

**Development of a Web-Based Information System for Toddler Nutrition  
Recommendations Using SLM (*Small Language Model*)**

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***ABSTRACT***

*This study develops a web-based information system to support toddler nutrition recommendations at an integrated health post. The system addresses the limitations of manual recording and visual interpretation of growth charts, which may become inconsistent near category boundaries. It stores toddler records, calculates nutritional status from anthropometric data according to WHO standards, and generates recommendations through a backend-controlled hybrid pipeline. In this pipeline, the backend performs nutritional status calculation, target needs, ingredient weights, macronutrient totals, and recommendation validation, while the Small Language Model (SLM) only assists in selecting candidate ingredients and producing brief recommendation narratives. In the configuration comparison test, the hybrid mode achieved an average best fit of 2.16, outperforming rule-only at 3.15 and SLM-only at 99.92. The findings indicate that the hybrid approach is suitable for delivering toddler nutrition recommendations without replacing health workers' judgment.*

***Keywords:*** *information system, child nutrition detection, nutrition recommendation, small language model, web*