ACCELERATING LABOR : THE IMPACT OF MOXIBUSTION ON FIRST STAGE DURATION

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ABSTRAK : PENGARUH TERAPI MOXIBUSTION TERHADAP DURASI KALA I PERSALINAN

Latar Belakang: Kesehatan ibu merupakan prioritas global, dengan tujuan Sustainable Development Goals 2030 (SDGs) untuk mengurangi angka kematian maternal hingga 70%. Untuk mencapai tujuan ini memerlukan peningkatan akses pelayanan kesehatan maternal yang aman dan efektif, khususnya dalam mendukung proses persalinan. Moxibustion merupakan terapi tradisional Tiongkok yang menggunakan moxa yang dipanaskan pada titik-titik akupunktur untuk menginisiasi kontraksi rahim dan dapat mengurangi durasi persalinan. Tujuan : Penelitian ini bertujuan untuk menilai efektivitas terapi *moxibustion* terhadap kontraksi uterus selama kala I persalinan. Metode : Desain penelitian yang digunakan adalah *cross-sectional* untuk menganalisis data sekunder dari rekam medis 90 wanita hamil *aterm* yang menerima terapi *moxibustion* di Praktik Bidan Novayanti, Jawa Barat, antara Januari 2022 dan September 2024. Penelitian ini mengkaji hubungan antara terapi moxibustion dan durasi kala I persalinan.Hasil: Penelitian ini menunjukkan adanya hubungan yang signifikan antara terapi moxibustion dan pengurangan durasi kala I persalinan. Sebanyak 77,8% responden mengalami durasi persalinan yang lebih pendek, dengan hasil yang signifikan secara statistik (p=0,000). Kesimpulan : Terapi moxibustion menunjukkan potensi sebagai metode yang efektif untuk memulai kontraksi uterus dan mengurangi durasi kala I persalinan. Terapi ini merupakan alternatif potensial bagi metode farmakologis tradisional, yang dapat meningkatkan kenyamanan ibu dan memperlancar proses persalinan. Saran : Penelitian lebih lanjut disarankan menggunakan data primer dan meningkatkan ukuran sampel untuk memperdalam pemahaman tentang efek terapi moksibusi pada induksi persalinan, sambil mengeksplorasi berbagai titik akupunktur seperti SP4, LI4, ST36, dan SP9 untuk lebih memahami manfaat dan perannya dalam manajemen persalinan.

Kata kunci: kontraksi uterus, moksibusi, persalinan, terapi komplementer

ABSTRACT

Background: Maternal health is a global priority, with the 2030 Sustainable Development Goals (SDGs) aiming to reduce maternal mortality by 70%. Achieving this goal necessitates enhancing access to safe and effective maternal healthcare, particularly by improving labor support. Moxibustion, a traditional Chinese medicine technique that involves thermal stimulation of specific acupoints, has garnered attention as a complementary method for initiating uterine contractions and reducing labor duration. Purpose: This study aimed to evaluate the effectiveness of moxibustion therapy in initiating uterine contractions during the first stage of labor. Method: A cross-sectional design was employed to analyze secondary data from medical records of 90 full-term pregnant women who received moxibustion therapy at the Novayanti Midwife Clinic in West Java between January 2022 and September 2024. The study investigated the relationship between moxibustion therapy and the duration of the first stage of labor. Result: The study identified a significant relationship between moxibustion therapy and a reduction in the duration of the first stage of labor. A total of 77.8% of participants experienced a shortened labor duration, with the results being statistically significant (p=0.000). Conclusion: Moxibustion therapy demonstrates potential as an effective method for initiating uterine contractions and reducing the duration of the first stage of labor. It serves as a viable complementary therapy to enhance labor progress, improving maternal comfort during the childbirth

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process. Suggestions: Future research should utilize primary data and increase sample size to enhance insights into moxibustion therapy's effects on labor induction, while exploring various acupuncture points like SP4, LI4, ST36, and SP9 to better understand its benefits and role in labor management.

Keywords: complementary therapy, labor, moxibustion, uterine contraction

INTRODUCTION

Indonesia is committed to the 2030 Sustainable Development agenda, aiming to achieve Good Health and Well-Being by reducing maternal mortality by 70%. Enhancing access to quality reproductive and maternal healthcare, including antenatal, childbirth, and postpartum services, is crucial (Huck, 2022). The World Health Organization (WHO) recommends creating a safe, supportive birthing environment and empowering women to ensure positive childbirth experiences (WHO, 2018). The first stage of labor consists of two phases: the latent phase and the active phase. The first stage of childbirth is characterized by the onset of uterine contractions that progressively increase in both intensity and frequency. These contractions cause the cervix to soften and open. Oxytocin is a hormone that plays a crucial role in uterine contractions. Oxytocin, produced by the hypothalamus and released by the posterior pituitary gland, plays a role in stimulating uterine contractions during labor (WHO, 2018). Labor contractions that slow down or are absent at all can cause labor to be long and complicated, thus requiring induction of labor through medication such as the administration of oxytocin. However, the administration of labor induction with drugs has side effects, namely contractions that are too strong and frequent, cause painful contractions for the mother in labor, and can have the effect of causing prolonged labor and uterine rupture (ACOG, 2009).

Acupuncture is believed to offer health benefits, including aiding the labor process. A systematic review (1990-2021) indicates that acupuncture effectively softens the cervix, enhances uterine contractions, and accelerates labor (Betts, 2009). Moxibustion, a traditional Chinese technique, may facilitate labor through thermal stimulation at acupoints like Sanyinjiao (SP 6), which has been shown to reduce labor duration and improve maternal and neonatal outcomes (Jin et al., 2011). Other key acupuncture points for labor induction include Sanyinjiao (SP6), Daling (SP4), Hegu (LI4), Zusanli (ST36), and Bafeng (SP9) (Smith et al., 2013). Moxibustion therapy is used as an complementary natural herbal therapy in addition to using labor induction drugs such as oxytocin or prostaglandins. Moxibustion induces localized heat, activating

receptors and promoting blood circulation, which may enhance uterine contractions (Huang et al., 2016). Moxibustion therapy aligns with WHO recommendations, aiming to enhance positive childbirth experiences. It is anticipated that this therapy will provide comfort to mothers and expedite the labor process (Pak et al., 2000).

Research on labor contractions has shown that moxibustion therapy at the SP6 point is effective in reducing pain in 174 pregnant women experiencing labor contraction pain (Ma et al., 2010). Another study involving 60 primiparous mothers found that moxibustion at the Sanyinjiao point (SP6) can shorten the duration of the first active phase of labor and alleviate contraction pain (Cui et al., 2011). While previous studies have focused on the SP6 point, the effects of moxibustion on other labor induction points like SP4, LI4, ST36, and SP9 remain underexplored. This highlights the need for further research to identify optimal acupuncture points for labor induction.

Moxibustion has also been shown to increase the chances of normal birth in cases of breech presentation (Schlaeger et al., 2018) and reduce labor pain (Zhao et al., 2022). Drug-induced labor can lead to strong and painful contractions, indicating a need for natural alternatives with minimal side effects. This study aims to evaluate the effectiveness of moxibustion in initiating uterine contractions during the first stage of labor.

RESEARCH METHODS

This study utilized a cross-sectional design, with the duration of the first stage of labor as the independent variable and moxibustion therapy as the dependent variable. Moxibustion was applied at five acupressure points: SI14 (Jianwaishu), BL32 (Ciliao), LI4 (Hegu), SP6 (Sanyinjiao), and BL67 (Zhiyin) for one hour, 1-2 times. Secondary data were sourced from the medical records of Novayanti Midwife Clinic, Citayem, West Java, covering births from January 2022 to September 2024. The study sample comprised 90 full-term mothers who received moxibustion therapy, selected through total sampling. According to the Normal Intranatal Care Guideline (Asuhan Persalinan Normal/APN), the typical duration of the first stage of labor is 12-14 hours for primipara and 6-8 hours for multipara

mothers. Data analysis included univariate and bivariate methods. Univariate analysis examined characteristics such as age, education, occupation, parity, and moxibustion therapy. Bivariate analysis used the Chi-Square test and SPSS version 18 to assess the relationship between variables, with a 90% confidence level ($\alpha=0.05$).

RESEARCH RESULTS

Table 1
Frequency Distribution Variable Characteristics

Variable Characteristics	Frequency	Percentage
Maternal age		
20-35	87	96.7
>35	3	3.3
Education		
Primary	3	3.3
Secondary	73	81.1
Higher	14	15.6
Occupation		
Unemployed	63	70.3
Employed	27	30.3
Parity		
Primipara	41	45.6
Multipara	49	54.4

The data in Table 1 reveals that a significant majority of the participants, 87 individuals (96.7%), are within the reproductive age range of 20-35 years. Most participants, 73 (81.1%), have completed secondary education. Additionally, 63 participants (70.3%) are unemployed, primarily housewives, and 49 participants (54.4%) are multiparous.

Table 2
Duration of the First Stage of Labor Following Moxibustion Therapy

Length of first stage of labor	Frequency	Percent
Slow	8	8.9
Normal	12	13.3
Fast	70	77.8

Table 2 indicates that most participants, 70 individuals (77.8%), experienced a fast progression during the first stage of labor following moxibustion therapy. In contrast, 12 participants (13.3%) had a normal duration, and 8 participants (8.9%) experienced a slow progression.

Table 3
Effects of Moxibustion Therapy on Progression During the First Stage of Labor

Moxibustion Therapy	Duration first stage of labor			Total	p-value
	Slow	Normal	Fast		
Moxibustion ≤ 1 (M1)	3	10	67	80	0.000
Moxibustion >1 M2)	5	2	3	10	

Table 3 demonstrates a significant relationship between moxibustion therapy and the duration of the first stage of labor. Among those who received moxibustion therapy once or less, 67 participants experienced a fast labor progression. In contrast, among those who received therapy more than once, only 3 participants had a fast progression. The statistical analysis shows a significant effect with a p-value of 0.000, indicating a strong association between moxibustion therapy and labor progression.

DISCUSSION

Based on the results of this study, there was a significant effect between moxibustion therapy and the length of the first stage of labor. Moxibustion therapy is a traditional Chinese treatment method that involves stimulating meridians and acupoints with heat to prevent and treat diseases, regulate body functions, and enhance immunity (Wang, 2023). There was a statistically significant increase in the spontaneous onset of labor rate favoring acupuncture vs no acupuncture (Zamora-Brito,2024). In line with other research, acupressure treatment was associated with a shorter duration of the first stage of labor (Chen, 2020).

Moxibustion can promote microcirculation because the moxa content can penetrate into the body through the acupoints of the body surface to play a therapeutic role. In addition, the heat stimulation and infrared radiation generated in the process of moxa burning also have a good synergistic effect, providing energy for the body's cell metabolism and immune function. Moxibustion therapy can also directly affect the expression of glucocorticoid receptors, promote the secretion of glucocorticoids, and inhibit inflammatory responses by regulating the hypothalamic-pituitary-adrenal axis of the human body (Wang, 2023).

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The findings of this study align with previous research, further supporting the significant role of moxibustion therapy in influencing the labor process, particularly in shortening the duration of the first stage of labor. Moxibustion therapy, known for its warming and circulatory benefits, has shown efficacy in enhancing blood flow and relaxation, which are critical for facilitating smoother uterine contractions (Vaamonde et al., 2022). By stimulating specific acupoints, moxibustion activates the body's meridian pathways, allowing the therapeutic properties of moxa to penetrate deeper into tissues, which promotes relaxation and mitigates inflammation. This is essential during labor, as it aids in reducing uterine spasms and easing pain, making contractions more manageable for the laboring mother (Liu, W., & Gong, C. (2015).

Furthermore, moxibustion's thermal effect extends beyond simple heating, as the infrared radiation generated during moxa combustion significantly impacts cellular metabolism. This boost in metabolic activity provides energy at a cellular level, which supports the body's overall resilience and immunity during labor. Studies suggest that infrared radiation from moxibustion has positive effects on microcirculation and oxidative stress reduction, both of which contribute to a healthier and more responsive uterine environment (Liu J., et al., 2022).

The regulation of the hypothalamic-pituitary-adrenal (HPA) axis by moxibustion also plays a vital role. The HPA axis influences stress hormone production, including glucocorticoids, which are crucial in controlling inflammation and supporting the labor process (Yang, Y., et al, 2023). By modulating glucocorticoid levels, moxibustion therapy may prevent excessive inflammation that could complicate labor and help maintain a balanced endocrine response, which is essential for effective uterine contractions (Liao J. A., et al., 2021).

In addition to enhancing labor progression, moxibustion offers a natural alternative to pharmacological methods often used for labor induction. This alternative approach is especially valuable for those seeking less invasive and more holistic labor management methods, as supported by the World Health Organization's guidelines, which emphasize the importance of patient-centered care and minimizing medical interventions when possible (WHO, 2018). Studies by Zamora-Brito (2024) also underscore that moxibustion applied to specific points, such as Sanyinjiao (SP6), is effective in improving labor outcomes and reducing pain levels, which further adds to its value in promoting maternal comfort and well-being.

Thus, moxibustion therapy not only contributes to the timely progression of labor but also addresses pain management and psychological support by reducing the need for synthetic oxytocin and other pharmacological interventions. As noted by Bonapace et al. (2013), utilizing traditional methods like moxibustion alongside conventional care could result in a more balanced approach to labor management, fostering better outcomes for both mother and baby.

CONCLUSION
There was a significant effect between moxibustion therapy and the length of the first stage of labor.

SUGGESTION
Future research should consider utilizing primary data to gain more direct insights into the effects of moxibustion therapy on labor induction. Additionally, increasing the sample size would enhance the statistical power and generalizability of the findings. An in-depth exploration of the therapy's impact on various acupuncture points, such as SP4, LI4, ST36, and SP9, is also recommended to identify the most effective points for labor induction. This approach will provide a more comprehensive understanding of moxibustion's potential benefits and its role as a complementary method in labor management.

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