



Narrative Review

THE EFFECTIVENESS OF LAVENDER AND JASMINE AROMATHERAPY ON THE FIRST STAGE LABOUR PAIN LEVEL

Nur Intan Kusuma¹, Ismarwati², Nelawati Radjamuda³, Reka Julia Utama⁴, Dea Rea Nanda⁵, Silvia Pratiwi⁶

^{1,2,3,4,5,6} Fakultas Ilmu Kesehatan, Universitas 'Aisyiyah Yogyakarta, Yogyakarta, Indonesia

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CORRESPONDING AUTHOR

Nur Intan Kusuma

E-mail: intankusuma29@gmail.com

A B S T R A C T

Background: Labor pain is a tremendous pain experience for a woman. Labour pain that is not managed properly can cause prolonged labour that can endanger the condition of the mother and fetus. Aromatherapy is one of the methods to reduce pain during labour. **Objective:** This study aimed to identify and summarize the evidence related to lavender and jasmine aromatherapy on first-stage labour pain.

Methods: This study used a narrative review method. The steps in this review include identifying the topic, identifying the research question, searching for evidence, conducting critical studies, synthesizing results, as well as compiling conclusions and recommendations. The literature search used four databases, namely PubMed, Wiley Online Library, Clinical Key for Nursing, ScienceDirect and Google Scholar as search engines, that were published in 2011-2021. The articles obtained were 530 articles and articles that matched the inclusion criteria were 10 articles.

Conclusion: The research method in the articles obtained entirely uses quantitative methods. The design used is Randomized Control Trial (RCT) (50%) and Quasi-experimental (50%). This review found 2 themes, namely the effectiveness of aromatherapy and procedures for using aromatherapy. The results of the review showed that both lavender and jasmine aromatherapy was effective in reducing labour pain, but jasmine aromatherapy was considered more effective in reducing 1st stage labour pain and could be easily accepted by maternity mothers. Aromatherapy can be applied by health workers, especially midwives as additional therapy in childbirth care.

INTRODUCTION

Painful is an undelightful sensory and emotional condition [1]. Childbirth is viewed as one of the most painful things in women's life [2]. Labour pain is a painful complex and unique experience order provides a challenge for women to control it [3]. The labour pain is caused by myometrium contraction, progressive dilatation of the cervix and lowers uterine segment, and stretching and compression of pelvic and perineal structures [1], [4]. The painful feeling becomes severe along with childbirth progress and is got worse by anxiety, fear, and ignorance. Labour pain that isn't handled well can negatively impact the mother and fetus.

The impact of labour pain is as follows: hypercarbia or

hypoxia, loss of consciousness and declining uterine blood flow. Labour pain causes a series of changing metabolism for the mother, including enhancing catecholamines levels significantly so that it has a harmful effect on the fetus's condition [5]. Lowering of the effectiveness of uterine construction can occur due to great labour pain. It delays childbirth progress. The painful condition frequently becomes a reason for the mother to choose childbirth through a C-section which is considered a childbirth process without pain [6]. Labour pain management can be conducted by pharmacology and non-pharmacology therapy.

Several pieces of evidence showed the effectiveness of pharmacology therapy in overcoming labour pain, but it produces

side effects [7]. Whereas several types of research conveyed that non-pharmacology treatment can reduce labour pain without harming the mother, fetus, and childbirth progress. The therapy is simple enough and cost-effective. The therapy non-pharmacology is as follows massage, breathing techniques, positioning, hydrotherapy, music, guided imagination, acupressure, and aromatherapy [8].

One of the methods of relieving pain labour non-pharmacology is aromatherapy usage. Aromatherapy comes from the word *aroma*; it means fragrance or smell, and therapy means medication. This therapy is a natural way of curing the thought, body, and soul [9]. Aromatherapy has various implementations in women's health treatment, including reduction of labour pain, episiotomy wound healing, reduction of nauseous after C-section, primary dysmenorrheal pain relief and medication of depression in postmenopausal women. The research showed that aromatherapy is not proven to cause complications [10].

The procedure of aromatherapy is stimulating the limbic system to realise brain neurochemistry so that less pain and give comfortable effect through aromatherapy molecules that are inhaled respiratory system then enter the bloodstream [11]. Aromatherapy is often used in reducing labour pain ,namely lavender, jasmine, and geranium, through inhalation, massage, and both conditions [12], [13].

One aromatherapy often used in reducing pain, especially labour pain, is the lavender aromatherapy [14]. Lavender essence used in aromatherapy contains *linalyl acetate*, which is an analgesic. Lavandula root has a robust anticonvulsant effect, and the leaves and flowers have a pain-relieving effect. The research showed that lavender aromatherapy with massage can reduce labour pain and provide a positive experience for women in the childbirth process [15].

Besides lavender aromatherapy that is often used in reducing labour pain is jasmine. Linalool content in jasmine aroma stimulates the hypothalamus to decrease endorphin, enkephalin, and serotonin hormones. This can cause happy and calm feelings to hinder brain response toward pain [16]. Jasmine aromatherapy and back massage are one of the non-pharmacology methods that can be done to reduce pain which is felt when childbirth. Jasmine aromatherapy reduces pain and provides a relaxation effect, while a soft massage on the back can help the mother feel comfortable and relaxed during childbirth [17].

Several research studies showed that both lavender and jasmine aromatherapy can reduce labour pain. The research of Wijayanti et al., 2020 entitled "Effectiveness of Lavender and Jasmine Aromatherapy toward Pain Level on Mother in First Stage Maternity at the Health Development Bantul Regency", conveyed that jasmine aromatherapy is effective in reducing labour pain compared to lavender aromatherapy with the value $p < 0.0001$ [18].

Therefore, the writer reviews the evidence of the effectiveness of lavender and jasmine aromatherapy in reducing first-stage labour pain.

METHOD

This research used the narrative review method. This method is used to identify and summarise research findings—identification of question review by using framework PICO.

Table 1. Framework PICO

P (Population)	I (Intervention)	C (Comparison)	O (Outcomes)
Mothers giving birth	Lavender Aromatherapy	Jasmine Aromatherapy	Labour Pain Level

Narrative review question which is identified "How does the effectiveness of lavender and jasmine aromatherapy in reducing first stage labour pain?". Next is conducted article search by practising inclusion and exclusion criteria. Inclusion and exclusion criteria are set for determining study eligibility. Inclusion criteria which are as follows an article published since 2011-2021, open access article (openly accessible), through peer review stages, full-text article, article indexed SINTA and Scopus, articles discussed the effectiveness of lavender and jasmine aromatherapy in reducing on first stage labour pain. The exclusion criteria of this research are opinion articles, commentary, and book reviews. The databases used in the literature search are PubMed, Science Direct, Clinical Key for Nursing and Wile Online Library as well as a useful search engine (google scholar). The search strategy by entering a keyword in the searching process entered using Medical Subject Headings (MeSH) and boolean is "Effectiveness AND Aromatherapy AND Lavender AND Jasmine AND Labour Pain".

RESULT AND DISCUSSION

The result of search articles through 4 databases and google scholar obtained 530 articles namely 11 articles from PubMed, 159 articles from Wiley Online Library, 49 articles from Clinical Key of Nursing, 67 articles from ScienceDirect, and 244 articles from google scholar. From the articles obtained, next is conducted screening based on the title 451 irrelevant articles and 41 duplication were found. There are 38 articles conducted full-text screening and 28 excluded articles/be taken out because of the article inappropriateness with inclusion criteria. Based on the screening conducted, there are 10 articles analyzed in the review. The search process and literature selection are documented transparently in the following PRISMA flowchart [19].

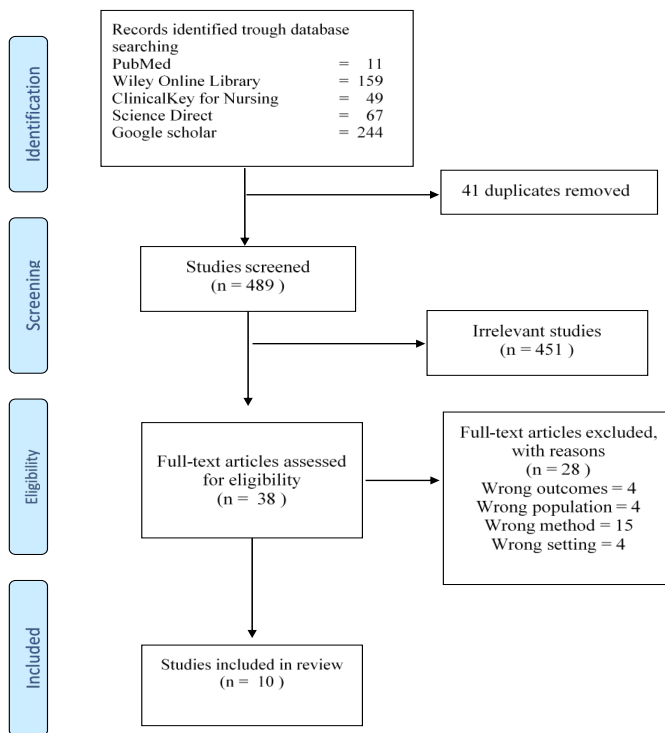


Table 2. Data Charting of the articles

No	Author/ Year/Title/ Grade/ Country	Aim	Type of Research	Participant/ Sample Size
A1	Yazdkhasti & Pirak, 2016/ The effect of aromatherapy with lavender essence on severity of labor pain and duration of labor in primiparous woman / Iran [20]	Knowing the effect of inhalation of Lavender essence on the severity of labor pain and duration of labor	Quantitative / Single-blind, Randomized Clinical Trial	A total of 120 mothers were randomly divided into two groups, namely 60 mothers in the experimental group and 60 mothers in the control group.
A2	(Nursahidah et al., 2020) The Effect of Lavender Aromatherapy on Labor Pain Among Delivery Women in Bandung 2020 / Indonesia [21]	Analyzing the effect of lavender aromatherapy on labor pain in women giving birth in Bandung	Quantitative/ Quasi-experiment with post-test only control group design)	The sample in this study was 30 respondents in May–June 2020 who were in the 1st stage of the active phase.
A3	Lamadah & Nomani, 2016/ The Effect of Aromatherapy Massage Using Lavender Oil on the Level of Pain and Anxiety During Labor Among Primigravida Women / Egypt[22]	Rate massage with lavender oil against level of pain and anxiety during labor in primigravida women	Quantitative/ Randomized clinical trial	60 pregnant women who were selected purposively were divided into two groups randomly, namely 30 women in the intervention group and 30 women in the control group.
A4	Tanvisut et al., 2018/ Efficacy of aromatherapy for reducing pain during labor: A Randomized Controlled Trial / Thailand [23]	This study aims to determine the efficacy of aromatherapy to reduce pain during labor	Quantitative/ Randomized Controlled Trial	A total of 104 pregnant women were recruited who were randomly divided into two groups into two groups, 52 women for the control group and 52 women for the aromatherapy group .
A5	Kaviani et al., 2014/ Comparison of the effect of aromatherapy with Jasminum officinale and Salvia officinale on pain severity and labor outcome in nulliparous women / Iran [24]	This study aims to determine the comparison of the administration of jasmine aromatherapy and Salvia officinale on the severity of pain and labor outcomes in nulliparous women.	Quantitative/ Randomized clinical trial	A total of 156 nulliparous women in labor, were randomly selected and divided into salvia, jasmine, and control groups (52 mothers in each group).
A6	Alavi et al., 2017/ Study the effect of massage with jasmine oil in comparison to aromatherapy with jasmine oil on childbirth process in hospitals of Abadan city in 2013 / Iran [25]	This study aims to assess the effect of massage using jasmine oil aromatherapy in the labor process	Quantitative/ Experimental study and clinical research	A total of 120 patients were enrolled and randomly divided into one control group and two intervention groups.
A7	Joseph & Philomena, 2013/ Effectiveness Of Jasmine Oil Massage On Reduction of Labor Pain Among Primigravida Mothers / India [26]	This study was conducted to assess the effectiveness of jasmine oil massage on labor pain in the first stage of labor	Quantitative/ Experimental approach with pre-test - post-test control group design.	This study involved 40 respondents and were randomly selected to assign 20 samples to the group experimental and, 20 samples for the control group .

A8	Oktavia & Faridah, 2017/ Efek Aroma Ekstrak Melati Terhadap Pengurangan Nyeri Persalinan Kala I Fase Aktif Pada Parturient / Indonesia [27]	This study aims to determine the effect of the aroma of jasmine extract in reducing labor pain in the active phase of the first stage	Quantitative/ quasi-experimental method	A total of 48 mothers were in the first stage of the active phase of labor. Research subjects were divided into two intervention groups with jasmine extract (n=24) and control groups (n=24).
A9	Sudarto & Halina, 2021/ The Effectiveness of the Combination of Aromatherapy and Back Massage on Normal Labor Pain Intensity in Stage I of Active Phase in Puskesmas Kota Pontianak Indonesia [28]	The purpose of this study was to analyze the effectiveness of the combination of aromatherapy and back massage on mothers during the active phase of the 1st stage of labor.	Quantitative/ Quasi-experimental study with non-equivalent pretest and posttest control group.	This study involved as many as 60 mothers who were in the process of giving birth, 30 respondents were classified into the control group and the other 30 respondents were assigned to intervention group .
A10	(Mukhlis et al., 2019/ Effectiveness of Jasmine Oil (Jasminum Officinale) Massage On Reduction of Labor Pain Among Primigravida Mothers / Indonesia [29]	Proving the effectiveness of jasmine oil massage (jasminum officinale) on reducing labor pain in primigravida mothers	Quantitative / Quasi-experimental with one group pretest posttest	The sample in this study were mothers giving birth during the active phase of the active phase as many as 20 respondents

Table 3. Findings in Articles

No	Author	Data Collection	Result
A1	Yazdkhasti & Pirak, 2016	Visual analog pain scale (VAS) was used to assess the level of maternal pain. The data collected also includes demographic data .	The results showed that there were differences in labor pain before and after the intervention in the two groups with a significant value (P = 0.001).
A2	Nursahidah et al., 2020	Data obtained by using a numerical rating scale (NRS) instrument.	The p-value of the Mann Whitney test results is 0.002 <0.05, so it can be concluded that there is an effect of lavender aromatherapy on decreasing active phase labor at Affifah clinic, Bandung district.
A3	Lamadah & Nomani, 2016	Data were collected using: interview sheet for maternal socio-demographic data, partograph, VAS instrument to assess maternal pain level, Spielberger state-trait anxiety questionnaire to measure maternal anxiety.	The mean pain before the intervention was (7.0) for the aromatherapy group and (8.1) for the control group. However, in the aromatherapy group, after the intervention the pain decreased to 6.4, and in the control group the pain was felt to be 8.9. Where the mean pain score decreased to 7.7 during the transition phase for the aromatherapy group and 9.6 for the control group. There was a statistically significant difference between the two groups after the intervention.
A4	Tanvisut et al., 2018	Data collection using a pain intensity scale	During labor, women in the control group had higher pain scores than those in the aromatherapy group where latent phase pain was 2.60 vs 1.88 (p = 0.010) and early active phase pain was 4.39 vs 3.82 (p = 0.031). on controls. Aromatherapy is very helpful in reducing labor pain in the latent phase and early active phase.
A5	Kaviani et al., 2014	Data were collected using a form containing demographic information, Visual Analog Scale (VAS) was used to measure pain level.	Pain severity and duration of the first and second stage of labor were significantly lower in the group given the interventional saliva aromatherapy (P = 0.001). However, there was no significant difference between the three groups regarding the severity of pain after the administration of aromatherapy.
A6	Alavi et al., 2017	Collecting data in assessing labor pain using the Visual Analog Scale (VAS), to assess anxiety using Spiel Berger's Anxiety Inventory, to determine the duration of labor using partograph charts.	The results showed that the control method without massage and aromatherapy drugs was effective in reducing the length of labor (P < 0.001). The findings of the study comparing the effect of massage on labor pain showed a significant difference between the massage group and the control group significantly (P = 0.001). This research shows that there is a positive effect of the massage method using jasmine oil aromatherapy.
A7	Joseph & Philomena, 2013	The Visual Analog Scale (VAS) was used to measure the level of labor pain. Pre-test was conducted to assess the rate of delivery pain in both groups using the VAS.	The results showed that there was a significant difference in the experimental group (t 9.869, p<0.05). Significant differences were found between the experimental group and the control group. Pre-test (t' 0.36, p>0.05) and post-test (t 11.75, p<0.05). In this study it was proven that jasmine oil massage was proven to reduce pain in the 1st stage of labor.
A8	Oktavia & Faridah, 2017	Data was collected by assessing pain using a numerical rating scale (NRS) twice in each group	The results showed that there was a significant difference between pain before and after in the control group with p = 0.000 (<0.05). There was a significant difference between the intervention group jasmine extract aroma and control in reducing labor pain in the first stage of active phase with p = 0.000 (<0.05).
A9	Sudarto & Halina, 2021	This study uses Visual Analog Scale (VAS) to measure the intensity of maternal pain.	results showed that the intervention group had a p -value of 0.001 <0.05 and the control group had a p-value of 0.001 <0.05. This means that there are differences in the level of pain before and after the intervention. Likewise, the results of the Mann-Whitney U-Test statistic test showed a value of 0.001 < 0.05, which means that there was a difference in pain intensity between the group of mothers who were given a combination of aromatherapy and back massage and another group of mothers who received deep breath relaxation during the labor process. The combination

A10	Mukhlis et al., 2019	Pre-posttest questionnaire	of aromatherapy and back massage is effective in reducing pain in normal labor during the first stage of the active phase. The effectiveness of massage using jasmine oil (<i>jasminum officinale</i>) in reducing labor pain with a p value of 0.000 . There was a positive significant change in labor pain scores after the intervention was given.
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After the article selection process, an article selected is conducted an assessment to investigate the quality of the selected article. The tool used for a critical appraisal is Mixed Method Appraisal Tools (MMAT). The research finding can be seen in the table:

Table 4. MMAT Quantitative Randomized Control Trial Checklist

Methodology Quality Criteria	A1	A3	A4	A5	A6
1. Are there clear research questions?	2	2	2	2	1
2. Do the collected data allow to address the research questions?	2	2	2	2	2
3. Is randomization appropriately performed?	2	2	2	2	2
4. Are the groups comparable at baseline?	2	2	2	2	2
5. Are there complete outcome data?	1	2	2	2	2
6. Are outcome assessors blinded to the intervention provided?	2	1	1	1	1
7. Did the participants adhere to the assigned intervention?	2	1	2	1	1
total score/ Grade	13/A	12/A	13/A	12/A	11/A

Table 5. MMAT Quantitative Non- Randomized Studies Checklist

Methodology Quality Criteria	A2	A7	A8	A9	A10
1. Are there clear research questions?	2	2	2	2	2
2. Do the collected data allow to address the research questions?	2	2	1	2	1
3. Are the participants representative of the target population?	1	2	2	2	1
4. Are measurements appropriate regarding both the outcome and intervention (or exposure)?	2	2	2	2	1
5. Are there complete outcome data?	2	2	2	2	2
6. Are the confounders accounted for in the design and analysis?	1	1	2	2	1
7. During the study period, is the intervention administered (or exposure occurred) as intended?	2	2	1	1	1
total score/ Grade	12/A	13/A	12/A	13/A	9/B

In the assessment of article quality in the analysis stage, the writer is divided into 3 categories namely Good (Grade A), Good Enough, and Less Good (Grade C). based on critical appraisal, it is DOI: <http://dx.doi.org/10.35730/jk.v13i2.680>

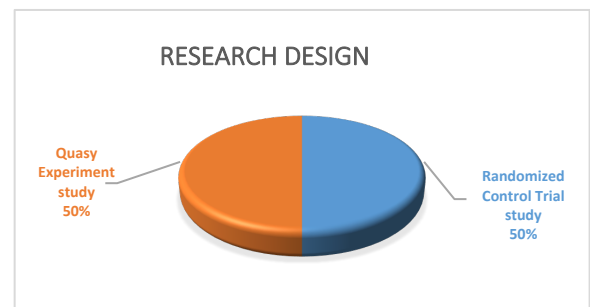
obtained that there are 9 articles include in Grade A and 1 article includes in Grade B.

Characteristics of the articles

Characteristics based on Research Design

There are 10 articles used in this review, wholly using quantitative study, and partly using RCT (Randomized Control Trial) and Quasy Experiment. Five pieces (A1, A3, A4, A5, A6) use RCT, and the other five articles (A2, A7, 18, 19, A10) use Quasy Experiment.

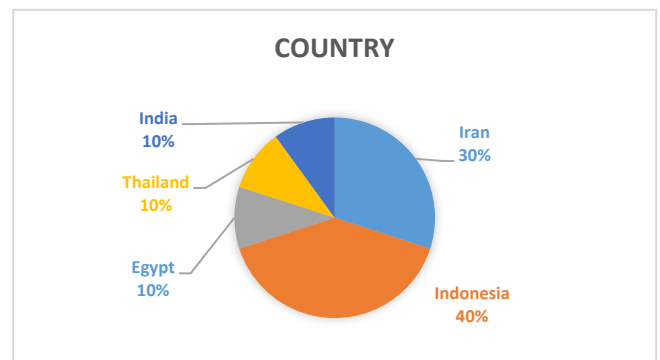
Figure 2. Characteristics of Articles based on Research Design



Characteristics based on Country

In the whole article, the research is conducted in developing countries that us Indonesia (4), Iran (3), Egypt (1), India (1), and Thailand (1).

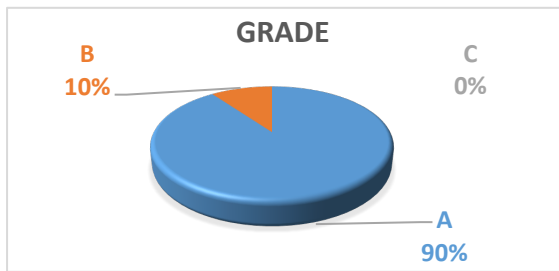
Figure 3. Characteristics of Articles by Country



Characteristics based on Grade

Based on article assessment (critical appraisal) using the MMAT checklist, is obtained the result that almost all of the articles gain Grade A (A1, A2, A3, A4, A5, A6, A7, A8, A9) only 1 article earns Grade B (A10).

Figure 3. Characteristics of articles by Grade



Themes

After conducting data analyse, the theme obtained in this study is as follows

No	Theme	Sub-theme	Article Code
1	Effectiveness	Effectiveness of Lavender Aromatherapy	A1, A2, A3, A4, A9
		Jasmine Aromatherapy Effectiveness	A4, A5, A6, A7, A8, A10
2	Procedure of Aromatherapy Usage	Inhalation	A1, A2, A4, A5, A6, A8
		Massage	A3, A6, A7, A10
		Combination (inhalation and massage)	A9

Discussion

Effectiveness of Aromatherapy

Effectiveness of Lavender Aromatherapy

Aromatherapy is a therapy that uses essential oil for helping to increase or maintain health, force, and refresh the body. Lavender (*Lavandula angustifolia*) is one of the essential oil-producing flowers that can be used for aromatherapy with significant components of linalool oil (51%) and linalyl acetate (35%). Lavender can increase alpha waves in the brain and help relax the condition, reducing maternity mothers' anxiety field [30], [31].

The procedure of lavender aromatherapy is by stimulating the thalamus to emit enkephalin, which functions as a natural painkiller. Enkephalin is a neuromodulator that is an analgesic to reduce physiological pain. Enkephalin covers beta-endorphin and dynorphin, similar to endorphin, is naturally resulted by the body and its function to hold up pain transmission so that it can decrease pain feeling [32], [33].

Lavender aromatherapy's effectiveness is pointed in studies A1, A2, A3, A4, and A9. The finding result showed that there are differences between labour pain before and after intervention in the both groups with a significant value ($p=0.0001$); in the experiment group, pain feeling reduced after providing lavender aromatherapy [28], [34]. The research on A2, A3, and A4 also showed that there is a reduction on the intensity average of labour pain in the intervention group after being given aromatherapy [21], [22], [35].

In line with several research points, lavender aromatherapy can reduce labour pain. Azizah et al., 2020 showed that there is a reduction score of mother pain in the childbirth process in group that is provided lavender aromatherapy [36]. The other finding research also obtained the result that the p-value of labour pain after the given intervention is 0.000 (<0.05), pointed that there are average differences of labour pain statically between the intervention group (6.10) and control group (4.05) in the primiparas in the first stage of active labour [30].

This research found a significant positive effect of aromatherapy in reducing pain. Several reviewed articles in this research are lavender aromatherapy. The finding showed that aromatherapy could be used as additional secure therapy to pain management procedure this time because there is no side effect [37]. Previous research had explained that lavender aromatherapy is effective in reducing anxiety, fear and painful feeling as well as enhancing the coping ability of the mother when giving birth [31]. This result review showed that lavender aromatherapy effectively reduces labour pain, especially in the first stage.

Effectiveness of Jasmine Aromatherapy

Jasmine aromatherapy has linalool content that provides calm effect and will stimulate the hypothalamus to produce the substance of the body such as endorphin, encephalin, and serotonin. This thing can make pleasure and relax feeling to delay brain response toward excitatory pain. Linalool content of jasmine potentially causes happy and comfort feeling for diverting pain [17].

The effectiveness of jasmine aromatherapy is pointed out in studies A4, A6, A7, A8, and A10. The study A4, namely by Tanvisut et al., 2018 showed that the differences in average pain score between latent phase and early active phase and baseline are significantly lower in the aromatherapy group, 1.88 vs 2.6 ($p = 0.010$) and 3.82 vs 4.39 ($p=0.031$). His study explained that the respondent might select the aromatherapy that will be used in the intervention. There were 53 respondents in the aromatherapy group who selected jasmine aromatherapy. The results conveyed that the aromatherapy used in the intervention, including jasmine aromatherapy, effectively reduces first stage labour pain [23].

The research of Alavi et al., 2017 (A4) showed that the group provided good intervention jasmine aromatherapy by inhalation and by massage can reduce pain intensity and reduce the birthing duration. Jasmine aromatherapy of this research also points positive effect on mother during the labour process. This enables utilization because it is simple and can be conducted by trained personnel to reach the best achievement and avoid harmful effects [25].

The research of Joseph & Philomena, 2013 (A7) and Oktavia & Faridah, 2017 (A8) also showed a significant difference between

the experimental and control groups. In this research, jasmine oil massage is proven to reduce first-stage labour pain [26], [38]. In line with the study of Mukhlis et al., 2019 showed that jasmine therapy is effective for primigravida maternity mothers, where the average score of painful responses significantly decreases after applying jasmine aromatherapy [29]. Only the research (A5) of Kaviani et al. (2014) gained the result that the average comparison of severe levels on labour pain 60 minutes after intervention showed that there is no significant difference among the three groups ($P=0.1$), both using salvia aromatherapy and jasmine aromatherapy [24]. The previous researches has brought up effectiveness result of jasmine aromatherapy as follows reducing anxiety, relieving pain, increasing uterus contraction, induction, and accelerating the childbirth [31]. This finding showed that the previous research related to jasmine aromatherapy is proven to reduce first stage labour pain.

Effectiveness of Lavender Aromatherapy compared to Jasmine Aromatherapy.

Based on the review, lavender and jasmine aromatherapy is effective in lowering or reducing labour pain. Both content linalool that stimulates brain to release controlled substance. Based on this review, jasmine aromatherapy is considered more effective in reducing labour pain. It is shown in several research in this review. Of 6 discussed articles about jasmine aromatherapy only 1 article does not show significant pain reduction in control group. However, another research showed that there is effective usage of jasmine aromatherapy in reducing labour pain. According to the research of Tanvisut et al. 2018, most mothers choose jasmine aromatherapy as compared to other aromatherapy such as lavender; geranium rose, orange/ citrus (jasmine $n = 26$, geranium rose $n = 9$, citrus $n = 12$ and lavender $n = 5$). This showed that jasmine aromatherapy is more effective in reducing labour pain.

The procedure of Aromatherapy Usage

Inhalation

Several researchers of this review apply jasmine and lavender aromatherapy by inhalation directly. The inhaled aroma makes olfactory nerve cells active and will encourage the limbic system. The nerve cells release different neurotransmitters, including encephalon, noradrenaline, and serotonin [39].

The research of Yazdkhasti & Pirak, 2016 used the inhalation aromatherapy method, that is by the procedure of diluting lavender aromatherapy at 1:10, then in the experiment group is given two essential lavender droplets 10% and is cut by sterile water at 1:10. Dropper is used to drop the essence to the patient's palm after that patient is asked to rub both hands and inhale the aroma during 3

minutes with hands distance 2.5-5 cm from the nose [34]. In line with Alavi et al., 2017 conveyed that applying the jasmine aromatherapy directly for the patient to inhale, it is just not putting in both hands of the patient but dropping aromatherapy by using a hand towel [25].

The research of Nursahidah et al., 2020 used lavender inhaled aromatherapy method to an intervention group with lavender by dropping four droplets of lavender in 50 milliliters (ml) water on the diffuser aromatherapy [21]. In line Tanvisut et al (2018) used a diffuser as a media for applying aromatherapy. The respondents of the intervention group accept the same aromatherapy procedure. Aroma oil is spread continuously by diffuser aroma using a standard concentration of four droplets of aroma oil per 30 ml of water. The aromatherapy is begun when participants enter for going on labour to the end of the first stage [23].

Massage

The most common massage techniques used for labour pain include rubbing, effleurage, Swedish massage, and rhythmic massage applied to the sacrum, buttocks, shoulders, back, and ankles. Most previous research found that therapy techniques effectively reduce labour pain (Rahimi et al., 2018). The given method of lavender aromatherapy in the study of Lamadah et al., 2016 was by providing intervention of back massage with two droplets lavender oil diluted in 50 cc almond oil, the second group ($n=30$) only accepted back massage without oil. This finding showed that aromatherapy massage with lavender oil could decrease labour pain and anxiety during childbirth (lamadah & Nomani, 2016).

Alavi et al., 2017 showed that massage with jasmine oil is more effective in relieving labour pain than aromatherapy by inhalation. Massage is conducted in intervention group by carried out massage routinely for 20 minutes in the shoulder-side-sacral region of the spine (Alavi et al., 2017). The research of Joseph & Philomena (2013) conveyed that giving intervention in the experiment group by massaging jasmine aromatherapy of the primigravida mother for 10 minutes three times with intervals of 30 minutes, and primigravida in the control group is given regular childbirth treatment without massaging. In this research, the massage of jasmine aroma therapy was significant in reducing pain intensity in the first stage of childbirth compared to the control group [26]. In line with the research, the research of Muklis et al. (2019) provides intervention to the intervention group by giving strong touch or massage on the sacrum for 10 minutes, conducted 3 times in intervals of 30 minutes by using jasmine oil. This study showed that massage using jasmine oil is more effective in reducing labour pain [29].

Combination (inhalation and massage)

The method of giving aromatherapy with a combination of inhalation and back massage was carried out in the study of Sudarto & Harlina (2020). This study showed that the combination of aromatherapy and back massage effectively reduced pain in normal labour in the first stage of the active phase [28]. However, this study did not explain the procedure for giving aromatherapy and back massage.

Aromatherapy can be a complementary therapy for reducing pain and anxiety in childbirth. In general, the Tabatabaeichehr & Mortazavi (2020) study found that aromatherapy positively affected pain relief and decreased labour anxiety [14]. Although some studies also show a lack of research evaluating the role of aromatherapy for pain management in labour and this is not sufficient evidence, and based a review by Smith et al. (2018) stated their findings that massage to reduce pain intensity is included in low-quality evidence [40]. However, based on this review, the use of lavender and jasmine aromatherapy effectively reduces pain in the first stage of labour by considering the procedure and the mother's condition.

CONCLUSION

Based on the review, lavender and jasmine aromatherapy is proven more effective in relieving or reducing first-stage labour pain. Both contain linalool which stimulates brain for emitting a calm substance. Based on this review, jasmine aromatherapy is considered more effective in reducing labour pain. It is shown from several research in this review. Of 6 articles that discuss jasmine aromatherapy, only 1 report which is not pointed significant painful difference between control group. However, the other research showed there is a significant application of jasmine aromatherapy in reducing labour pain.

The health worker, especially midwife can apply to provide aromatherapy as one of the safe non-pharmacology methods, easy and reduce pain levels during first stage childbirth process. The following research can be developed by involving the number of respondents that is more representative and asking respondent to choose lavender or jasmine aromatherapy based on the respondent's desire, then comparing both effectivities. Furthermore, the writer also can develop a method in providing aromatherapy intervention using inhalation and massage.

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