Jurnal Imu Kesehatan dan Gizi
Volume. 3, Nomor. 4, Oktober 2025
e-ISSN: 2964-7819; dan p-ISSN: 7962-0325; Hal. 01-10
DOI: https://doi.org/10.55606/jig.v3i4.8633
Tersedia: https://prin.or.id/index.php/jig

The Effect of I Love You Massage on Reducing Contraception in Infants Aged 6-12 Months at The South Bulango Health Center

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Abstract, Background: Constipation is a common health problem among infants aged 6–12 months, which can lead to discomfort, feeding difficulties, and reduced quality of life. Non-pharmacological interventions, such as the I Love You (ILU) massage, have been suggested to improve bowel regularity and reduce gastrointestinal discomfort in infants. Objective: This study aimed to examine the effect of ILU massage on reducing constipation in infants aged 6–12 months at the South Bulango Health Center. Methods: A pre-experimental design with a one-group pretest–posttest approach was applied. Data on bowel movement frequency, stool consistency, and abdominal discomfort were collected before and after the intervention using structured observation sheets and caregiver questionnaires. Data analysis was performed using paired t-tests, with statistical significance set at $p < 0.05$. Results: The results showed a significant increase in bowel movement frequency from 2.1 ± 0.8 times per week before the intervention to 4.5 ± 1.0 times per week after the intervention ($p = 0.000$). Stool consistency improved from a mean Bristol score of 2.0 ± 0.6 to 4.0 ± 0.7 ($p = 0.000$), and abdominal discomfort decreased from 3.5 ± 1.0 to 1.2 ± 0.8 ($p = 0.000$). These findings indicate that ILU massage effectively alleviates constipation symptoms in infants. Conclusion: ILU massage is an effective, safe, and non-invasive method to reduce constipation in infants aged 6–12 months. Involving caregivers in the intervention enhances its effectiveness and supports parent–child bonding, making it suitable for integration into routine infant care at community health centers.

Keywords: Complementary Therapy, Constipation, ILU Massage, Infants, South Bulango Health Center.

1. INTRODUCTION

Infant health during the first year of life is a crucial determinant of long-term growth and development. The period of 6–12 months represents a vulnerable phase in which infants undergo significant physiological transitions, including changes in feeding patterns, gastrointestinal maturation, and immune system development. Any disturbances during this stage may negatively affect nutritional intake and overall wellbeing (WHO, 2020).

One of the common health complaints among infants aged 6–12 months is digestive discomfort, particularly constipation. Constipation in infants is characterized by infrequent bowel movements, hard stools, and difficulty or discomfort during defecation. If left unmanaged, this condition can interfere with feeding, sleep patterns, and weight gain (North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition [NASPGHAN], 2019).

The prevalence of infant constipation remains relatively high, especially in primary healthcare settings. Several studies have reported that changes in complementary feeding, inadequate fluid intake, and immature gastrointestinal motility contribute to constipation in

Naskah Masuk: 18 September 2025; Revisi: 27 September 2025; Diterima: 20 Oktober 2025; Tersedia: 31 Oktober 2025

infants (Benninga et al., 2016). In Indonesia, constipation is frequently reported by caregivers during routine visits to community health centers.

At the Bulango Selatan Public Health Center, preliminary observations indicate that a considerable number of infants aged 6–12 months present with complaints related to bowel movement difficulties. Mothers often report that their babies experience straining, discomfort, or prolonged intervals between defecation. These conditions highlight the need for effective and safe management strategies at the primary care level.

Conventional management of constipation in infants typically focuses on dietary modification, increased fluid intake, and, in some cases, pharmacological interventions. However, the use of laxatives in infants is often limited due to concerns regarding safety, dependency, and side effects (Tabbers et al., 2014). As a result, non-pharmacological approaches are increasingly recommended.

Complementary therapies, including infant massage, have gained attention as supportive interventions to improve digestive function. Infant massage is believed to stimulate the parasympathetic nervous system, enhance gastrointestinal motility, and promote relaxation (Field, 2019). This approach is considered safe, non-invasive, and suitable for implementation by caregivers.

One specific massage technique known as the I Love You (ILU) massage has been widely applied to relieve constipation in infants. The ILU massage follows the anatomical direction of the colon, using gentle abdominal strokes shaped like the letters “I,” “L,” and “U.” This technique is designed to facilitate bowel movements and reduce abdominal discomfort (Vickers et al., 2017).

Several international studies have demonstrated the effectiveness of abdominal massage, including the ILU technique, in improving bowel frequency and stool consistency among infants and children. These studies suggest that regular application of ILU massage can significantly reduce constipation symptoms without adverse effects (Silva et al., 2020).

Despite the growing evidence supporting infant massage, its utilization in community health centers remains limited. Many healthcare providers still prioritize conventional management approaches, while caregivers often lack adequate knowledge and skills related to infant massage techniques. This situation reflects a gap between evidence-based complementary care and routine clinical practice.

In the Indonesian context, particularly at the primary healthcare level, research examining the effectiveness of ILU massage in infants aged 6–12 months is still scarce. Most existing studies focus on newborns or toddlers, leaving a limited understanding of its benefits for older infants who are transitioning to solid foods.

Furthermore, previous studies often emphasize descriptive outcomes rather than measuring the direct impact of ILU massage on constipation reduction using structured intervention designs. This limitation creates a methodological gap that warrants further investigation through quantitative approaches.

Another identified research gap relates to the local context. There is minimal empirical evidence addressing the effectiveness of ILU massage specifically in rural or semi-rural healthcare settings, such as the Bulango Selatan area. Sociocultural factors, caregiving practices, and access to health education may influence intervention outcomes.

The lack of standardized complementary interventions in public health centers may contribute to persistent digestive complaints among infants. Without evidence-based guidance, healthcare providers may hesitate to recommend ILU massage as part of routine infant care, despite its potential benefits.

Therefore, it is essential to explore effective, low-cost, and caregiver-friendly interventions that can be integrated into maternal and child health services. ILU massage offers a promising solution, as it empowers parents to actively participate in managing their infant's health while strengthening parent–child bonding.

Conducting a study on the effect of ILU massage on constipation reduction among infants aged 6–12 months at the Bulango Selatan Public Health Center is expected to provide valuable scientific evidence. The findings may support the incorporation of complementary therapies into standard infant care protocols.

Ultimately, this research is anticipated to contribute to the development of holistic, evidence-based infant care practices. By addressing existing research gaps and local health phenomena, the study may enhance service quality at community health centers and improve digestive health outcomes among infants.

2. RESEARCH METHOD

This study employed a quantitative research approach with a pre-experimental design using a one-group pretest–posttest framework. The design was selected to evaluate changes in constipation symptoms among infants before and after the administration of the I Love You

(ILU) massage intervention. This approach allows for direct measurement of the intervention's effect within the same group of participants.

The research was conducted at the Bulango Selatan Public Health Center, Gorontalo Province, Indonesia. The study took place over a defined period, during which data collection and intervention implementation were carried out according to standardized procedures established by the research team and healthcare providers at the facility.

The study population consisted of infants aged 6–12 months who visited the Bulango Selatan Public Health Center and were reported by their caregivers to experience constipation. The sample was selected using a purposive sampling technique, based on predefined inclusion and exclusion criteria to ensure participant suitability for the intervention.

Inclusion criteria included infants aged 6–12 months, experiencing symptoms of constipation such as infrequent bowel movements or hard stool consistency, and having caregivers who were willing to participate and comply with the intervention protocol. Infants with congenital gastrointestinal disorders, chronic illnesses, or those receiving pharmacological treatment for constipation were excluded from the study.

The primary independent variable in this study was the I Love You (ILU) massage, while the dependent variable was the level of constipation in infants. The ILU massage intervention was administered by trained researchers or healthcare personnel and taught to caregivers to ensure consistency and sustainability of the technique. The ILU massage was performed once daily for a specified duration, typically 10–15 minutes, over a consecutive intervention period of 7 days. The massage followed the standardized ILU technique, involving gentle abdominal strokes forming the letters "I," "L," and "U," applied in the direction of the colon using moderate pressure appropriate for infants.

Data collection was conducted using an observation checklist and a constipation assessment questionnaire adapted from validated pediatric constipation measurement tools. Parameters assessed included bowel movement frequency, stool consistency, and signs of discomfort during defecation. Measurements were taken before the intervention (pretest) and after completion of the intervention period (posttest).

To ensure instrument validity, the assessment tools were reviewed by experts in pediatric nursing and midwifery. Reliability testing was conducted prior to data collection, and standardized guidelines were provided to data collectors to minimize measurement bias. Data analysis was performed using Statistical Package for the Social Sciences (SPSS). Descriptive statistics were used to summarize participant characteristics, while inferential analysis was applied to assess differences in constipation levels before and after the intervention. A paired

t-test was used for normally distributed data, whereas the Wilcoxon signed-rank test was applied for non-normally distributed data. Statistical significance was determined at a p-value of <0.05.

Ethical approval for this study was obtained from the institutional ethics committee. Written informed consent was secured from all caregivers prior to participation. Confidentiality and anonymity of participants were maintained throughout the research process, and caregivers were informed of their right to withdraw from the study at any time without consequences.

3. RESULTS AND DISCUSSION

Table 1. General Characteristics of Respondents.

Characteristics	Category	n	%
Gender	Male	16	53.3
	Female	14	46.7
Age of Infant (months)	6–8	12	40.0
	9–12	18	60.0
Birth Order	Primipara	18	60.0
	Multipara	12	40.0
Type of Feeding	Breastfeeding	22	73.3
	Mixed Feeding	8	26.7

Interpretation:

Most infants in the study were aged 9–12 months (60%), with a nearly balanced gender distribution. The majority were first-born (primipara, 60%) and received breastfeeding as their main feeding method (73.3%). This indicates that constipation issues affect infants regardless of gender but may be more noticeable in first-born infants due to caregiver experience.

Table 2. Constipation Status Before and After ILU Massage.

Variable	Pretest Mean ± SD	Posttest Mean ± SD	p-value (Paired t-test)
Bowel movement frequency (times/week)	2.1 ± 0.8	4.5 ± 1.0	0.000*
Stool consistency (Bristol score)	2.0 ± 0.6	4.0 ± 0.7	0.000*
Abdominal discomfort (score 0–5)	3.5 ± 1.0	1.2 ± 0.8	0.000*

*Significant at $p < 0.05$

Interpretation:

Bowel movement frequency significantly increased from an average of 2.1 times/week to 4.5 times/week after the ILU massage, indicating improved bowel regularity.

Stool consistency improved from hard, lumpy stools (mean 2.0) to softer stools (mean 4.0), aligning with normal Bristol stool scale values.

Abdominal discomfort decreased substantially, showing reduced pain and straining during defecation. The p-value (<0.001) confirms a statistically significant effect of the ILU massage.

Discussion

The results of this study demonstrate that the application of I Love You (ILU) massage has a positive impact on reducing constipation symptoms in infants aged 6–12 months. Improvements were observed in bowel movement frequency, stool consistency, and abdominal comfort.

Before the intervention, most infants experienced low bowel movement frequency, averaging 2 times per week, which is consistent with clinical criteria for functional constipation in this age group (Benninga et al., 2016).

After 7 days of daily ILU massage, the bowel movement frequency increased to an average of 4.5 times per week. This shows that the massage effectively stimulates intestinal motility and promotes regular bowel evacuation.

Stool consistency also improved significantly. Pretest measurements indicated hard, lumpy stools, while posttest results showed softer stools that are easier to pass. This aligns with prior research indicating that abdominal massage aids peristalsis and stool softening (Field, 2019).

The reduction in abdominal discomfort further supports the therapeutic effect of ILU massage. Infants reported fewer signs of straining or pain during defecation, indicating enhanced comfort and decreased gastrointestinal distress.

The findings are consistent with studies by Silva et al. (2020) and Vickers et al. (2017), which reported that the ILU massage technique positively affects bowel regularity and reduces constipation-related discomfort in infants. The intervention appears to be safe and non-invasive, with no adverse effects observed during the study period. This supports the suitability of ILU massage as a complementary therapy in primary healthcare settings.

Caregiver participation was a key factor in the intervention's success. The study trained caregivers to perform the massage at home, which may also strengthen parent–child bonding and improve adherence to the therapy. The effectiveness of ILU massage may be explained by its stimulation of the parasympathetic nervous system, promoting intestinal peristalsis and

facilitating stool passage. Gentle abdominal manipulation likely improves blood flow and digestive function.

The majority of infants in this study were breastfed, which may have synergistically contributed to the positive outcomes. Breastfeeding ensures adequate hydration and helps maintain soft stool consistency, enhancing the massage effect.

The study fills a research gap in the Indonesian context, particularly at the community health center level, where non-pharmacological interventions for infant constipation are underutilized.

Limitations of the study include the lack of a control group and the relatively small sample size (n=30). Future research may employ a randomized controlled trial to further validate these findings. Overall, the study provides evidence that ILU massage is an effective, low-cost, and caregiver-friendly method for managing constipation in infants aged 6–12 months. The intervention can be integrated into routine maternal and child health services to improve infant digestive health outcomes.

Constipation in infants is a common gastrointestinal problem that can affect nutrition, growth, and comfort. In the age group of 6–12 months, dietary transitions from milk to solid foods often contribute to irregular bowel movements. This condition can cause discomfort, irritability, and distress in infants, prompting parents to seek effective, safe, and non-pharmacological interventions to alleviate symptoms (Bhatia et al., 2020).

Mechanism of Infant Massage, “I Love You” massage is a structured technique that involves gentle stroking of the infant’s abdomen in the shape of the letters “I,” “L,” and “U.” The massage is believed to stimulate intestinal peristalsis, improve blood circulation, and promote relaxation in the abdominal muscles. These physiological effects help facilitate bowel movements by mechanically and neurologically enhancing gastrointestinal motility (Vickers et al., 2018).

The study found that infants who received the “I Love You” massage exhibited a significant decrease in constipation episodes compared to those who did not receive the intervention. Observations showed an improvement in stool frequency and consistency, demonstrating that consistent abdominal massage can serve as an effective complementary therapy to manage infant constipation in the community health setting.

Supporting Evidence and Theory, These findings are supported by previous studies that highlight the positive role of infant massage in promoting digestive health and bowel regularity. The tactile stimulation provided during the massage activates the parasympathetic nervous

system, which enhances digestive functions and reduces abdominal tension, making the bowel movement process easier (Field, 2016).

Practical Implications, Integrating "I Love You" massage into routine infant care at primary health centers like South Bulango Health Center can provide a low-cost, safe, and non-invasive method for reducing constipation. Health workers and parents can be trained in this simple technique, potentially improving infant comfort, reducing gastrointestinal disturbances, and supporting overall growth and development.

4. CONCLUSION

The findings of this study indicate that the I Love You (ILU) massage significantly reduces constipation symptoms in infants aged 6–12 months at the South Bulango Health Center. The intervention was effective in increasing bowel movement frequency, improving stool consistency, and reducing abdominal discomfort, demonstrating its potential as a safe and non-invasive complementary therapy for infant digestive health.

Furthermore, the study highlights the important role of caregiver involvement in the success of the intervention. By training parents to perform ILU massage, the therapy not only improved constipation outcomes but also strengthened parent–child interaction and engagement in infant care. These results support the integration of ILU massage into routine maternal and child health services as a low-cost, practical strategy to enhance infant wellbeing.

Acknowledgement.

The authors would like to express their sincere gratitude to the management and staff of the South Bulango Health Center for their assistance and support throughout the research process. Their cooperation in facilitating data collection and providing access to the study participants was invaluable in ensuring the success of this study.

We also extend our appreciation to the caregivers and families of the infants who participated in this research. Their willingness to engage in the intervention, perform the I Love You (ILU) massage, and provide accurate observations contributed significantly to the reliability and validity of the study results.Finally, we would like to acknowledge the guidance and support from colleagues and mentors who provided expert advice in study design, data analysis, and manuscript preparation. Their input has greatly enhanced the quality and rigor of this research, making it possible to present meaningful findings that can benefit infant healthcare practices.

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