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Benefit of Lemongrass and lemon on Sleep Quality and Elimination Pattern of Postpartum Mothers

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ABSTRACT: Every breastfeeding mother needs adequate sleep to maintain the quantity of breast milk produced. According to WHO, breastfeeding mothers need sleep breaks to avoid fatigue, stress, mood disorders, appetite disorders, and lack of concentration. Sleep problems and elimination patterns often affect the viability of breastfeeding mothers. Some experts recommend consuming lemongrass and lemon to improve sleep and elimination patterns. This research method is Quasi experiment with Case-control design. The purpose of the study was to determine the effectiveness of lemongrass and lemon on sleep quality and elimination patterns of post partum mothers. The results of data analysis using Chi-square showed that there was a relationship between the benefits of lemongrass and lemon drinks given with sleep quality and elimination patterns in postpartum mothers. This is evidenced by the mean value before and after being given herbal drinks. Where the mean value on sleep quality increased by 0.70 points while in the elimination pattern there was a mean increase of 0.67 points. Based on the results of the dependent T test, both variables obtained a p-value of 0.0001 or $p < 0.05$.

KEYWORDS: Lemongrass, lemon and postpartum mothers

I. INTRODUCTION

Every postpartum mother mostly experiences sleep disturbance problems and complaints of impaired elimination patterns. This is interrelated, where the mother's sleep activities experience drastic changes due to the pattern of breastfeeding the baby at all times. While the need for elimination may be disrupted due to feelings of worry and pain in the post partum wound.

In several literature review studies, sleep pattern disorders can cause many things such as anxiety, fatigue, mood disorders, stress in postpartum mothers so that many experience post partum blues. These feelings arise because of the lack of mental support that should be obtained from the family as the closest person. As a result of this sleep pattern disturbance, it also has an impact on the elimination patterns of postpartum mothers. In addition, the social support or support system obtained by post partum mothers is proven to foster self-confidence and be willing to overcome problems that may occur in the breastfeeding process such as decreased appetite, being too tired, and concerns about loose perineal sutures(1).

In another study, it was explained that poor maternal sleep quality during the postpartum period was associated with depressive symptoms in mothers. Women who experienced intense anger, about 50% were concurrently depressed, while the other 50% were not. Maternal anger is usually explored in the context of depression, but survey results suggest that anger is a distinct mood disorder that is not consistently associated with depressive symptoms(2).

Sleep disorders experienced by postpartum mothers continue with elimination pattern disorders, which are caused by the condition of the mother who has no appetite so that she is dehydrated or deficient in fiber for body needs. Complaints of elimination disorders such as postpartum constipation, with symptoms such as pain or discomfort, straining, hard stools, which is a condition often experienced by post partum mothers. The solution to impaired elimination patterns in post partum women is to consume high fiber foods and increase fluid intake. Although laxatives are commonly used to relieve constipation, the effectiveness and safety of available interventions to prevent postpartum constipation should be ensured(3).

In another search, there is a relationship between sleep pattern disturbances that occur in postpartum mothers caused by infant sleep activity patterns. This occurred for 16 weeks postpartum. The observation described a sample of perinatal mothers and their infants, inadequate maternal sleep was seen at weeks 2, 6, and 16 weeks postpartum, this was significantly associated with infant sleep patterns at week 2 postpartum. Disturbed infant sleep is associated with higher maternal stress and depressed

mood later in life. Interventions aimed at preventing postpartum depression and improving postpartum sleep should focus on the individual circumstances of the mother and infant[4].

The use of complementary midwifery services is increasingly used in developing countries, one of the methods used in complementary services is the use of herbal ingredients in improving maternal health. One of the uses of herbal plants such as beetroot that has been studied can increase hemoglobin levels in pregnant women who experience iron deficiency anemia[5]. Currently, researchers are trying to observe the effectiveness of lemongrass and lemon in sleep quality and elimination patterns in postpartum mothers.

Complementary therapies are attractive to patients, practitioners and families, as they are perceived to have no side effects[6]. Some research also explains the benefits of herbs and spices for the health of the body. Lemongrass is an herbal plant that is often used in many countries for its health benefits[7].

II. METHODS

This study used Quasi experimental design, with purposive sampling technique. In this study we divided two groups of post partum mothers as case and control groups. Furthermore, observations of sleep quality and maternal elimination patterns were carried out through filling out questionnaire data on post partum mothers related to sleep quality and elimination. In the case group we gave lemongrass and lemon herbal drinks, while the control group was not given herbal drinks. The duration of administration is given for three weeks effectively. Furthermore, a comparison test was carried out on the two groups.

III. RESULTS

Based on the data that has been collected by researchers, the following data is obtained:

1. Frequency Distribution of Respondents' Sleep Quality

Quality Sleep per day	**Control**		**Case**	
	Frequency	**Percentage**	**Frequency**	**Percentage**
<8jam	29	96,6%	8	26,7%
>8jam	1	3,33%	22	73,3%
Total	30	100%	30	100%

Based on the above data in the control group, 29 respondents were found with sleep quality <8 hours per day, while in the case group, after receiving treatment, 8 respondents were found with sleep quality <8 hours per day.

2. Frequency Distribution of Respondents' Elimination Pattern

Elimination Pattern	**Control**		**Case**	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Not yet fulfilled	21	70%	1	3,3%
fulfilled	9	30%	29	96,7%
Total	30	100%	30	100%

Based on the data above, 21 respondents in the control group were found with unfulfilled elimination patterns, while in the case group after receiving treatment, only 1 respondent was found to have unfulfilled elimination patterns.

3. Effectiveness of Lemongrass and lemon drinks with respondents' sleep quality

Category	**Before Lemongrass and Lemon**		**After Lemongrass and Lemon**		***p-value***
	>8 jam	Mean	>8 jam	Mean	
Quality of Sleep	1	1.03	22	1.73	0.0001

There was an increase in the mean score by 0.70 points, in the control group 1.03 points before being given lemongrass and lemon, to 1.73 points in the case group (experiment). Based on the results of the dependent T test, the p-value is 0.0001 and p <0.05. So it can be concluded that there is an effectiveness of lemongrass and lemon on sleep quality in postpartum mothers.

4. Effectiveness of Lemongrass and lemon drink with respondents' elimination pattern

Category	**Before Lemongrass and Lemon**		**After Lemongrass and Lemon**		***p-value***
	After Fulfilled	Mean	After Fulfilled	Mean	
Elimination Fulfilled	9	1.30	29	1.97	0.0001

There was an increase in the mean score by 0.67 points, in the control group 1.30 points before being given lemongrass and lemon, to 1.97 points in the case group (experiment). Based on the results of the dependent T test, the p-value is 0.0001 and p <0.05. So it can be concluded that there is an effectiveness of lemongrass and lemon on sleep quality in postpartum mothers.

IV. DISCUSSION

Every postpartum mother goes through a different recovery process. In general, the sleep rest time of postpartum mothers depends on their physical, psychological, and type of labor conditions. The duration of sleep of postpartum mothers who actively breastfeed their babies on demand, will be less than mothers who give formula milk to their babies. According to Ruan (2022), postpartum sleep deprivation is common. Insufficient sleep duration in the short and long term can adversely affect a person's health and well-being [(8)].

To support the breastfeeding process, psycho-social support from the closest people is needed to improve the quality of breastfeeding. In addition, the main goal of attachment between mother and baby is the ultimate goal for a successful breastfeeding program. When the mother's breastfeeding quality is good, breast milk production can also increase. This is not in line with the results of research conducted by Yilmas (2019), which stated that no statistically significant differences were found when maternal socio-demographic characteristics, breastfeeding-related characteristics, maternal attachment, and sleep quality were compared [(9).]

Some research results explain the condition of poor sleep quality in postpartum mothers also affects the level of stress and bad mood in mothers. Physical exhaustion due to the activity of taking care of the baby all the time can cause the mother's rest to be disturbed and the mother's sleep time to be reduced. Adequate sleep rest can reduce the occurrence of postpartum blues in postpartum mothers [(10).]

The same thing also happens to elimination disorders in post partum mothers, elimination disorders, both urination and defecation occur due to physical, hormonal, and psychological changes after childbirth. Usually a normal post partum mother who has experienced trauma during childbirth feels worried when she has to urinate or defecate. Perineal pain is an obstacle for post partum mothers [(10)]

To overcome difficulties and elimination disorders, the author tries to give lemongrass and lemon herbal ingredients to improve sleep quality in postpartum mothers. Basically, several developed countries have conducted research related to complementary therapy, namely the use of herbal plants, especially spices. Complementary therapy is attractive to patients, practitioners, and families, because it is considered to have no side effects [(6)]. After some research, there are many spices that can be used, such as ginger, which can overcome nausea in pregnant women [(11)].

Lemongrass is an herbal plant that is often used in many countries for its health benefits. Lemongrass contains flavonoid antioxidants, and phenolic compounds such as luteolin, glycosides, quercetin, kaempferol, elimicin, catecol, chlorogenic acid, caffeic acid which are medicinal. Lemongrass is a class of kitchen spices or spices that have very good properties for the health of the body [(7).]

Other research results include herbal drinks (moringa, turmeric, and lemongrass) or Saraba is a spicy spice drink made from red ginger and palm sugar, a typical drink of Sulawesi, north - Indonesia. Administration of turmeric was shown to eliminate redness, edema, accelerate closure, and healing time of perineal wounds. Previous studies have shown the presence of bioactive compounds in lemongrass, such as flavonoids, phenolic acids, and tannins, which play a role in various phases of wound healing. The results showed that moringa, turmeric, and lemongrass herbal drinks are effective in accelerating uterine involution in postpartum women [(12)].

Lemon is also widely used as a health drink or herbal therapy. While the content in lemon has total phenols at 110.25 mg GAE / 100 ml, and lemon antioxidants (Citrus limon) 49,593 µg / ml. The antioxidants in lemon are higher than those in lime so it is very effective for reducing pain. Lemon also contains antimicrobials so that it can reduce the risk of infection in the postpartum

period [13]. Therefore, the selection of lemon ingredients is proven to be effective in reducing the risk of infection in postpartum mothers. Based on the findings of the research above, the use of herbal medicine has been widely proven to be beneficial for the treatment of mothers from pregnancy to the postpartum period. The utilization of this complementary treatment can be in the form of the use of herbal plants that can be drunk, or utilized as oil for massage, from various treatments the majority of herbal medicine utilization is widely used by mothers who give birth normally (vaginally) compared to mothers who give birth by sectio secaria surgery [14].

The findings that the researchers have done also prove the effectiveness or influence of the benefits of lemongrass and lemon drinks on the quality of sleep and elimination of postpartum mothers. Based on the measurement results through the questionnaire that has been distributed, the resulting effectiveness can be seen. Additional hours of sleep and evidence that by consuming lemongrass and lemon drinks facilitate the elimination pattern of respondents. Some opinions were also conveyed regarding the freshness of the drinks given, respondents stated that lemongrass and lemon drinks were very fresh when consumed cold.

V. CONCLUSIONS

Based on the results of the study, it was found that consuming lemongrass and lemon herbal drinks significantly improved sleep quality and elimination patterns in postpartum mothers.Based on the results of measurements for three weeks, the group that was treated (case) by consuming lemongrass and lemon drinks had an average increase in sleep quality by 0.70 points and elimination patterns by 0.67 points compared to the control group, with a p-value < 0.05. This demonstrates the effectiveness of lemongrass and lemon in supporting postpartum recovery. Respondents also reported that the drink felt refreshing, especially when consumed cold.

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