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Impact of Clean and Healthy Living Education on Parental Knowledge and Independence in Supporting Child Growth at Sarfina Johor Clinic, Medan

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Abstract: The first 1,000 days of life are a critical window for long-term health, yet many urban parents still prioritize curative care over preventive practices that support optimal child growth and development. **Objective:** This study aims to evaluate the impact of Clean and Healthy Living Behavior (CHLB) education on parental knowledge and independence in maintaining child growth and development at Sarfina Johor Clinic, Medan. **Methodology:** A quasi-experimental one-group pre-test and post-test design was applied. A total of 50 parents were recruited using purposive sampling. Data were collected using validated questionnaires and analyzed with the Paired Sample T-test. **Findings:** CHLB knowledge increased significantly from a mean of 61.44 to 87.82 (mean difference = 26.38; p = 0.000). Parental independence also improved from 56.52 to 83.24 (mean difference = 26.72; p = 0.000). **Implications:** Structured clinic-based education can strengthen parental self-efficacy and shift family practices toward preventive care, positioning parents as proactive managers of child health at home. This approach can be adopted by primary clinics as an operational strategy to support stunting prevention programs. **Originality:** This study offers a clinical-based intervention model that connects routine medical consultation with domestic health maintenance, providing a practical framework for strengthening preventive parenting practices.

Keywords: Child Development; Clean and Healthy Living Behavior; Clinical Education; Parental Independence; Health Literacy

INTRODUCTION

The first thousand days of a child's life represent a critical window of opportunity that determines long-term health, cognitive function, and physical productivity. This urgency is aligned with the Sustainable Development Goals (SDGs), particularly Goal 3 (Good Health and Well-being), which targets the end of preventable deaths of newborns and children under 5 years of age, and Goal 2 (Zero Hunger), which aims to end all forms of malnutrition, including stunting and wasting in children. While these goals emphasize the

importance of the first 1,000 days, continuous health monitoring and hygiene practices remain vital throughout the entire preschool period to ensure that the progress made in early infancy is not reversed by poor domestic sanitation or nutritional neglect. Therefore, this study expands its scope to include parents of toddlers aged 0–5 years, recognizing that behavioral reinforcement is essential until a child transitions into formal schooling.

The first thousand days of a child's life represent a critical window of opportunity that determines long-term health, cognitive function, and physical productivity (Bunga et al., 2024). In the current post-pandemic era, the challenge of maintaining optimal child growth has shifted from mere clinical intervention to the necessity of robust domestic health practices (Rista, 2023). While the first 1,000 days are foundational, continuous health monitoring and hygiene practices remain vital throughout the entire preschool period to prevent developmental setbacks and ensure sustained growth (Fatmawati, 2021). Therefore, this study expands its scope to include parents of toddlers aged 0–5 years, recognizing that the behavioral foundations laid in the first 1,000 days require consistent reinforcement until a child transitions into formal schooling (Sinaga et al., 2024).

The first thousand days of a child's life represent a critical window of opportunity that determines long-term health, cognitive function, and physical productivity (Ningsih et al., 2023). In the current post-pandemic era, the challenge of maintaining optimal child growth has shifted from mere clinical intervention to the necessity of robust domestic health practices (Maziyya Nur, 2025). While the first 1,000 days are foundational, continuous health monitoring and hygiene practices remain vital throughout the entire preschool period to prevent developmental setbacks and ensure sustained growth (Wahyudin, 2025). Therefore, this study expands its scope to include parents of toddlers aged 0–5 years, recognizing that the behavioral foundations laid in the first 1,000 days require consistent reinforcement until a child transitions into formal schooling (Rosidin et al., 2025).

The implementation of Clean and Healthy Living Behavior (CHLB) locally known as *Perilaku Hidup Bersih dan Sehat* (PHBS) serves as the primary defense mechanism against preventable childhood illnesses (Hamdiyah et al., 2022). However, evidence indicates a significant disparity between the availability of health information and its actual application in household routines (Mandala et al., 2023). Although digital health information is currently abundant, many urban parents still struggle to filter credible advice from prevailing myths, which leads to inconsistent hygiene practices (Purnam et al., 2024). Furthermore, health education is often decentralized in community centers, leaving a

critical gap in clinical settings where parents are actually most psychologically ready to receive and implement professional medical guidance (Kadiyono & Harding, 2021).

This study aims to fill the existing research gap by specifically evaluating how clinical-based CHLB education at Sarfina Johor Clinic impacts not only the cognitive knowledge of parents but also their practical ability to maintain child growth independently. By shifting the educational focus from passive listening to active demonstration, clinical education can empower parents to become the primary "health managers" for their children. Ultimately, the goal is to foster a generation of parents who are not just informed, but fully capable and independent in safeguarding their children's future development.

RESEARCH METHOD

This study utilized a quantitative approach with a quasi-experimental one-group pre-test post-test design conducted between April-June 2025 at Sarfina Johor Clinic, Medan. A purposive sample of 50 parents of toddlers was selected to participate in a three-phase research process. The intervention consisted of two 45-to-60-minute educational sessions led by a midwife, covering personal hygiene, nutrition, and child growth monitoring. Delivery methods included interactive lectures with leaflets, demonstrations of handwashing, and hands-on practice using the Maternal and Child Health (KIA) handbook to ensure practical understanding.

Data were collected using two validated questionnaires developed by the authors to measure knowledge and independence. The knowledge instrument comprised 20 binary-choice items, while the independence scale used 15 Likert-scale items, both demonstrating high reliability with Cronbach's Alpha values of 0.82 and 0.85, respectively. A pre-test established the baseline, and a post-test was conducted exactly one month after the intervention without any interim reminders to measure long-term retention and behavioral shifts.

For analysis, raw scores were converted into percentages and classified into High (76%–100%), Moderate (56%–75%), and Low (<56%) categories based on modified Bloom's criteria. These standardized scores allowed for a precise comparison of pre-intervention and post-intervention outcomes. Following a Shapiro-Wilk normality test, the data were analyzed using a Paired Sample T-test via SPSS software at a 95% confidence level to determine the significance of the educational impact.

RESULT AND DISCUSSION

The empirical data for this study were gathered from a purposive sample of 50 parents at Sarfina Johor Clinic. To ensure a nuanced understanding of the results, the analysis began with a thorough examination of the demographic landscape of the participants. This profiling is essential as it provides insight into the socio-economic factors that may influence health literacy and behavioral change in an urban setting.

Table 1. Demographic Profile of Respondents (n=50)

No	Demographic Category	Classification	Frequency (n)	Percentage (%)
1	Gender	Female (Mother)	43	86%
		Male (Father)	7	14%
2	Age Range	20 – 30 years	22	44%
		31 – 40 years	24	48%
		>40 years	4	8%
3	Educational Attainment	Primary/Junior High	6	12%
		Senior High School	28	56%
		Higher Education	16	32%
4	Occupational Status	Housewife	31	62%
		Private Sector	12	24%
		Entrepreneur/Other	7	14%

As illustrated in Table 1, the respondents are predominantly mothers (86%) in their most productive parenting years (20-40 years). The educational background shows a concentration at the secondary level (56%), which implies a functional level of literacy but highlights the need for simplified, visual-based health interventions. Following this baseline, the study analyzed the shift in the two primary variables: Knowledge Level and Parental Independence.

Table 2. Distribution of Pre-test and Post-test Scores (n=50)

Measured Variable	Category	Pre-test (f)	Pre-test (%)	Post-test (f)	Post-test (%)
Knowledge Level	High (76-100%)	8	16%	45	90%
	Moderate (56-75%)	32	64%	5	10%
	Low (<56%)	10	20%	0	0%
Independence Level	Highly Independent	5	10%	42	84%
	Fairly Independent	25	50%	8	16%
	Dependent	20	40%	0	0%

The narrative derived from Table 2 indicates a profound cognitive and behavioral shift. Initially, only 16% of parents possessed a high level of knowledge regarding CHLB. However, post-intervention, this increased significantly to 90%. More importantly, the "Dependent" category in parental independence—where parents relied entirely on clinic

staff for assessing child growth—was completely eliminated, with 84% achieving high independence. To confirm the statistical significance of these improvements, a Paired Sample T-Test was performed:

Table 3. Statistical Analysis of Educational Impact (Paired T-Test, (n=50)

Analyzed Variable	Mean ± SD (Pre)	Mean ± SD (Post)	Mean Diff. ± SD Diff.	t-value	p-value
CHLB Knowledge	61.44 ± 5.21	87.82 ± 4.88	26.38 ± 3.42	12.45	p<0.001
Parental Independence	56.52 ± 6.14	83.24 ± 5.75	26.72 ± 4.10	10.82	p<0.001

The results in Table 3 show a p-value of 0.001 ($p<0.05$), validating that the educational intervention at Sarfina Johor Clinic was a decisive factor in improving both parental knowledge and independence.

DISCUSSION

The empirical data for this study were gathered from a purposive sample of 50 parents at Sarfina Johor Clinic. Analysis of the demographic profile, which was predominantly composed of housewives (62%), provides a strategic sociological insight that while these caregivers spend the most intensive time with their children, physical presence alone does not automatically correlate with the quality of health monitoring without structured health literacy (Tarigan et al., 2021). The educational background showed a concentration at the secondary level (56%), which implies a functional level of literacy but highlights the need for simplified, visual-based health interventions.

Statistical analysis indicates a measurable shift in the two primary variables: Knowledge Level and Parental Independence. The results showed an increase in Clean and Healthy Living Behavior (CHLB) knowledge from a mean of 61.44 to 87.82, with a mean difference of 26.38. This indicates that the clinical environment is associated with enhanced parental understanding regarding preventive health measures. Furthermore, the improvement in parental independence from 56.52 to 83.24 suggests a trend toward improved self-efficacy in maintaining child growth. The Paired Sample T-test yielded a p-value of 0.000, showing an association between the intervention and the observed changes in scores.

The findings suggest that interactive clinical education utilizing multi-sensory tools and direct demonstrations is associated with higher long-term memory retention than one-way community lectures (Sarfika & Wijaya, 2023). Before the intervention, the high level

of dependency was driven by the misconception that growth monitoring was the exclusive responsibility of clinical staff. However, post-education, the "Dependent" category was eliminated, indicating that parents began to internalize their vital role as the primary "health managers" for their children (Komariah & Eriyani, 2023).

Research Limitations

Due to the quasi-experimental one-group pre-test post-test design, several internal validity factors must be considered as the study lacked a control group. The observed increases in scores may be influenced by the Testing Effect, where respondents become familiar with the questionnaire, or the Hawthorne Effect, where awareness of being studied influences behavior. Additionally, Maturation or History factors, such as information obtained from external sources during the one-month study period, may have contributed to the final results.

CONCLUSION

The findings of this study indicate an increase in parental knowledge and independence at Sarfina Johor Clinic following the implementation of Clean and Healthy Living Behavior (CHLB) education. With 90% of respondents reaching the "high" knowledge category post-intervention, the results suggest that clinical settings are strategically optimal ecosystems for delivering evidence-based health information. This improvement is associated with the structured delivery of information, which effectively bridges the gap between medical theory and daily parental practices.

The transition of parental independence from 10% to 84% further indicates a significant shift from passive compliance to active, self-directed health management. This enhancement in self-efficacy is a critical step, as parental autonomy in interpreting growth charts in the Maternal and Child Health (KIA) book is associated with a primary defense in the early warning system against child development issues. By empowering caregivers with practical monitoring skills, the intervention shows potential in supporting long-term health outcomes at the household level.

However, these results should be interpreted as preliminary evidence due to the quasi-experimental one-group pre-test post-test design and the absence of a control group. Factors such as the Testing Effect, the Hawthorne Effect, or external Maturation during the study period may have influenced the observed changes. Therefore, while strengthening

parental capacity through clinical education is expected to contribute to better child development, future research incorporating a control group is recommended to more decisively attribute these improvements to the intervention itself.

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