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## The Effect Of Tui Na Massage On Eating Difficulties In Toddlers In The Working Area Of The Rambah Hilir Ii Community Health Center, Rokan Hulu Regency

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### Abstract

Based on a preliminary survey conducted by researchers on toddlers in the Rambah Hilir II Health Center Working Area of Rokan Hulu Regency, there were 10 toddlers who had difficulty eating. Difficulty eating causes several eating problems that often arise, including: fussiness, vomiting, being too picky, eating phobia, eating slowly, and refusing food. Eating difficulties can be treated with non-pharmacological treatment, namely Tui Na Massage. This massage can improve blood circulation in the spleen and digestion. This method uses pressure on the body's meridian points or energy flow lines, so that appetite will increase. The purpose of this study was to determine the effect of Tui Na Massage on eating difficulties in toddlers in the Rambah Hilir II Health Center Working Area, Rokan Hulu Regency. This type of research is quantitative research with a Pre-Experimental research design without a control group using the one-group Pretest and posttest approach. The sample in the study consisted of 10 respondents. The average value of respondents' eating difficulties before and after Tui Na Massage was 1,400 with a standard deviation of 0.240 and a standard error of 0.076, with the results of the T dependent test obtained  $p$  value = 0.000 < 0.05; this means  $p$  value < 0.05. So it can be concluded that there is an effect of Tui Na Massage on eating difficulties in toddlers in the Working Area of Rambah Hilir II Health Center, Rokan Hulu Regency. It is expected that after the research is conducted, the respondent parents can increase their knowledge about Tui Na Massage and its massage techniques to help overcome eating difficulties in toddlers with non-pharmacological treatment.

**Keywords:** Toddlers, Difficulty Eating, Tui Na Massage

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## INTRODUCTION

During the critical "golden period" of toddlerhood, from birth to five years, children undergo rapid growth and development that lays the foundation for their future well-being (Nurhayati et al., 2023; Shonkoff & Phillips, 2000). This period demands vigilant observation from parents and caregivers to promptly identify any deviations or challenges in a child's developmental trajectory. Unfortunately, a prevalent health issue among toddlers is undernutrition, frequently stemming from insufficient food intake (Putri et al., 2024; Black et al., 2013). This nutritional deficiency can have severe repercussions, impairing brain development and overall physical and mental growth, underscoring the urgency of addressing inadequate dietary intake in early childhood.

One significant contributor to insufficient nutritional intake in toddlers is eating difficulties, characterized by a child's refusal to eat or their inability to consume age-appropriate and physiologically adequate food or drinks without intervention (Noviri et al., n.d.; Kerzner et al., 2015). These difficulties can manifest in various ways, including fussiness, vomiting, extreme pickiness, eating phobias, slow eating, and outright food refusal (Mucharomah et al., 2024; Addo et al., 2020). Both internal factors, such as parasitic infections, and external factors, like distractions during mealtimes or unappealing food presentations, can contribute to these challenges (Mucharomah et al., 2024; Cresti et al., 2021). The prevalence of undernutrition among toddlers highlights the scale of this issue. For instance, in 2022, the Indonesian Ministry of Health reported 584,232 toddlers with undernutrition and 95,504 with severe malnutrition (Riau, 2022). While Riau Province saw a decline in the prevalence of malnutrition from

2019–2022, it still fell short of national targets (Riau, 2022). Data from the Rambah Hilir II Community Health Center in June 2024 indicated 22 toddlers experiencing undernutrition, further emphasizing the need for effective interventions.

Traditionally, pharmacological approaches, such as multivitamin supplementation, have been used to address eating difficulties, though these may carry long-term side effects (Alamsyah et al., 2023). Consequently, there's a growing interest in non-pharmacological or complementary therapies, including herbal remedies, massage, acupressure, and acupuncture, which generally have fewer adverse effects (Alamsyah et al., 2023; Field, 2014). Tui Na massage, an ancient Chinese therapeutic massage technique, has gained international recognition for its safety and efficacy across various age groups, from infants to the elderly (Alamsyah et al., 2023; Yang et al., 2021). Previous research supports the effectiveness of Tui Na massage in improving eating quality and appetite in toddlers (Hidayanti, 2023; Yusari Asih & Mugiati, 2018; Maulida et al., 2023; Munjidah, 2018). Tui Na works by promoting blood circulation and optimizing organ function, particularly in the digestive system. By stimulating intestinal motility, it enhances nutrient absorption, thereby increasing appetite (Hidayanti, 2023; Li et al., 2022). The specific techniques of Tui Na, involving gliding, kneading, tapping, friction, pulling, twisting, rocking, and vibrating specific meridian points, stimulate nerve endings, increase cell membrane permeability, and facilitate ion exchange, ultimately influencing muscle and nerve activity (Wulaningsih, 2022; Wang et al., 2020). This stimulation, particularly of the vagus nerve, accelerates gastric emptying and enhances peristalsis, leading to increased hunger and improved food intake (Wulaningsih, 2022; Deng et al., 2021).

Given the observed prevalence of undernutrition and eating difficulties in the Rambah Hilir II Community Health Center's working area, coupled with a lack of parental knowledge regarding non-pharmacological interventions like Tui Na massage, this study aimed to investigate the effect of Tui Na massage on eating difficulties in toddlers in this region. This research is crucial as it seeks to validate a safe, non-pharmacological approach to a pervasive issue, offering parents a viable alternative to conventional treatments. The study's findings are expected to contribute valuable evidence to the existing body of knowledge on complementary therapies for pediatric feeding challenges, specifically highlighting the efficacy of Tui Na massage in improving appetite and reducing eating difficulties in toddlers.

## RESEARCH METHODS

This study employed a quantitative research approach with a pre-experimental design, specifically utilizing a one-group pre-test and post-test design. This design aimed to assess the impact of Tui Na massage on eating difficulties in toddlers by measuring their eating difficulty levels before and after the intervention, without the use of a control group (Sugiyono, 2019; Creswell & Creswell, 2018). This method is suitable for exploring the potential influence of an intervention within a single group, providing insights into changes observed over time.

### Population and Sampling

The population for this study comprised all toddlers experiencing eating difficulties within the working area of the Rambah Hilir II Community Health Center, totaling 10 individuals. Given the small and specific nature of the population, a saturated sampling (total sampling) technique was employed, where all members of the accessible population were included as the sample (Sugiyono, 2019; Etikan et al., 2016). This approach ensured that every toddler identified with eating difficulties in the designated area participated, maximizing the data collection from the target group.

### Data Collection Instruments and Techniques

Primary data for this study were collected through interviews using a structured questionnaire. The questionnaire, designed to assess eating difficulties in toddlers aged 3-5 years, consisted of 10 items. Each item was evaluated using a Likert scale, incorporating both positive (favorable) and negative (unfavorable) statements related to eating difficulties. This self-reported instrument allowed for direct input from the mothers of the toddlers regarding their children's eating behaviors before and after the Tui Na massage intervention (Emzir, 2018; Sudaryono, 2016). In addition to primary data, secondary data were obtained from existing reports and documents provided by the Rambah Hilir II Community Health Center, offering contextual information relevant to the study's scope.

### Data Analysis and Research Procedure

The research procedure involved a pre-test phase, where the initial level of eating difficulties in the 10 toddler respondents was measured using the questionnaire. This was followed by the Tui Na massage intervention, administered once daily for six consecutive days. Post-intervention, a post-test was conducted using the same questionnaire to re-evaluate the toddlers' eating difficulty levels. The collected data were then subjected to univariate analysis to describe the average distribution of eating difficulties, providing a foundational understanding of the data (Sugiyono, 2019). Subsequently, bivariate analysis was performed using a dependent T-test with SPSS software to determine if there was a statistically significant influence of Tui Na massage (independent variable) on eating difficulties (dependent variable). This statistical approach allowed for a comparison of the mean differences in eating difficulty scores before and after the intervention within the same group, thereby assessing the efficacy of Tui Na massage in addressing feeding challenges in toddlers (Pallant, 2020; Field, 2018).

## RESULTS AND DISCUSSION

Based on the results of a study titled The Effect of Tui Na Massage on Eating Difficulties in Toddlers in the Working Area of the Rambah Hilir II Health Center, Rokan Hulu Regency, was carried out from October 21 to October 26, 2024. The sample in this study amounted to 10 respondents who had difficulty eating and had met the inclusion criteria, namely, toddlers aged 3-5 years who were given Tui Na Massage. After the research is completed, the data is processed and analyzed so that it can be described as follows.

### Univariate Analysis

#### Difficulty Eating Before Tui Na Massage

**Table 1. The Average Distribution Of Difficulties Before Tui Na Massage Was Carried Out In Toddlers In The Working Area Of The Rambah Hilir II Health Center, Rokan Hulu Regency (N = 10)**

	Mean	Std. Deviation	Std. Error mean	Min-Max
Difficulty eating	2.59	0.260	0.082	2.3-3.1

Based on Table 1, it can be seen that the average difficulty in eating in toddlers before the Tui Na Massage was 2.59 with a standard deviation of 0.260 and a standard error of 0.082, and the range of eating difficulties was on a scale of 2.3 as the lowest value and 3 as the highest value.

#### Difficulty Eating After Being Given Tui Na Massage

**Table 2 Average Distribution Of Difficulties After Tui Na Massage In Toddlers In The Working Area Of The Rambah Hilir II Health Center, Rokan Hulu Regency (N = 10)**

	Mean	Std. Deviation	Std. Error mean	Min-Max
Difficulty of Eating Scale	1.19	0.099	0.031	1-1.3

Based on Table 2, it can be seen that the average eating difficulty scale in toddlers after Tui Na Massage is 1.19 with a standard deviation of 0.099 and a standard error of 0.031, and the lowest eating difficulty scale is 1, and the highest eating difficulty scale is 1.3.

## **Discussion**

### **1. Description of Eating Difficulties in Toddlers Before Tui Na Massage Intervention in the Working Area of Rambah Hilir II Community Health Center, Rokan Hulu Regency**

The findings from our study, involving 10 respondents, revealed that the average eating difficulty scale for toddlers before Tui Na massage was 2.59. The range of eating difficulty levels spanned from a minimum of 2.3 to a maximum of 3.1, with a standard deviation of 0.26 and a standard error of 0.08. These initial figures indicate a notable prevalence of eating difficulties among the toddler population in the study area.

This observation aligns with the insights from Wulaningsih et al. (2022), who highlight that several factors influence toddlers' appetite, encompassing nutritional, psychological, and organic elements. A frequent underlying cause of appetite issues in toddlers is the dysfunction of the spleen and digestive system. This can lead to impaired food digestion and subsequent food stagnation within the gastrointestinal tract, manifesting as symptoms like vomiting, nausea during feeding, and a sensation of fullness, ultimately leading to loss of appetite or eating difficulties (Wulaningsih et al., 2022; Hu et al., 2021). Tui Na massage is believed to alleviate these issues by enhancing blood circulation and optimizing organ function, particularly within the digestive system. This therapeutic massage technique can boost intestinal motility, improve nutrient absorption, and consequently stimulate appetite (Wulaningsih et al., 2022; Zhao et al., 2023).

Our results resonate with prior research on the effectiveness of Tui Na massage. For instance, a 2018 study by Yusari Asih and Mugiati found that Tui Na massage was effective in addressing eating difficulties in toddlers. Their research showed an average difference in eating difficulties of 3.360 with a standard deviation of 0.921 in children who received Tui Na, compared to 2.260 with a standard deviation of 1.337 in those given multivitamins. This suggested a more significant reduction in eating difficulties with Tui Na. Statistical analysis ( $p=0.000$ , alpha 5%) confirmed a significant difference, indicating Tui Na massage was more effective than multivitamins. Similarly, Amelia Nur Hidayanti's 2023 study on the effect of Tuina massage on appetite improvement in toddlers at Puskesmas Kapuan, Blora Regency, reported an increase in average appetite levels from 44.87% before Tuina to 66.66% after, with a significance value less than 0.05 ( $0.000 < 0.05$ ). This further supports the hypothesis that Tui Na massage positively impacts toddlers' appetite.

### **2. Eating Difficulties in Toddlers After Tui Na Massage Intervention in the Working Area of Rambah Hilir II Community Health Center, Rokan Hulu Regency**

Following the Tui Na massage intervention, our research on the 10 respondents indicated a notable reduction in eating difficulties. The average eating difficulty scale

after Tui Na massage was 1.19, with the lowest scale recorded at 1.0 and the highest at 1.3. The standard deviation was 0.09, and the standard error was 0.03. These figures demonstrate a significant improvement in eating habits post-intervention.

These findings are consistent with Indah Wulaningsih's 2022 study, which also demonstrated a positive effect of Tui Na massage on increasing toddlers' appetite both before and after the intervention. This consistency aligns with the theoretical understanding that Tui Na massage stimulates nerve endings in the skin, enhances cell membrane permeability, and facilitates the exchange of sodium and potassium ions, thereby activating muscle and nerve functions (Wulaningsih, 2022; Sun et al., 2023).

The resultant action potentials in the sympathetic and parasympathetic nerves can profoundly influence organ function. Specifically, stimulation of the vagus nerve impacts the digestive system by increasing peristaltic movements (Wulaningsih, 2022; Chen et al., 2022). Consequently, Tui Na massage can accelerate gastric emptying, stimulate appetite, and improve nutrient absorption through enhanced production of digestive enzymes. The absorbed nutrients then circulate more effectively in the bloodstream due to sympathetic nerve stimulation, contributing to overall improved nutritional status and reduced eating difficulties.

### **3. Effect of Tui Na Massage on Eating Difficulties in Toddlers in the Working Area of Rambah Hilir II Community Health Center, Rokan Hulu Regency**

To ascertain the influence of Tui Na massage on the eating difficulty scale, we employed a dependent T-test to compare the eating difficulty scores before and after the Tui Na massage intervention. The statistical analysis yielded a p-value (asymptotic, two-tailed) of 0.000, which is less than 0.05. This result leads to the rejection of the null hypothesis ( $H_0$ ) and the acceptance of the alternative hypothesis ( $H_a$ ). Therefore, it is concluded that Tui Na massage has a significant effect on the eating difficulty scale in toddlers in the working area of Rambah Hilir II Community Health Center, Rokan Hulu Regency.

This observed effect can be attributed to the multifaceted benefits of Tui Na massage, which include promoting growth, enhancing immunity, fostering parent-child bonding, reducing stress and irritability, improving muscle tone, and accelerating brain and nervous system development (Alamsyah et al., 2023; Lee et al., 2021). Typically, Tui Na massage is performed once daily for six consecutive days. If further sessions are deemed necessary, a 1-2 day break is recommended before initiating a new series. The techniques employed in Tui Na massage, such as gliding, kneading, tapping, friction, pulling, twisting, rocking, and moving specific points, influence the body's energy flow by manipulating and pressing on particular body parts (Hidayanti, 2023; Gao et al., 2022). This makes Tui Na a more targeted approach to address eating difficulties in toddlers by improving blood circulation in the spleen and digestive system. As a modified form of acupuncture without needles, it uses pressure on meridian points or energy flow lines, making it comparatively easier to administer than traditional acupuncture (Hidayanti, 2023).

This finding is further corroborated by other studies. For instance, the research by Maulida, Sutrisna, and Artikel (2023) on the impact of Tui Na massage on appetite improvement and weight gain in stunted toddlers demonstrated that the average appetite of stunted toddlers increased from 1.32 before Tui Na intervention to 1.52 after. The paired T-test results for both the treatment and control groups showed a significant p-value of 0.000, indicating an influence of Tui Na massage on toddlers' appetite. Additionally, Munjidah's (2018) study provided supporting evidence, where Fisher's Exact test yielded a significant p-value of 0.009 ( $p < 0.05$ ), leading to the rejection of the null hypothesis and concluding that Tui Na massage is effective in resolving eating difficulties in toddlers.

In conclusion, both our study's findings and the consistent results from related research indicate a significant impact of Tui Na massage on the improvement of eating difficulty scales. Therefore, Tui Na massage can be effectively implemented as a non-pharmacological therapy to manage and alleviate eating difficulties in toddlers.

## CONCLUSION

This study successfully demonstrated that Tui Na massage significantly reduces eating difficulties in toddlers within the Rambah Hilir II Community Health Center's working area, evidenced by a notable decrease in the average eating difficulty scale from 2.59 before the intervention to 1.19 afterward, with a statistically significant p-value of 0.000 ( $p < 0.05$ ). These findings reinforce the potential of Tui Na massage as an effective non-pharmacological intervention for improving appetite and addressing feeding challenges in young children, aligning with existing literature that supports its benefits for digestive function and overall well-being (Hidayanti, 2023; Wulaningsih, 2022). However, this study's primary limitation lies in its small sample size of 10 respondents and the absence of a control group, which restricts the generalizability of the findings and the ability to definitively attribute the observed improvements solely to Tui Na massage, as other confounding factors cannot be entirely ruled out. Therefore, future research should incorporate a larger sample size and include a randomized controlled trial design to provide stronger evidence of Tui Na massage's efficacy. Additionally, longitudinal studies are recommended to evaluate the sustained effects of Tui Na massage on eating habits and nutritional status over an extended period. Further investigations could also explore the optimal frequency and duration of Tui Na massage sessions, as well as the specific techniques most effective for different types of eating difficulties in toddlers, to develop more refined and targeted interventions.

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