Effectiveness of The Combination of Psychoeducation and Hand Massage on the Anxiety Levels of New Implant Contraceptive Acceptors

Endang Winarsih[1] , Fauziah Winda Gurnita[2*] , Putri Rahma Dini[3]
[1,2,3] Bachelor of Midwifery, Karya Husada University, Semarang
*Corresponding author: gurnitawinda@gmail.com

Abstract

The implant is a hormonal contraceptive device that is inserted under the skin of a woman's upper arm. In 2023, regarding contraceptive method choices in Indonesia, injectable contraceptives dominated with 35.3% of users, followed by oral contraceptives at 13.2%, and contraceptive implants at 10.5%. In Central Java, the use of contraceptive implants reached 617,177 individuals. The use of contraceptive implants is still rare among mothers who are willing to use them and has not yet gained popularity due to certain reasons such as anxiety and fear regarding the implantation process. The pain experienced during implantation can lead to fear and anxiety. To analyze the effectiveness of the combination of psychoeducation and hand massage on the anxiety of new implant acceptors Quantitative research using a quasi-experimental one-group pretest-posttest design. The sample size was 34 new implant contraceptive acceptors. The researcher provided psychoeducation to new acceptors regarding the implant insertion procedure using a leaflet, then administered the intervention, namely hand massage. Psychoeducation was provided in 4 steps for 20 minutes, and hand massage was given for 20 minutes. There was a significant effect on anxiety scores before and after treatment combining psychoeducation therapy and hand massage for new KB implant acceptors with a p-value of 0.000. This study proved effective in reducing anxiety with a p-value of 0.000 < 0.05. It is hoped that future researchers will investigate the relationship between cortisol levels and anxiety.

Keywords: MKJP, Hand Massage, Psychoeducation

INTRODUCTION

Long-term contraception methods (MKJP) are one of the methods of contraception used to limit, space out, and stop fertility for a long period of time, including: IUDs, implants, and permanent contraception (MOP and MOW). Implants are hormonal contraceptives that are inserted under the skin of a woman's upper arm. It is also commonly referred to as the "implant contraceptive." The implant is safe for breastfeeding mothers, and fertility can return immediately once the implant's lifespan ends or it is removed. The implant can prevent pregnancy for up to 4 years.

Based on contraceptive use data in Indonesia for 2023, the rate stands at 60.4%. Based on provincial distribution, the highest contraceptive use is in South Kalimantan (67.5%), Bangka Belitung Islands (67.5%), while the lowest is in Maluku Province (39.2%), West Papua (31.1%), and Papua (10.5%). Meanwhile, contraceptive use in Central Java is 65.0% (Indonesia PK, 2023). In 2023, regarding contraceptive method choices in Indonesia, injectable contraceptives dominated with 35.3% of acceptors, followed by pills at 13.2%, and contraceptive implants at 10.5% (Indonesia PK, 2023). In Central Java, contraceptive implant use was 617,177 people, while in Pemalang Regency, contraceptive injection use was 26,402 people and implant use was 32,998 people (Central Java Provincial Statistics Agency, 2023).

The use of implant contraceptives is still rare among mothers who are willing to use them and is not yet in high demand due to certain reasons such as anxiety and fear of the implant insertion procedure (Widaryanti et al., 2021). The pain felt can cause fear during the insertion of the implant, which can lead to anxiety. Most mothers feel that the pain is not as severe as they had imagined. A number of characteristics, such as employment status, education and economic status, level of knowledge, physical condition, personality type, socio-cultural context, environment or scenario, age, and gender, can affect the level of anxiety experienced by mothers who want to use contraception (Maulinda & Anggraini, 2024).

In 2019, research conducted by Rasid revealed that the anxiety levels of prospective implant acceptors in Gorontalo City were influenced by information about the implant insertion process; p-value of 0.000 and α-value of 0.05 (Rasyid, 2019). Psychoeducation is a method to help patients develop life skills through structured group-based programs. This psychoeducation aims to change patients' thinking patterns related to certain concepts (Supratiknya, 2011). Psychoeducation can also be described as counseling for patients with physical or psychological illnesses. Physical illnesses include hypertension, cancer, skin diseases, tuberculosis, etc. Psychoeducation is effective in creating a calm and relaxed atmosphere where

patients can gather and communicate about things that make them anxious (Sumiyati et al., 2024). *Hand massage* is a technique used by massaging with the hands or fingers to provide gentle touch and pressure, which is effective in relieving anxiety. The benefits of *hand massage* include increased calmness, relaxation, happiness, emotional well-being, and energy.

Preliminary survey results involving 10 women of childbearing age (WUS) who were interviewed showed that three women did not choose to use implant contraception for several reasons, including anxiety, lack of knowledge about implants, and lack of information. Seven women reported that they had never used contraception and were considering using implants, but they felt nervous and worried that the procedure would be painful and would make it difficult for them to carry out their daily tasks. Based on this data, efforts are needed to reduce the anxiety levels of implant contraceptive acceptors before the insertion procedure. One such effort is to provide psychoeducation and *hand massage* on how to reduce anxiety before implant insertion.

RESEARCH METHOD

This study is a quantitative study with a *quasi-experimental* design using *a one-group pretest-posttest design*. This research was conducted from November 2024 to July 2025. The sample in this study consisted of 34 respondents. The intervention consisted of psychoeducation given in four steps for 20 minutes and *hand massage* given for 20 minutes. Data collection tools used the HARS questionnaire.

Univariate analysis in this study produced values in the form of mean, median, minimum, maximum, and standard deviation. *Bivariate* analysis used *the Paired T Test* to determine the effectiveness of the combination of psychoeducation and *hand massage* on the anxiety of new implant recipients.

RESULTS AND DISCUSSION

1. Univariate Analysis
   a. Anxiety levels before the combination of psychoeducation and *hand massage* was administered.

Anxiety level results before the combination of psychoeducation and *hand massage* (n=34)

Anxiety	N	Mean	Std. Deviation	Min	Max
Pre Test	34	20.41	3,823	14	27

34 respondents were found to have an anxiety score before receiving the combination therapy of psychoeducation and *hand massage*, with an average of 20.41, standard deviation ± 3.823, minimum value of 14, and maximum value of 27. This indicates that the anxiety level before receiving the combination therapy of psychoeducation and *hand massage* was in the mild anxiety category.

   b. Anxiety level after the combination of psychoeducation and *hand massage*

Results of anxiety levels after the combination of psychoeducation and *hand massage* (n=34)

Anxiety	N	Mean	Std. Deviation	Min	Max
Post Test	34	14.44	3.457	8	21

34 respondents were found to have an anxiety score after receiving combined psychoeducation and *hand massage* therapy, with an average of 14.44, standard deviation ± 3.457, minimum value of 8, and maximum value of 21. This can be interpreted as a mild anxiety level after receiving combined psychoeducation and *hand massage* therapy.

2. Bivariate Analysis
   a. The effectiveness of the combination of psychoeducation and *hand massage* on anxiety in new implant recipients.

Anxiety levels before and after the combination of psychoeducation and *hand massage* (n=34)

Anxiety	Mean	Std. Deviation	P-value
Pre-test	20.41	3.823	0.000
Post Test	14.44	3.457	

The table above explains the difference between pretest and posttest anxiety scores using the Paired t-test, with a *p-value* of 0.000 (< 0.05). thus it can be said that there is a significant effect on anxiety scores before and after the treatment combining psychoeducation therapy and *hand massage* was given to new KB implant acceptors.

1. Anxiety levels before the combination of psychoeducation and *hand massage*

The data obtained showed that the anxiety level before the combination of psychoeducation and *hand massage* was administered was 20.41 on average. In the pre-test, 20 respondents (58.8%) had mild anxiety and 14 respondents (41.1%) had moderate anxiety.

People with anxiety disorders often show clinical symptoms, which usually include feelings of anxiety, worry, and irritability. They may also appear restless, have low concentration, and experience behavioral changes influenced by anxiety, which can disrupt sleep patterns. Other somatic complaints include muscle and bone pain due to excessive exercise, ringing in the ears (tinnitus), and increased heart rate causing palpitations (Hawari, 2017). Some reasons for anxiety are because patients are very worried. Anxiety can also be caused by surgery or surgery that will be performed on the patient (Gusrianti et al., 2024).

According to research by Hughes (2016), anxiety felt before surgery also affects the success of the surgery and the risk of post-operative complications. Anxiety felt before surgery can increase cortisol, which inhibits the healing of surgical wounds (Hughes et al., 2017).

Additionally, Zheng in (Abadi et al., 2018) mentions that anxiety activates the sympathetic nervous system, causing tachycardia, increased blood pressure, arterial vasoconstriction, decreased blood circulation to the wound, and decreased tissue partial pressure. Anxiety, physiologically, can cause autonomic dysfunction and affect inflammatory responses, platelet activity, and immunological function. If not addressed immediately, anxiety can cause problems and affect the surgical process (Abadi et al., 2018).

According to researchers, many respondents experience anxiety about the insertion of an IUD implant, as a lack of information and knowledge leads respondents to think negatively, causing patients to feel anxious and uncertain about their choice. Individuals who have undergone a combination of psychoeducation and *hand massage* interventions report feeling calm and comfortable, without anxiety, fear, or worry.

2. Anxiety levels after receiving the combination of psychoeducation and *hand massage*.

The data obtained showed that the anxiety level before the combination of psychoeducation and *hand massage* was administered was 14.44 on average. In the post-test, 12 respondents (35.2%) reported no anxiety, 20 respondents (58.8%) reported mild anxiety, and 2 respondents (5.8%) reported moderate anxiety.

According to Mottaghipour and Bickerton, psychoeducation is an action given to individuals and families to improve coping strategies or specific approaches to dealing with mental health issues (Setiawati et al., 2019). Based on the results of the study, after the application of psychoeducation therapy on mothers who were about to undergo implant placement, it was found that the purpose of this therapy was to overcome anxiety.

This study aligns with research conducted by Dewi Sumiati et al. in 2024, which found that psychoeducation has an impact on the anxiety levels of parents of infants treated at the Perina-NICU of the Tangerang District Hospital. Because it is easy to use and effective, it is hoped that psychoeducation will become one of the Standard Operating Procedures (SOP) for reducing the anxiety levels of parents of patients treated at the Perina-NICU (Sumiyati et al., 2024).

This study is in line with research conducted by Pratiwi, Agni Cahya et al. in 2024 entitled "The Effectiveness of *Hand Massage* Relaxation Therapy in Reducing Preoperative Anxiety in Cystectomy Patients: A Case Study." Based on the results of the intervention, hand massage therapy was given for 3 consecutive days, performed for 10 minutes before surgery. The massage duration was 10–15 minutes. The results of this research are based on the HARS assessment: Day 1: Decreased to a score of 18 (mild anxiety), Day 2: score of 14 (no anxiety), Day 3: final score of 7 (no anxiety), so it can be concluded that hand massage therapy is effective (Pratiwi et al., 2024).

This study is in line with research conducted by Munroe D.J et al, 2013, which found that *hand massage* reduces anxiety in patients awaiting outpatient surgery and outpatient procedures. This non-pharmacological intervention has a very low risk, with almost no risk to clients when administered to address anxiety (Baderiyah et al., 2022).

The researchers assumed that the results obtained after providing psychoeducation and *hand massage* to new implant contraceptive acceptors showed a decrease in anxiety levels, from 20.41 to 14.44.

3. The effectiveness of the combination of psychoeducation and *hand massage* on the anxiety of new implant acceptors.

The results of the test show that there is a significant effect on anxiety scores before and after the combination of psychoeducation and *hand massage* therapy was given to new implant contraceptive acceptors, with a *p-value* of 0.000 (< 0.05).The research data comparing before and after the intervention shows that it was able to reduce anxiety levels from moderate to mild and from mild to no anxiety. Therefore, it can be concluded that the combination of psychoeducation and hand massage is very effective in reducing anxiety levels.

The difference values in this study explain the decrease in anxiety scores after the intervention. Some of the respondents showed large difference values and small difference values. The large difference was a decrease in anxiety from a score of 22 (moderate anxiety) to a score of 13 (no anxiety), which was a decrease of 9, while the small difference was a decrease in anxiety from a score of 18 (mild anxiety) to a score of 16 (mild anxiety), which was a decrease of 2. This is influenced by factors such as age, parity (multiparity), and education level.

The treatment of anxiety and depression now includes psychoeducation as a key component. After diagnosing anxiety and depression disorders and completing the necessary evaluations, mental health practitioners must provide patients with comprehensive information about symptoms, causes, available treatments, adverse drug reactions, compliance requirements, overall programs, and outcomes of the disorder. It is emphasized that non-pharmacological therapies, such as providing time for movement and regular exercise, are as important as prescription drugs. Among patients with anxiety disorders, passive psychoeducation is highly preferred, utilizing various materials, such as books, brochures, or films that explain various aspects of anxiety issues (Sarkhel et al., 2020).

This study is in line with research conducted by Dewi Sumiati et al. in 2024, which found that respondents felt more comfortable after receiving psychoeducation. This was evident from the respondents' faces, which showed many smiles after the second session, and was further clarified by the results of anxiety measurements using the same questionnaire before psychoeducation, namely the *Hamilton Anxiety Rating Scale* (HARS) questionnaire, which showed a decrease in anxiety levels (Sumiyati et al., 2024).

Psychoeducation is quite effective in creating a calm and relaxed state, where patients can gather and communicate the things that make them anxious (Sumiyati et al., 2024). Psychoeducation itself helps individuals or groups develop self-awareness and coping skills in facing challenges. Coping is the process that a person undertakes to try to overcome anxiety or stressful situations caused by problems they are experiencing by changing their way of thinking in order to feel safe and calm (Sarkhel et al., 2020).

Psychoeducation helps individuals and groups develop self-awareness and coping skills to face challenges. Coping can also be described as an individual's effort to overcome anxiety or stress caused by the pressure of problems they face by making cognitive changes that create a sense of security so that individuals feel calm/relaxed (Sarkhel et al., 2020).

Additionally, non-pharmacological therapy used to address anxiety involves *hand massage.* This massage stimulates pressure on the hands, which can transmit waves of relaxation throughout the body. *Hand massage* also provides stimulation beneath the skin by applying gentle touch and pressure to provide comfort and stimulate the autonomic nervous system, promoting relaxation and improving venous blood circulation, thereby increasing feelings of calmness, happiness, relaxation, and emotional well-being (Kim & Sung, 2014; Li et al., 2021). Controlling neurotransmitter concentrations and lowering the concentrations of 5-hydroxytryptamine and adrenocorticotropic hormones in the neurological pathway can also reduce anxiety through *hand massage* (Abadi et al., 2018). The benefits of *hand massage* include increased calmness, relaxation, happiness, emotional well-being, and energy (Li et al., 2021).

This study is also in line with the research by Li et al (2020), in their study entitled "Benefits of hand massage on anxiety in preoperative outpatients," which found results regarding the anxiety levels of patients after *hand massage* therapy and considered it quite effective for patients before surgery. After receiving hand massage, 78 people (83.9%) of patients felt more relaxed, 71 people (76.3%) felt calmer, 23 people (24.7%) felt happy, 13 patients (14%) felt sleepy, 9 patients (9.7%) felt that their pain had decreased,

and 4 patients (4.3%) felt more energetic. Based on the analysis results, it was found that there was a decrease in anxiety scores in the group given massage therapy from the initial score of 4.1 to 2.0 (Li et al., 2021).

Based on the research results, the researchers opine that health education through psychoeducation and the provision of *hand massage* can provide mothers with an understanding of information about how to prepare for the insertion of an IUD and can reduce anxiety levels in new IUD acceptors.

CONCLUSION

The anxiety level before the combination of psychoeducation and *hand massage* treatment was a mean of 20.41, standard deviation of 3.823, categorized as mild anxiety. The anxiety level after receiving the combination of psychoeducation and *hand massage* treatment was a mean of 14.4, standard deviation of 3.457, categorized as mild anxiety. This study proved to be effective in reducing anxiety with a *P-value* of 0.000 (< 0.05) before and after the combination of psychoeducation and *hand massage* was administered. The application of hand massage is expected to be used by the community, especially couples of reproductive age, as an alternative method to help reduce anxiety. In addition, these findings can contribute to the field of education as learning material to further develop scientific knowledge and enhance the soft skills of healthcare workers. For future researchers, it is hoped that they will conduct more in-depth studies on the relationship between cortisol levels and anxiety, thereby enriching scientific insights and strengthening the theoretical foundation on this topic.

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