making moringa leaf rice porridge highly suitable for continued development.

Texture was also well received, with 47.3% of respondents liking it and 36.4% liking it very much, while only 3.6% expressed dislike. The soft texture of the rice porridge makes it easy for toddlers to consume, aligning well with the target group's needs. This is particularly important, as PMT for toddlers must consider ease of consumption, including both texture and palatability.

Conclusion

The community service activities conducted at posyandu in Astambul Subdistrict successfully improved the knowledge and skills of mothers of toddlers and posyandu cadres regarding the importance of posyandu and the utilization of local food resources as ingredients for supplementary feeding (PMT). The pretest and posttest results demonstrated a significant increase in mothers' knowledge regarding both the importance of attending posyandu and the use of local food–based PMT, with Cohen's d values in the very large category, indicating a very strong intervention effect. In addition, the organoleptic test results showed that both local food–based PMT products—moringa leaf–pangasius nuggets and moringa leaf rice porridge—were well accepted by respondents. The highest ratings were obtained for taste and color, while aroma and texture also demonstrated high levels of acceptance. These findings indicate that local food–based PMT innovations have strong potential for sustainable development.

Thus, this community service program not only enhanced the quality of posyandu services

but also supported efforts to improve community nutritional status by utilizing abundant local food resources. Moving forward, program sustainability should be maintained through continuous cadre mentoring, the development of PMT recipe pocketbooks, and support from village governments to ensure that local food–based PMT innovations can be continuously implemented and provide long-term benefits in preventing stunting and improving toddler health.

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