

# Effect of a Slow-Stroke Back Massage Combination and Frangipani Essential Oils Against the Comfort of Menopause Sexual Relationship

## ABSTRACT

This study aims to analyze the effect of a combination of slow-stroke back massage (SSBM) and frangipani essential oils on the comfort of menopause women during sexual intercourse. The study with a quasi-equivalent non-control control group pre-test and post-test design. A sample of 42 married couples was recruited by purposive sampling. Samples were divided into intervention groups (SSBM with Frangipani essential oil) and SSBM control groups only, each group consisting of 21 pairs of respondents. Respondents were asked to fill in the F-scale sexual self efficacy questionnaire before and after sexual intercourse, repeated three times. The data collected was analyzed descriptively, presented in the form of mean, median and percentage. Bivariate analysis using ANOVA test. The analysis results sig value = 0.00 <0.05, meaning that there is a difference between before the pre test with the first, second and post test third. In the Probability obtained Sig = 0.00 <0.05, it means that there are differences in comfort between the control groups in the pre test with the first, second and third post test. In the interaction with the Sig value = 0.00 <0.05, it means that there is an interaction of comfort differences between the intervention group and the control group. The combination of frangipani essential oil with SSBM can be used by families as an aromatherapy massage to improve the sexual relations of menopausal women

**Keywords:** Frangipani essential oil, Slow-stroke back massage, Menopause, Sexual comfort

## 1. INTRODUCTION

Menopause is a process of development in women characterized by permanent cessation of menstruation due to loss of ovarian follicular activity [1]. The state of menopause is characterized by changes in the hormone estrogen that result in physical complaints resulting in physical complaints and psychological. Physical complaints in menopausal women, such as hot flushes, decreased bone density, decreased skin elasticity, thinning of the vaginal wall, vaginal dryness and pain during sexual intercourse [2]. While psychological complaints include anxiety, sleep disturbance, stress, depression and anxiety. The loss of libido or decreased sexual function can be influenced by a number of factors including increased depression or anxiety and changes in comfort when having sexual relations with a partner [3].

Complementary medicine is one solution to overcome the problem of pain or discomfort during sexual intercourse in menopausal women. Noted there are 20 types of complementary medicine, divided into approaches with skills (massage, reflection), with herbs (aromatherapy, sin she), as well as spiritual and supernatural approaches (meditation, yoga) [4].

Aromatherapy is included in alternative medicine that is promotive and complementary. Although not yet included in conventional medicine, people tend to like it as an affordable and preventive therapy that is easily applied in everyday life.

Massage is another complementary therapy that interests the public for the same reason[5]... Massage is famous all over the world as a form of treatment with touch, either by pressing, sorting and so on. Popular massage in the community, in addition to its health benefits, also with the touch of a hand is considered to have healing energy and can cause comfort [5]..

Massage and Aromatherapy have relatively the same goals, which are to improve health, comfort, relax, create enthusiasm. Therefore these two therapies are often combined to increase their effectiveness. Aromatherapy massage is a popular way to use essential oils because it works in several ways at the same time. The skin absorbs essential oils and aromatherapy also enters through breathing, plus, physical therapy from massage itself [5]

In Indonesia, traditional massages such as Balinese massage or Javanese massage *are* known for use of essential oils. In addition essential oils to flower-scented, also used essential oils containing capsaicin, menthol, methyl salicylate areto expedite blood flow and bring a refreshing and warm effect. However, the use of aromatherapy in Indonesia still uses a lot of essential oil ingredients derived from foreign plants [5]. Some essential oil products derived from Indonesian plants can also be used for aromatherapy massage, such as cananga oil, citronella oil, patchouli oil, frangipani oil which is an essential oil that can also be used as aromatherapy ingredients for relaxation [5].

Frangipani (frangipani) oil contains volatile compounds, which smell fragrant [6], namely the genes of ainol, citronellol, linalool [7]. The problem is the use and research with aromatherapy derived from Indonesian native plants is not so much. Although, empirically the pre-clinical studies as well as some small scope studies show that the oil can be used for aromatherapy and provides a relaxing effect.

Siahaan, proves that a mixture of Indonesian essential oils (lemongrass, cananga and patchouli) has an effective psychological and physical relaxation [8].

Slow-stroke back massage (SSBM) is one of the complementary treatments in the form of massage that can be performed on menopausal mothers, namely back massage with gentle strokes [9]. Rubbing with certain lotions gives a warm sensation that results in dilation of the local blood vessels. Warm sensations can increase comfort [10].

Empirical literature proves that aromatherapy massage has a positive effect on health to reduce anxiety and increase the confidence experienced by older women in Korea. The results prove that aromatherapy massage has a positive effect on anxiety and self esteem [11].

## **2. MATERIALS AND METHODS**

### **2.1. Sample**

Type of research is quasi experiment with non equivalent control group pretest and posttest design. A total of 42 married couples were taken as respondents by purposive sampling, which was divided into 21 respondents in the intervention group and 21 respondents in the control group.

### **2.2. Instrument**

The questionnaire used to measure the comfort of respondents after sexual intercourse is a modification of the sexual self efficacy scale-F [12]. The questionnaire contained 50 questions regarding sexual relations, but researchers only made 20 questions relating to sexual relations in menopausal women. The instrument consisted of 8 positive questions and 12 negative questions. For positive questions with an answer always a value of 4, often a value of 3, sometimes a value of 2, and never a value of 1. For a negative question and answer is always a value of 1, often a value of 2, sometimes a value of 3, and never a value of 4. Then the values are added in the range of 20-80 to measure the comfort level of sexual relations. Instruments to assess the occurrence of orgasm include questions about

the sign of orgasm, namely the discharge of lubrication in women and serumen in men. Each with one question with a yes or no answer.

### **2.3. Research Procedures**

Research procedures: as many as 42 respondents married couples who had menopause were invited and given an explanation of the research procedures. Then screening is done, for couples who are menopausal and agree to sign informed consent and fill out a questionnaire about the comfort of sexual relations during menopause. Then the slow-stroke back massage method is trained (SSBM) until you can really massage properly. Respondents were divided into 2 groups, namely the intervention group and the control group, each with 21 respondents. The intervention group, as many as 21 respondents before having sexual intercourse first filled out a questionnaire, then conducted an SSBM massage with frangipani essential oil carried out by her husband. For the control group filling out questionnaires, followed by SSBM massage by her husband. Both groups after sexual intercourse in order to fill out questionnaires about the comfort of sexual relations. The treatment is repeated every three or three weeks. Then the questionnaire was collected for analysis.

### **2.4. Analysis**

Univariate is used to analyze descriptively based on age and duration of menopause by presenting mean, median and mode (central tendency) and percentage, 2) Bivariate Analysis, the data obtained were analyzed by ANOVA test for two groups of more than two treatments.

All procedures in this study included married couples as respondents by first signing an informed consent and research ethics standard from the Health Polytechnic of the Ministry of Health Semarang.

### 3. RESULTS

**Table 1: Characteristics of Respondents by Age**

Group	Mean	Median	Mode	SD	Min-Max
Intervention	55.10	55.00	55	1.446	52-58
Control	55.10	55.00	55	1.044	53-57

Table 1. It appears that the average respondent experiences menopause in the intervention group and the control group at the age of 55.10 years with the most age experiencing menopause at the age of 55 years. The youngest age experienced menopause in the intervention group of 53 years and the oldest was 57 years, while in the control group the youngest was 53 years old and the oldest was 57 years old.

**Table 2: Comfort in the Intervention Group**

Gender	Before		After					
	Yes (%)	No (%)	Treatment 1		Treatment 2		Treatment 3	
			Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)
Female	4 (19)	17 (81)	15 (71.42)	5 (23.8)	16 (76.2)	6 (28.58)	13 (61.9)	8 (38.1)
Men	21 (100)	0 (0)	21 (100)	0 (0)	21 (100)	0 (0)	21 (100)	0 (0)

Table 2. It is found that in women before treatment in the intervention group who felt comfortable only 4 people (17%). After receiving comfort treatment in women, there were an increase of 15 people (71.42%) in the first treatment, the 2nd treatment was 16 people (76.2%) and in the third treatment were 13 people (61.9%). Whereas the men (husband) before and after treatment 1, 2 and 3 all felt comfortable.

**Table 3: Leisure Respondents In Intervention Group**

Treatment	Mean	Median	Mode	SD	Min-Max
Before	56.71	57.00	53	4.474	48-67
Treatment 1	59.00	58.00	56	3,162	54-65
Treatment 2	59.14	58.29	56	4,953	54-68
Treatment 3	58.29	58.00	53	4.209	53-68

Table 3. found that the average comfort of respondents in the intervention group before treatment with a value of 56.71, the most comfort at a value of 53. While the

highest average comfort in the second treatment amounted to 59.14 with the most convenience at a value of 56. The increase occurred in the first treatment second and slightly decreased in the third treatment.

**Table 4: Comfort in the Control Group**

Gender	Before		After					
			Treatment 1		Treatment 2		Treatment 3	
	Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)
Female	4 (19)	17 (81)	10 (47.6)	11 (52.4)	9 (42.9)	12 (57.1)	8 (38.1)	13 (61.9)
Men	21 (100)	0 (0)	21 (100)	0 (0)	21 (100)	0 (0)	21 (100)	0 (0)

Table 4. It was found that in women before treatment who felt comfortable only 4 people (17%). After receiving treatment in women increased by 10 people (47.6%) in the first treatment, the second treatment was 9 people (42.9%) and in the third treatment were 8 people (38.1%). Whereas the men (husband) before and after treatment 1, 2 and 3 all felt comfortable.

**Table 5. Comfort of Respondents in the Control Group**

Treatment	Mean	Median of	Mode	SD	Min-Max
Before	57.48	58.00	58	4.854	44-67
Treatment 1	41.29	41.00	43	3.498	34-49
Treatment 2	41.71	41.00	39	2,969	37-48
Treatment 3	42.24	41.00	40	4.265	35-57

Table 5. found that the average comfort of respondents in the control group before treatment with a value of 57.48 with the most comfort with a value of 58. The average increase in comfort in first, second and third treatment with not too much difference, namely 41.29, 41.71 and 42.24.

**Table 6: Differences in the Comfort of Sexual Relationships for Menopausal Women Before and After Treatment and Differences in Comfort between the Intervention and Control Groups.**

Source	df	F	Sig.
Corrected Model	7	96,432	0,000
Intercept	1	28745,727	0,000
Treatment	3	30,939	0,000
Group	1	422,709	0,000
Treatment and Group	3	53,168	0,000

R Squared = , 808 (Adjusted R Squared = , 800)

Table 6. obtained intervention has Sig. = 0.00 <0.05, meaning that there is a difference between before the treatment (test) to one, the second test and the third test. In Probability, the value of Sig = 0.00 <0.05 means that there are differences in comfort between the pretest control groups and the first, second and third tests. Table 6 also shows that the interaction with the Sig value = 0.00 <0.05, means that there is an interaction (differences in comfort) between the intervention group and the control group.

#### 4. DISCUSSION

This discussion will describe the characteristics of respondents based on age and duration of menopause and the comfort of having sexual relations before and after treatment.

The results showed that the average age of menopausal women in both the intervention group and the control group was 55.10 years with the most age experiencing menopause at the age of 55 years. Menopause occurs in women entering the age of 48 years to 60 years [13]. Women who enter the age of 45 years, ovaries will experience aging, which causes the need for the hormone estrogen is reduced, so that the entire body's hormonal system will experience a decline in hormone production. Especially the thyroid gland that produces the thyroxin hormone and the parathyroid gland that produces calcium.

The results obtained the average comfort of respondents in the intervention group before treatment with a value of 56.71 and increased in the first treatment by 59 and the second by 59.14, the third 58.29. In the intervention group who felt comfortable only 4 people (17%). After receiving comfort treatment in women, there were an

increase of 15 people (71.42%) in the first treatment, the 2nd treatment was 16 people (76.2%) and in the third treatment were 13 people (61.9%).

Whereas the men (husband) before and after treatment 1, 2 and 3 all felt comfortable. Increased comfort is suspected that the respondents who received aromatherapy treatment (SSBM and frangipani essential oil) had the scent effect of relaxant essential oils so as to help menopausal respondents increase sexual comfort with their husband. In addition, SSBM is a back massage that is done by gentle stroking aimed to reduce stress and produce a comfortable feeling [14,15].

Whereas in the third treatment the comfort experienced a slight decrease compared to the first and second treatments. It is suspected that in the third treatment the respondents had experienced aromatherapy massage compared to the first treatment which had only recently experienced aromatherapy massage experience (SSBM and essential oils). Besides that, one's comfort when having sex with a partner is also influenced by other factors such as the condition of the body (health) at the time of intercourse, and one's nutrition. The results of this study prove that the respondents after receiving aromatherapy treatment (SSBM and a mixture of citronella essential oils, frangipani) increased sexual comfort compared to before getting treated.

The results showed that the average comfort of respondents in the control group before treatment with a value of 57.48 with the most comfort with a value of 58. The average increase in comfort in the first, second and third treatment with not too much difference, namely 41.29; 41.71 and 42.24. Increased comfort in the control group is thought to be the effect of SSBM. SSBM is a back massage with a gentle stroke of [1415], which aims to reduce stress and produce a feeling of comfort, thus making the body more pleasant. The gentle touch of a husband to his wife gives rise to a relaxation response thereby increasing comfort. In women before treatment who felt comfortable only 4 people (17%). After receiving treatment in women increased by 10 people (47.6%) in the first treatment, the second treatment was 9 people (42.9%) and in the third treatment were 8 people (38.1%). Whereas the men (husband) before and after treatment 1, 2 and 3 all felt comfortable.

The results of the study on the treatment of having Sig. = 0.00 <0.05, meaning that there are differences in the comfort of sexual relations between before (pre-test) with an average of 56.71 treatment one with an average of 59, a second test with an average of 59.14 and a third test with an average of 58, 29



This improvement in comfort is suspected that respondents who received aromatherapy treatment (SSBM and frangipani essential oil) had the scent effect of relaxant essential oils so as to help menopausal women improve sexual comfort with their husbands. SSBM is a back massage with gentle stroking which aims to reduce stress and produce a comfortable feeling, thus making the body more pleasant [9],.

In Probability, the Sig value = 0.00 <0.05 means that there is a difference in comfort between the control groups (pretest) with the first, second and third tests. Increased comfort in the control group is thought to be the effect of SSBM. SSBM is a back massage with a gentle stroke of [14, 15], which aims to reduce stress and produce a feeling of comfort, thus making the body more pleasant. The gentle touch of a husband to his wife gives rise to a relaxation response thereby increasing comfort.

It is also known that the interaction with the Sig value = 0.00 <0.05, means that there are interactions (differences in comfort) between the treatment group (intervention) with the control group.

This research proves that aromatherapy massage (SSBM and frangipani essential oil) is very useful in adapting the comfort of menopausal female sexual relations. Sexual problems that occur in postmenopausal women are decreased sexual desire, discomfort during intercourse, because the vagina is dry so it causes pain during sexual intercourse with her husband.

Massage using scented oils provide physical effects that help blood circulation and oxygen to the brain, so that body skin and face look fresh. Breathing more regularly, body posture becomes better, the body feels fresh and relaxes tense body muscles. The psychological effects of scented oils help reduce stress and make the mind calmer, so that it can improve comfort during sexual activity [16].

Cananga oil, citronella oil, contains alcohol monoterpenes, namely linalool and geranial which have functions as analgesics, calming, balancing, stimulation, vasodilator and hypotensive effects [17]. While frangipani oil (Frangipani) contains triterpenoid and amyryl compounds which are relaxants [18]. The relaxant properties caused by frangipani oil can help improve comfort during sexual intercourse [19].

Scented oils work through the circulation system, through hormonal functions in the body. The hormonal system works together with the nervous system to control and coordinate the activities of the human organs [19], so that it can improve blood circulation and improve mind health.

Massage can reduce stress-causing hormones in the body of menopausal women. Touch is very important both to the physical, also to the emotions of menopausal women. Touch can increase vitality and reduce the fatigue experienced by postmenopausal women due to the aging process and help improve thought processes [21, 22].

Scented oil applied to the back affects the body for several hours, days or weeks, depending on one's health condition. Absorption of essential oils into the circulation system takes 30 minutes. Before being released again through the lungs, skin, and urine within 6-14 hours, leaving no toxic taste [23].

The use of scented oils is not dangerous because it will not settle to the organs of the body. Aromatherapy massage provides physiological benefits by increasing blood and lymph circulation which can help eliminate toxins from the body, slow down the pulse frequency, lower blood pressure, relax tense muscles.

If through the epidermis and nerves, sweat glands, follicles, collagen, fibroblasts, mast cells and elastin, essential oils will be carried through the blood circulation to every cell in the body [23].

While SSBM will stimulate the nerves in the superficial skin which is transmitted to the brain in the hypothalamus. The descending nervous system releases endogenous opiates, such as the endorphin hormone. Expenditures of endorphins result in increased levels of endorphins in the body resulting in an increase in the production of the hormone dopamine [14]. The hormone dopamine functions to influence eosin, the immune system, and sexual [24]. This will increase the activity of the parasympathetic nervous system. The parasympathetic nervous system functions to control the activities that take place during body calming and work while relaxing, so that menopausal women perceive touch as a stimulus for a relaxation response and increase comfort.

These results are in line with [25,26], that massage has a strong positive effect due to calming physical sensations by hand massage techniques, which provide feedback to the brain and reduce mental stress, then the brain sends signals to the adrenal glands to stop releasing stress hormones and sends a relaxed muscle signal. The feedback loop between mental and physical manifestations of stress explains how the mechanism of massaging one area of the body can produce relaxation throughout the body.

When the body is in a state of relaxation can be seen from a decrease in blood pressure and pulse [14]. Massage is a sensory integration technique that affects the activity of the autonomic nervous system by decreasing the activity of the sympathetic nervous system and increasing the parasympathetic nervous system. The work of the parasympathetic nervous system causes the heart rate to slow down, blood pressure to fall, the instinctual response of rest and relaxation conditions [14].

Researchers conclude the influence of SSBM in menopausal women, due to the perception of touch as a stimulus to calm so that a relaxation response appears to increase comfort.

Slow-stroke back massage when combined with essential oils increases its effectiveness. Aromatherapy massage is a popular way to use essential oils because it works in several ways at the same time. The skin absorbs essential oils and aromatherapy also enters through breathing, plus, physical therapy from massage itself.

## **5. CONCLUSION**

Research on the combination of SSBM and Frangipani essential oil has been carried out on 42 respondents of menopausal married couples. The intervention group were 21 respondents and the control group were 21 respondents. The combination of SSBM and frangipani essential oil increases the comfort of sexual relations in menopausal women.

## **ETHICAL CONSIDERATIONS**

All issues, whether plagiarism, violation, manipulation, falsification and multiple publications have been observed by the authors. All participants have received an explanation and signed informed consent. The project received recommendations and supervision from the Research and Community Service Center of the Poltekkes Kemenkes Semarang.

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