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# A Comparative Analysis of Taksimari and Taksinada in Alleviating Pain Following IUD Insertion

Ni Made Risna Sumawati\*, Pande Putu Indah Purnamayanti, Ni Made Septiari Maryadi

Study Program of Midwifery, STIKES Bina Usada Bali, Indonesia

\*Correspondence: [risna.sumawati@stikes-binausadabali.ac.id](mailto:risna.sumawati@stikes-binausadabali.ac.id)

The Intra Uterine Device (IUD) is the best contraceptive for most women but often causes problems, namely pain. Pain can cause physiologic changes such as increased blood pressure, increased heart rate, vasoconstriction (arterial) blood vessels, increased respiratory activity, loss of water, and extreme fatigue. This study aims to determine the comparison of the effectiveness of the use of Five Finger Relaxation Technique (Taksimari with Deep Breath Relaxation Technique (Taksinada) on post-installation pain of the IUD at UPTD Puskesmas Sidemen. The research design used in this study was posttest design with a control group, namely research conducted after treatment (posttest) with two groups of subjects, namely the control group and the treatment group. The sample in the study amounted to 30 respondents with the following criteria: women aged 18-45 years, new IUD acceptors, and IUD installation at Sidemen Community Health Center, 15 respondents were given Taksimari and 15 respondents were given Taksinada. The analysis test used was the Mann Whitney test. The results showed that there were 14 respondents (93.33%) experiencing moderate pain in the Taksimari group, while in the Taksinada group there were 15 respondents (100%) experiencing moderate pain. The results of the bivariate analysis test showed that there was no difference in the effectiveness of non-pharmacological therapy Taksimari with Taksinada with a value of  $p=0.317$ . This study found that there was no difference in the effectiveness of non-pharmacological therapy Taksimari with Taksinada. This study can be used as a basis for consideration in carrying out independent midwifery interventions in pain management.

**Keywords:** Five-finger relaxation technique, Deep breath relaxation Technique, IUD, Pain

## INTRODUCTION

The Intra Uterine Device (IUD) is the best contraceptive for most women. It is highly effective and does not require daily reminders like the pill. For breastfeeding mothers the IUD also does not affect the flow or levels of breast milk (ASI)(Veronica et al., 2019). The IUD has a high effectiveness of 0.6-0.8 pregnancies per 100 women using the IUD (1 failure in 125-170 pregnancies) so it is very effective in reducing the birth rate. However, there are often some problems that arise in the use of IUD contraception including spotting, changes in the menstrual cycle, amenorrhea, dysmenorrhea, menorrhagea, fluor albus, abdominal pain during insertion and post sexual bleeding (Putri & Oktaria, 2016).

The purpose of this study is to prove how effective TAKSIMARI (Five Finger Relaxation Technique) on Pain After Insertion of IUD, prove how effective TAKSINADA (Deep Breath Relaxation Technique) on Pain After Insertion of IUD, prove how effective TAKSIMARI (Five Finger Relaxation Technique) with TAKSINADA (Deep Breath Relaxation Technique) on Pain After Insertion of IUD.

The issue of pain experienced by individuals who accept IUD birth control is notably significant, with a prevalence rate of 32.4%, particularly among new acceptors during the insertion of the IUD. (Purwaningrum, 2017). Pain experienced by individuals during intrauterine device (IUD) insertion is a significant clinical problem. In several studies, nearly 46% of IUD users reported pain with a score of  $\geq 4$  (on a scale of 0–10) during insertion (Aissat et al., 2019). This pain is not just mild discomfort: factors such as nulliparity, use of a tenaculum, and anxiety before the procedure are significantly associated with higher pain intensity (Guerry et al., 2025).

This type of acute pain can elicit a physiological stress response (e.g., vasoconstriction, increased heart rate and blood pressure), and prompt the recipient to seek analgesics or anesthesia. However, pain management practices for IUD insertion are not always adequate. A literature review suggests the use of cervical block (lidocaine), cervical priming with prostaglandins, and non-pharmacological interventions and anxiety reduction as part of standard care (Mukenschnabl et al., 2024). Pain can cause physiological changes such as increased blood pressure, increased heart rate, vasoconstriction (arterial)

blood vessels, increased respiratory activity, loss of water, and extreme fatigue. Pain in IUD acceptor mothers encourages mothers to use more painkillers. While these drugs provide adverse side effects, such as a decrease in heart rate / central nervous system (CNS) and an increase in maternal body temperature which can cause changes in the metabolic system (Winkjosastro, 2016). Therefore, it is important for family planning service providers to consider proactive pain management strategies, not just as an option, but as an integral part of quality contraceptive services.

Some non-pharmacological techniques that can reduce pain include Hypnotherapy, distraction massage, ice and heat therapy and relaxation techniques. Relaxation is one of the techniques in behavioral therapy to reduce tension and anger so that the effect felt is a feeling of calm (Leaviss et al., 2020). One of the relaxation techniques is five-finger relaxation. The five-finger relaxation technique involves directing attention to muscular activity by identifying tense muscles and subsequently alleviating tension through the application of relaxation techniques, thereby achieving a state of relaxation. (Dewi et al., 2024). The benefits of the five-finger relaxation technique are to reduce muscle tension, reduce anxiety levels, and even reduce pain levels, especially pain in IUD insertion.

Another pain management that is widely used as a pain reliever is the deep breath relaxation technique. Deep breath relaxation techniques can maintain sympathetic nervous system (SSO) components in a homeostatic state so that there is no increase in blood supply, so that anxiety can be reduced which causes a person to adapt to the pain experienced (Maryati, 2021). 10 out of 45 new IUD family planning acceptor mothers at UPTD Puskesmas Sidemen, (70%) experienced pain after IUD insertion and have never been applied non-pharmacological techniques to reduce maternal pain levels. Based on the above phenomenon, the two non-pharmacological techniques, namely the five-finger relaxation technique and the breath relaxation technique, want researchers to further test their effectiveness on post-installation IUD birth control acceptors at UPTD Puskesmas Sidemen.

## METHOD

This research design uses quantitative research methods with experimental research designs with quasi experiments because in this study researchers cannot fully control the sample. The research design used in this study is posttest design with control group, which is research conducted after treatment (posttest) with two groups of subjects, namely the control group and the treatment group. The research was conducted at UPTD Puskesmas Sidemen, during the period of March to June 2023. This study protocol was reviewed and approved by the Health Research Ethics Commission of the STIKES Bina Usada Bali (Approval Number 066/EA/KEPK-BUB-2023).

The population in this study were all IUD acceptor mothers at UPTD Puskesmas Sidemen while the sample used was all IUD acceptor mothers at UPTD Puskesmas Sidemen. The sampling technique used by researchers in

this study was non probability sampling with accidental sampling, namely how to take samples accidentally (accidental) by taking respondents after IUD installation who happened to be there or available at UPTD Puskesmas Sidemen in March - June 2023. The sample in the study amounted to 30 respondents with the following criteria: women aged 18-45 years, new IUD acceptors, IUD installation at Sidemen Community Health Center.

The treatment group of 15 respondents was given TAKSIMARI (Five Finger Relaxation Technique) shortly after IUD insertion then conducted a posttest to determine the degree of pain felt, then in the control group of 15 respondents given TAKSINADA (Deep Breath Relaxation Technique) and conducted posttest measurement of pain after IUD insertion.

Respondents who had completed the intrauterine device (IUD) insertion procedure were provided with a detailed explanation regarding the purpose, procedures, and ethical aspects of the study. Those who agreed to participate subsequently signed the informed consent form prior to data collection. The first 15 respondents were assigned to the intervention group receiving TAKSIMARI (Five Finger Relaxation Technique), while the next 15 respondents were allocated to the intervention group receiving TAKSINADA (Deep Breath Relaxation Technique).

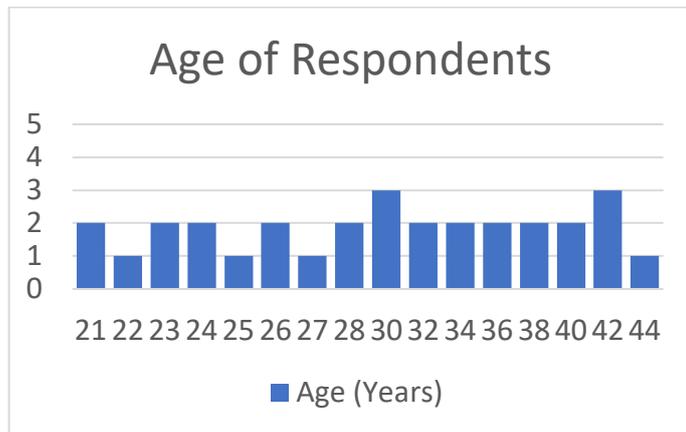
Both groups were managed under equivalent research conditions to ensure methodological rigor and data validity. Each intervention was conducted individually in a private, quiet, and comfortable environment to minimize external influences. The interventions were guided directly by trained researchers to guarantee the accuracy and uniformity of technique implementation. The duration, timing, and procedural steps of both interventions were standardized to maintain consistency and control for potential confounding variables. Continuous supervision was provided throughout the intervention process to ensure participant adherence and to maintain data integrity.

Following the completion of each intervention, pain intensity was assessed using the Numeric Rating Scale (NRS), where a score of 0 indicated *no pain*, scores of 1–3 indicated *mild pain*, scores of 4–6 indicated *moderate pain*, and scores of 7–10 indicated *severe pain*. All data obtained were recorded systematically and prepared for subsequent statistical analysis.

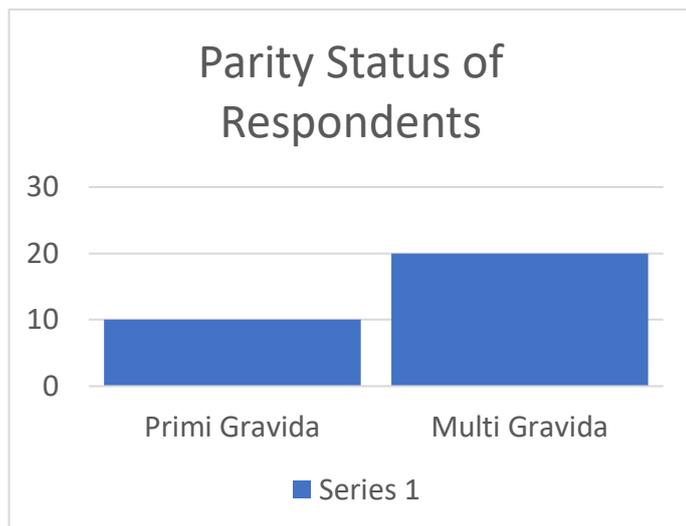
Data analysis encompassed both descriptive and inferential statistical methods. Descriptive statistics were employed to summarize the characteristics of respondents, such as age and parity. Pain intensity data were categorized into four levels: no pain, mild pain, moderate pain, and severe pain. These categories were subsequently analyzed using the Mann-Whitney test. These statistical tests supported hypothesis testing and validated the research findings.

## RESULT AND DISCUSSION

The results of obtaining data from 30 respondents have the following characteristics:



**Figure 1.** Age of Respondents



**Figure 2.** Parity Status of Respondents

Graph 1 shows that the oldest age of respondents is 44 years old and in graph 2 there are 10 respondents with primi gravida parity status.

**Table 1.** Bivariate Test Results

Variables	Pain		N	P
	Mild Pain(%)	Moderate Pain(%)		
Post Taksimari	1 (6.67)	14 (93.33)	15	0.317
Post Taksinada	0 (0)	15 (100)	15	

In table 1, it is known that there are 15 respondents (100%) experiencing moderate pain in the TAKSINADA intervention group and has a p value = 0.317 which means that there is no difference in the effectiveness of non-pharmacological therapy Five Finger Relaxation Technique with Deep Breath Relaxation Technique.

The results showed that 21 years of age was the lowest and 44 years of age was the oldest. The results of other studies also found similar results that mothers with age >35 years used the IUD more than mothers aged <20

years and 20-35 years. Another study found that IUD use increased significantly in the >35 years age group, with a clear statistical difference compared to younger age groups. (Suantari, 2019). This suggests that age influences contraceptive choice, where older mothers may prefer the IUD as a contraceptive method (Maryati, 2021).

Another study found that interest in IUD contraceptive use increased with age. Respondents aged >35 years showed higher interest than those aged <20 years (Isneni & Fridayanti, 2022; Maryati, 2021). At a healthy reproductive age more people use IUD contraception than those who are too old because physically reproductive health is more mature and is a measure of the level of maturity of a person is said to be more mature in thought and behaviour. Individuals over the age of 20 often focus on spacing and preventing pregnancies, thereby necessitating the selection of long-term contraceptive methods. Contraceptive choice is strongly influenced by user control and socioeconomic context, not just clinical effectiveness. (Tibajjuka et al., 2017). In addition, contraceptive choice is influenced by age, first pregnancy, and family plan, not just effectiveness. (Lindh et al., 2010).

In parity status, it was found that there were 20 people (66.67%) with multi gravida parity status. The findings of this study corroborate previous research, which indicates a correlation between parity and the utilization of IUD contraceptives. Mothers with low parity tend to choose the IUD to delay the next pregnancy, while mothers with high parity may be less likely to choose the IUD because they feel more experienced in using other contraceptive methods (Kambuno & Wijayanti, 2022). Similar results were also presented in a study conducted in Sleman, where mothers with low parity tended not to choose the IUD, while multiparous mothers preferred the IUD (Utami et al., 2019).

Other studies have also found similar things, saying that age and parity have a relationship with the selection of the IUD as a contraceptive used (Jumiati et al., 2023; Ramadhana et al., 2025). Mothers who have parity 1 and 2 prefer to use IUD contraception to regulate child spacing and delay pregnancy, because the IUD is a contraceptive that has the lowest failure rate compared to other contraceptives. Mothers who have parity  $\geq 3$  few who use the IUD because the mother feels more experienced in using contraceptives that suit her (Sandari & Sulistyoningtyas, 2024; Suantari, 2019).

Based on the results of observations using the Numerical Rating Scale (NRS) Observation Sheet on IUD birth control acceptor mothers after being given the five-finger relaxation technique, it was found that almost all mothers had a mild pain level in the IUD installation category as many as 14 people (93.33%) and there was 1 person (6.67%) experiencing moderate pain. While the respondents who were given deep breath relaxation techniques were all in the mild pain category.

Discussion regarding the non-significant results in this study includes a number of factors that need to be considered. While both groups of participants reported

experiencing mild pain levels following therapy, statistical analysis indicated that there was no significant difference in the reduction of pain levels between the five-finger relaxation therapy group and the deep breath relaxation therapy group.

Each individual has a unique response to relaxation techniques. Individual variability in how a person responds to and benefits from relaxation therapy may result in non-significant results. Some individuals may respond more positively to one type of therapy than another, which could lead to average results that are not significantly different between the two groups. This study suggests that individual differences in internal capabilities and expectations may cause some people to respond very well to relaxation therapy, while others do not experience the same benefits, ultimately making the mean difference between intervention groups insignificant. (Kwekkeboom et al., 2008).

Individual pain levels and sources of pain may vary. There may be certain types of stress that respond more positively to one type of relaxation therapy than another. For example, individuals who tend to have physical stress associated with muscle tension may benefit more from five-finger relaxation therapy, while individuals with emotional stress may respond more positively to deep breath relaxation therapy. In addition, individuals have highly variable responses to relaxation techniques that are strongly influenced by experience, emotional traits, and attention during practice (Priscilla & Ningrum, 2012).

Differences in the duration and intensity of therapy between the two groups may have contributed to the non-significant results. Five-finger relaxation therapy may have a different duration and higher intensity than deep breath relaxation therapy, or vice versa. This factor may affect the level of relaxation achieved and, consequently, the impact on pain levels. Brief relaxation training does not significantly modify pain tolerance in individuals inexperienced with experimental pain. (Smith & Norman, 2017). This short duration is also cited as a common reason for the insignificance of pain changes (Priscilla & Ningrum, 2012).

The influence of the therapy practitioner in providing guidance and mentorship to the subject can also play an important role. Variability in the way practitioners teach relaxation techniques, their level of understanding of the methods they teach, and their ability to induce relaxation in subjects may affect the final outcome. How the therapist teaches and motivates can affect the outcome of therapy more than the method itself (Baldwin et al., 2013).

The limited sample size was also a factor in the non-significant results. Many studies used a limited sample and low pain severity at baseline (e.g. palliative groups), thus lacking sensitivity to detect changes in (Seers & Carroll, 1998). Although the results of this study show that there is no significant difference in the effectiveness of five-finger relaxation therapy and deep breath relaxation therapy in reducing stress levels, there are several factors to consider. Individual variability, different types of stress,

duration and intensity of therapy, practitioner qualifications, sample size, control factors, post-therapy support, and characteristics of the measurement instrument may have interacted and contributed to the results obtained in this study. Future research with a more rigorous design and tighter control of variables may provide deeper insights into the differences in effectiveness of these two types of relaxation therapy.

## CONCLUSIONS

The findings of this study suggest that there is no statistically significant difference in the effectiveness of Taksimari and Taksinada non-pharmacological therapies. This study can add insight and knowledge about research and its processes. This research is also a medium to apply knowledge about reproductive health, especially regarding the handling of IUD insertion pain.

## SUGGESTIONS

In addition, this study can also be used as a basis for consideration in carrying out independent midwifery interventions in pain management.

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