



Analysis of the Use of Herbal Therapy to Reduce Labor Pain (Literature Review)

Abdurahman Abdurahman¹, Alchalidi Alchalidi^{2*}, Lina Lina³, Nora Nora², Cut Mutia²

¹Department of Nursing, Polytechnic of Health, Ministry of Health, Aceh, Indonesia; ²Department of Midwifery, Polytechnic of Langsa, Ministry of Health, Aceh, Indonesia; ³Department of Nursing, Polytechnic of Health, Ministry of Langsa, Aceh, Indonesia

Abstract

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***Correspondence:** Alchalidi Alchalidi, Department of Midwifery, Polytechnic of Health-Ministry of Langsa, Aceh, Indonesia. E-mail: alchalidi@poltekkesaceh.ac.id
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BACKGROUND: Labor pain can cause of stress the mother, pain impulses to multiply, potentially low uterine muscle contractions, and distress to the baby. Pain can cause distress to the baby. One way to reduce pain is by giving herbal therapy or herbal therapy. Herbal therapy is one of the non-pharmacological methods to reduce labor pain. Herbal therapy often used to reduce labor pain is Lavender, Rose, Jasmine, Citrus Aurantium.

AIM: This study aims to determine the use of herbal therapy to reduce labor pain. The purpose of this study is to analyze the challenges in implementing health education in elementary schools in Banda Aceh.

METHODS: The design in this study was a literature review article. Search for articles using relevant ones obtained from data based on PubMed, Proquest, Ebsco, ScienceDirect, and Google Scholar in the past 10 years (2011–2021) received 121 articles.

RESULTS: The study results show several challenges in implementing health education. Lack of understanding about School Health Services, School Health Services is not considered a strategic program, low attention from policymakers, School Health Services Program has not been understood as part of the national target, implementation of UKS program in schools is only a formality, and implementation and development School Health Services program is not evenly distributed. Barriers to the Implementation of School Health Services in Elementary School are the lack of optimal inter-sectorial cooperation, lack of trained personnel, high workload, and the impact of conflicting health issues, causing various school health services activities to be hampered in their implementation.

CONCLUSION: Utilization of herbal therapies such as Lavender, Mawar, Jasmine, Citrus, and Aurantium has been proven to reduce labor pain which can be used in various methods such as inhalation, bath, massage, and foot soak. The easy use of herbal therapy can be an alternative to reduce labor pain.

Introduction

Labor is a series of physiological and psychological processes resulting in labor pain, anxiety, and fatigue [1]. More than 90% of tension and stress during pregnancy are related to labor pain [2]. Labor pain results from the interaction created by physiological factors such as uterine contractions or cervical dilation were essential [3]. Labor pain is one of the most severe pains that most women experience. Pain levels are often influenced by psychological factors such as stress, anxiety, and fear [4], [5]. Another impact of labor pain is decreased uterine contractions, which can slow labor progress. Labor pain affects a woman's emotional control and can be associated with fear leading to a prolonged labor process and consequently the mother's need for a cesarean section [4]. One of the factors that influence labor pain is anxiety. Excessive anxiety increases the secretion of the hormone cortisol, which is a biomarker of stress hormones during labor and increases the release of catecholamine hormones,

which will cause the uterus to become tenser so that the flow of blood and oxygen into the uterine muscles decreases. Intense and prolonged labor pain can cause a long-term imbalance of joy and impair the mother's health psychologically. In addition, negative pain and excitement can hurt the mother-child relationship in the critical and vital 1st day of life [6]. Non-pharmacological pain management is currently receiving significant attention because it has advantages over pharmacology. Several studies have revealed that non-pharmacology is superior in reducing pain because it is cheap, easy, non-invasive, and increases self-confidence and has patient involvement in providing care. Non-pharmacological methods have benefits in addition to reducing labor pain; they are also non-invasive, simple, effective, and without harmful effects. Many new supportive methods can reduce labor pains and make the event enjoyable and enjoyable [7].

Several non-pharmacological methods that can be used to reduce labor pain are relaxation, breathing relaxation techniques, the focus of attention, music, and the use of herbal plants. Herbal plants are extracts

or oils obtained from plants, flowers, herbal plants, and trees. Herbal therapy utilizes medicinal plants or animal products that contain efficacious substances to fight disease. In Indonesia, there are many plants used for herbal therapy. The World Health Organization (WHO) estimates that traditional and complementary medicine accounts for 80% of healthcare globally [8].

Regardless of the frequency, there is a lack of standards ensuring the safe use of herbs for health purposes and the literature linking herbal use with various forms of adverse health events such as higher miscarriage rates, penile dysfunction, increased incidence of congenital malformations [9], congestive heart failure in the newborn [10], and perinatal mortality [11]. About 80% of consumers worldwide use herbal medicine (HM) or other natural products. The percentage can vary significantly (7–55%) among pregnant women, depending on social status, ethnicity, and cultural traditions [12]. The previous global health studies have identified several maternal characteristics associated with herbal use, including maternal age, marital status [13], education level [14], birth, antenatal care, socioeconomic status [15], and place of residence in rural areas [16]. However, another problem is that drugs, herbs, and supplements must be used with extreme caution because of the potential for adverse effects [17]. The use of herbal medicines in childbirth is a big challenge for health-care providers because most of them are not aware of their use [18]. Traditional herbal remedies are safe, with rare, and life-threatening events [19].

Herbal medicine or medicinal plants is one of the well-known therapies involving plants or plant extracts for therapeutic motives [20]. As in the general population, herbal medicines are common among pregnant women globally [21], [22]. The prevalence estimates vary between regions and countries but range from 10% to 80% [23], [24]. One of the common indications for the use of herbal medicine during pregnancy is prolonged labor or simply the desire to induce or augment labor for different reasons [25], [26]. This practice is well documented and transcends cultural and generational boundaries [26]. Traditional medicine to reduce pain using herbal ingredients existed in Indonesia long before modern medicine developed. Although often considered ancient, this herbal treatment is, in fact, still believed to last forever. There are many reasons why herbal therapy is still a treatment choice and a means of healing. Medical treatment costs are getting more expensive, the ingredients are easily available, the manufacture is simple, the side effects are relatively minimal, and the price is low. Therefore, this study is a literature review that describes herbal therapy in childbirth.

Methods

This study is a literature review. A literature review is a survey that will synthesize informative,

critical, and helpful information for a particular topic [27], [28]. This study is a literature review that describes herbal therapy in childbirth. Sources for conducting this review include computerized data-based systematic search studies (PubMed, NCBI, EBSCO, Elsevier, and Google Scholar).

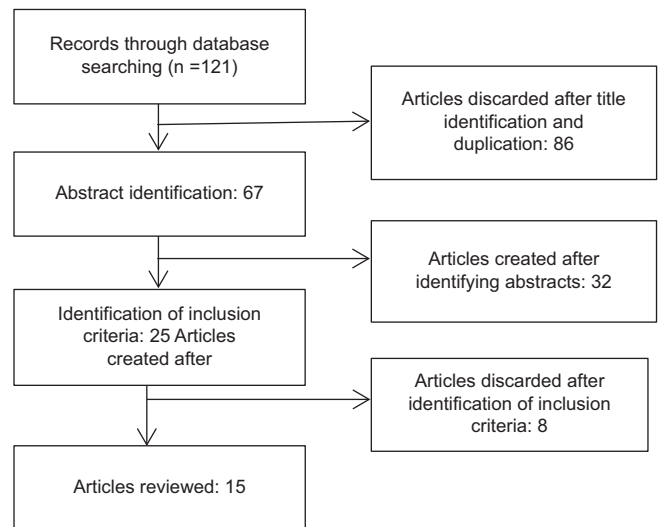


Figure 1: Search results through the selected database

Search results through the selected database found 121 articles (Figure 1). Only 15 articles met the full criteria, specifically looking at the relationship between herbal therapy and labor pain. Scientific Information Data [SID]) was searched from the beginning of the database to December 2020. Keywords used included (herbal therapy OR “herbal therapy” OR) AND (pain OR anxiety) AND (labor OR labor). The research language is limited to English and Indonesian. To search the Indonesian electronic database, the Indonesian equivalent keyword is used. The reference lists of the included studies were manually checked to ensure that relevant studies were not skipped. Criteria for study inclusion were exhaustive peer-reviewed clinical trial studies evaluating the effects of herbal therapy on labor pain and anxiety.

Results

Applied herbal therapy can reduce labor pain that is easy, cheap, and effective and has no side effects. Herbal therapy lavender, rose, jasmine, and Citrus Aurantium have been shown to reduce labor pain and can be used in all health services. Lavender contains linalool alcohol, ketones, and stearaldehyde.

Benefit herbal therapy lavender oil

The ketones in lavender can reduce pain, inflammation, and soothe, while the esters can prevent muscle spasms reduce tension and depression [44], [45].

No	Authors/years/place of study	Title	Participant	Method, intervention, and results
1	Ester Muñoz-Sellés, Antoni Vallès-Segalés and Josefina Goberna-Tricas. Catalonia, Spain [29]	Use of alternative and complementary therapies in labor and delivery care: a cross-sectional study of midwives' training in Catalan hospitals accredited as centers for normal birth	455 midwives working in hospitals Catalonia, Spain,	The study was descriptive and cross-sectional, and a quantitative method was used. Collecting data using a questionnaire. The number of CATs at which midwives trained was negatively correlated with age ($r = -0.284$; $p < 0.001$) and with the time they worked in the hospital in years ($r = -0.136$; $p = 0.036$). Midwives trained in CAT considered therapies very useful for pain relief during labor and delivery: relaxation techniques (64.3%), hydrotherapy (84.8%), and application of compresses to the perineum (75.9%).
2	Farideh Vaziri, Mahsa Shiravani, Fatemeh Sadat Najib, Saeedeh Pourahmad, Alireza Salehi, and Zahra Yazdanpanahi [30]	Effect of Lavender Oil Aroma in the Early Hours of Postpartum Period on Maternal Pains, Fatigue, and Mood: A Randomized Clinical Trial.	His clinical trial was conducted on 56 primiparous women with expected vaginal delivery in one educational hospital affiliated with Shiraz University of Medical Sciences. Iran	This randomized clinical trial was conducted on 56 participants, 29 in the intervention group and 27 in the control group. The intervention group received lavender oil in three doses during the first 24 h after delivery. The mean age of all the participants was 23.88 ± 3.88 years. After the first intervention and also in the tomorrow morning assessment, significant differences were found between the two groups regarding perineal pain ($p = 0.004$, $p < 0.001$), physical pain ($p < 0.001$), fatigue ($p = 0.02$, $p < 0.001$), and distress scores ($p < 0.001$). In addition, significant differences were found concerning the mean scores of positive ($p < 0.001$) and negative ($p = 0.007$, $p < 0.001$) moods between the two groups after the interventions. Repeated measures analyses showed that the two groups differed in all the evaluated variables over time.
3	Maasumeh Kaviani, Sara Azima, Narges Alavi, Mohammad Hossein Tabaei [31]	The effect of lavender herbal therapy on pain perception and intrapartum outcome in primiparous women	160 primiparous women	In this randomized controlled trial, 160 participants were divided into two groups. The aroma group received 0.1 ml of lavender essential oil mixed with 1 ml of distilled water through tissues attached to their gowns close to their nostrils. The mean of pain intensity perception in the aroma group was lower than that of the control group at 30 and 60 min after the intervention ($p = 0.001$). This study revealed that herbal therapy decreased labor pain but did not affect the duration of labor phases and Apgar score.
4	Sara Esmaelzadeh-Saeieh, Mitra Rahimzadeh, Nafiseh Khosravi-Dehaghi, Shokufeh Torkashvand [32]	The effects of inhalation herbal therapy with <i>Boswellia carteri</i> essential oil on the intensity of labor pain among nulliparous women	This randomized controlled trial was carried out on 126 nulliparous women. Women were randomly allocated to herbal therapy ($n = 63$) and a placebo ($n = 63$).	This was a randomized controlled trial. Between-group comparisons revealed that labor pain intensity in the herbal therapy group was significantly lower than the control group at cervical dilations of 3–4 (4.98 ± 0.93 vs. 6.68 ± 1.28 , $p < 0.001$), 5–7 (5.79 ± 1.13 vs. 7.23 ± 1.54 , $p < 0.001$), and 8–10 cm (6.35 ± 1.63 vs. 7.71 ± 1.38 , $p < 0.05$). However, there were no significant between-group differences regarding 1 and 5 min Apgar scores ($p > 0.05$).
5	Mahboubeh Valiani, Masoumeh Azimi, Zahra Mohebbi Dehnavi, Soheila Mohammadi, and Masoumeh Pirhadi [33]	The effect of auriculotherapy on the severity and duration of labor pain	This clinical trial was performed on 84 pregnant women aged 18 and 35 years, referred to Isfahan Shahid Beheshti Hospital in 2017.	The results showed no significant difference between demographic variables in the two groups. Statistical analysis also showed that the severity of labor pain in the interventional group (auriculotherapy) was lower than that of the control group ($p = 0.001$). Auriculotherapy reduces the severity of labor pain in primiparous women. Due to this method's straightforward, inexpensive, and non-invasive nature, its use has been recommended in these cases.
6	Masoumeh Namazi, Seddigheh Amir Ali Akbari, Faraz Mojab, Atefeh Talebi, Hamid Alavi Majd, and Sharareh Jannesari [34]	Effects of Citrus Aurantium (Bitter Orange) on the Severity of First-Stage Labor Pain	A total of 126 pregnant women admitted to Valie-asr Hospital in Toyserkan (Hamadan Province, West of Iran) who were eligible to participate in the study were chosen through the simple method of randomization.	The present study was a randomized clinical trial and open-label investigating the effects of <i>C. Aurantium</i> on labor pain. The intervention was repeated every 30 min. Pain severity was measured after the intervention at 3–4, 5–7, and 8–10 cm cervical dilations. The two groups were standardized about age, profession, education, desire to conceive, and number and severity of uterine contractions. The Bishop's score was also calculated. Before the intervention, pain severity was the same for both groups, but following the intervention, pain severity reduced in the intervention group at 3–4 centimeters ($p < 0.05$), 7–5 centimeters ($p < 0.05$), and 8–10 centimeters ($p < 0.05$) dilatations compared with that in the control group. The study's findings revealed that using <i>C. Aurantium</i> distilled water, herbal therapy alleviates labor pain. This method is recommended because of its ease of use and low cost and because it is a non-aggressive method to reduce labor pain.
7	Rajavadi Tanvisut, Kuntharee Traisrisilp, Theera Tongsong [35]	Efficacy of herbal therapy for reducing pain during labor: a randomized controlled trial	A total of 104 women were recruited, 52 in each group.	The median pain score of latent and early active phase was lower in the herbal therapy group, five versus 6 and 7 versus 8, respectively. The mean differences of pain scores between latent and early active phase and the baseline were significantly lower in the herbal therapy group, 1.88 versus 2.6 ($p = 0.010$) and 3.82 versus 4.39 ($p = 0.031$), respectively. Late active phase pain scores and other perinatal outcomes were not significantly different. Herbal therapy helps reduce pain in the latent and early active phase and can probably be used as an adjunctive method for labor pain control without serious side effects.
8	Massomeh Kheirkhah, Nassimeh Setayesh Vali Pour, Leila Nisani, and Hamid Haghani [36]	Comparing the Effects of Herbal therapy With Rose Oils and Warm Foot Bath on Anxiety in the First Stage of Labor in Nulliparous Women	After obtaining informed written consent on 120 primigravida women randomly assigned into three groups, this clinical trial study was performed.	Experimental Group 1 received a 10-min inhalation, and a footbath with oil rose. Anxiety scores in the intervention groups inactive phase after intervention were significantly lower than the control group ($p < 0.001$). Anxiety scores before and after intervention in intervention groups in a transitional phase were significantly lower than the control group ($p < 0.001$). Using herbal therapy and footbath reduces anxiety in the active phase in nulliparous women.
9	Sepideh Hamdamian, Soheila Nazarpour, Masoumeh Simbar, Sepideh Hajian, Faraz Mojab, Atefeh Talebi [37]	Effects of herbal therapy with <i>Rosa damascena</i> on nulliparous women's pain and anxiety of labor during the first stage of labor	This was a randomized clinical trial of 110 nulliparous women. The eligible participants were randomly assigned to two herbal therapy groups and control in an Iranian maternity hospital.	Herbal therapy with <i>R. Damascena</i> reduced the severity of pain and anxiety in the first stage of labor. Herbal therapy with <i>R. Damascena</i> is a convenient and effective method for pain and anxiety reduction during the first stage of labor. Pain severity in the group receiving herbal therapy with <i>R. Damascena</i> was significantly lower than in the control group after treatment at each pain assessment (cervical dilation of 4–5, 6–7, and 8–10 cm; $p < 0.05$). Anxiety levels were also significantly lower in the treatment group than in the control group after treatment at each measurement time (cervical dilation of 4–7 and 8–10 cm; $p < 0.05$).

(Contd...)

No	Authors/years/place of study	Title	Participant	Method, intervention, and results
10	Mahbobeh Shirazi, Safieh Mohebitabar, MD, Sodabeh Bioos, BS, Mir Saeed Yekaninejad, Roja Rahimi, Zahra Shahpiri, Farhad Malekshahi, and Fatemeh Nejatbakhsh. J Evid Based Complementary Altern Med. 2017 [38]	The Effect of Topical Rosa damascena (Rose) Oil on Pregnancy-Related Low Back Pain: A Randomized Controlled Clinical Trial	A randomized controlled clinical trial was conducted on 120 women with pregnancy-related low back pain. A total of 120 patients with pregnancy-related LBP were randomized to 1 of 3 groups: rose oil (essential oil of Rosa damascena in a carrier of almond oil; n = 40), carrier (almond) oil (placebo; n = 40), and control (n = 40), who received no intervention.	This trial follows a single-center randomized controlled design. The results showed that topical administration of rose oil (in a carrier of almond oil) in pregnant women with LBP causes a significant decrease in pain intensity compared to a carrier oil or no intervention. The rose oil also improves the functional ability of these patients in contrast with no intervention, while its effect on function is not significant compared to carrier oil.
11	Maasumeh Kaviani, Shahla Maghbool, Sara Azima, and Mohammad Hosein Tabari. Iran J Nurs Midwifery Res. 2014 [39]	Comparison of the effect of herbal therapy with Jasminum officinale and Salvia officinale on pain severity and labor outcome in nulliparous women	156 nulliparous women	The present randomized clinical trial was conducted on 156 nulliparous women referring to the selected hospitals of Shiraz University of Medical Sciences, Shiraz, Iran, due to labor pain. Compared to the other groups, pain severity and duration of the first and second stages of labor were significantly lower in the herbal therapy group of salvia 30 min after the intervention (p = 0.001). The present study results indicated that herbal therapy with salvia had beneficial effects on pain relief, shortened the labor stages, and had no negative impact on the baby's APGAR score.
12	Mansoreh Yazdkhasti, Arezoo Pirak [40]	The effect of herbal therapy with lavender essence on the severity of labor pain and duration of labor in primiparous women	This single-blind, randomized clinical trial was conducted on 120 pregnant women in two groups.	The results showed that the difference in the labor pain before and after intervention in the two groups was significant (p = 0/001). However, there was no difference in the mean duration of the active phase and the second stage of labor between the two groups.
13	Fahimeh Rashidi- Fakari, Mahbubeh Tabatabaeichehr, Hamed Mortazavi. Iran J Nurs Midwifery Res. 2015 [41]	The effect of herbal therapy by essential oil of orange on anxiety during labor: A randomized clinical trial	In this clinical trial study, 100 women during labor were randomly assigned to the intervention and control groups.	Herbal therapy is a non-invasive and effective method to help women overcome their anxiety during labor. Orange scent can be helpful in childbirth units to help women who are experiencing stress in labor. The level of anxiety of women in both intervention (p = 0.03) and control (p = 0.003) groups reduced after the intervention. However, the reduction was more in the intervention group (difference in anxiety scores after the intervention compared to before intervention = -3.08) than the control group (score = -1.14). No significant change was found in the physiological parameters of women in the intervention group after the intervention.
14	Manasi P. Pawale and Jyoti A. Salunkhe [42]	Effectiveness of back massage on pain relief during the first stage of labor in primi mothers admitted at a Tertiary care center.	The study included a total of 40 primipara mothers, 18–29 years old, either with full-term pregnancy or with fetus in cephalic presentation, and mothers willing to participate.	The message effectively reduced pain during the first stage of labor in primipara mothers compared to those subjected to routine care. During the latent and active phase of labor, the majority of the mothers experienced 4–5 contractions in 10 min. During the latent phase of labor, uterine contractions for 20–40 s were exhibited by 90% and 75% of mothers in the experimental and control group, respectively; and during the active phase, contractions of >40 s were exhibited in 85% of mothers in both groups. A significant difference in the post-test pain scores was noted between the two groups (p < 0.0001).
15	Natalia Tambunan Lens, Goddess Aprilianti. Journal of Surya Medika (JSM) [43]	Effectiveness of the Combination of Endorphin Massage and Herbal therapy Rose against Pain Reduction in Childbirth in the Pahandut Health Center of Palangka Raya City	This study used a sample of 30 maternity respondents who came to the maternity room of Pahandut Puskesmas Palangka Raya city, which numbered 30 respondents.	From the results of the study, it can be known that the mean rank of pain in the maternity mother is not given endorphin massage and herbal therapy rose is greater than the pain in the maternity mother given endorphin massage and herbal therapy rose, and obtained a p = 0.00, so it can be concluded that there is a significant difference in labor pain in times I without endorphin massage and rose therapy with endorphin massage and herbal therapy rose.

Benefit herbal therapy citrus oil

Citrus Aurantium, better known as Bitter Orange (bitter orange), contains limonene, linalool, linalyl acetate, geranyl acetate, geraniol, nerol, and neryl acetate. Gauze soaked in a solution of 4 ml of citrus essence is held close to the patient for 30 min, effectively reducing labor pain [46].

Benefit herbal therapy rosa damascena oil

Mawar (Rosa Damascena) contains finitil alcohol, citrenellol, nonadecane, geraniol, nerol, ethanol, heneicosane, and kaemferol. Rose essence is often used in herbal medicine because it has relaxant, antitussive, hypnotic, antioxidant, antibacterial, anti-inflammatory, anti-depressant, and antidiabetic effects [47].

Benefit herbal therapy jasmine oil

Jasmine oil (Jasmine) is one of the oils that can be used in childbirth, which contains indole, alcohol, benzylic acetate, benzylic alcohol, livalylacetate, and

Jason. Giving back massage with jasmine oil for 10 min 3 times with an interval of 30 min is effective for reducing labor pain p < 0.05 [44]. Herbal therapy jasmine can also be given using diffused water, done by dripping 44 drops of rose essence in 300 ml of water [35], [48].

Discussion

One method of reducing labor pain is herbal therapy. Herbal therapy is an extract or oil obtained from plants, flowers, herbs, and trees. Herbal therapy serves to treat and balance the body, mind, and spirit. Herbal therapy, as a non-pharmacological, complementary, complementary, and alternative therapy, applies essential oils from natural plants to calm and control the mind and body through aromatic compounds and essential oils with neurological and physiological effects [49].

Using herbal therapy in the care of women has a long history [50]. Among pregnant women,

complementary and alternative therapies are common approaches. Evidence from various countries shows that the rate of use of herbal therapy among pregnant women has increased from 13% to 78% [51]. Furthermore, herbal therapy is advised during labor, with no significant reported adverse effects on the mother and neonate [52]. Herbal therapy molecules stimulate the limbic system, the emotional center where all emotional expressions are generated and affect the endocrine and autonomic nerves, which have a direct relationship with feelings and memories, and can reduce the anxiety that leads to pain because there is a direct relationship between pain and anxiety. Herbal therapy can also help reduce anxiety by reducing cortisol and increasing serotonin levels. Herbal therapy with different herbal essences has been examined to reduce labor pains. More than 50% of mothers were satisfied with its effect on reducing pain and anxiety. Herbal therapy as a non-pharmacological method can be used in various methods, namely inhalation, bathing, massage, and foot soak. Herbal therapy molecules that have been inhaled can be absorbed quickly through the respiratory system, which then enters the bloodstream. The aroma comes out stimulates the limbic system to release brain neurochemicals, which can help reduce pain and create a calming effect.

Conclusion

Pain in labor becomes very important because labor pain does not only have an impact on the physical but also psychological. Proper pain management can prevent complications of childbirth for both mother and fetus. Giving herbal therapy can reduce labor pain that is easy, cheap, and effective, and has no side effects. Herbal therapy lavender, rose, jasmine, Citrus Aurantium, and Boswellia Caterii effectively reduce labor pain and be used in all health services.

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