



Effect of Dill Seed Tea on Lactation Among Postnatal Mothers Admitted in Tertiary Care Hospital

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Abstract

Breastfeeding is the most beneficial initial nourishment for newborns in terms of health outcomes. Galactagogues are substances that aid in increasing milk production. Galactagogues include herbs such as dill seeds, fenugreek, as well as medications like metoclopramide and domperidone. The objective of this study was to assess the effectiveness of dill seeds tea in promoting lactation among postnatal mothers admitted to a tertiary care hospital. A quasi-experimental research design with a quantitative approach was employed, and data was collected using a convenient sampling technique from 60 postnatal mothers, with 30 participants assigned to the quasi-experimental group and 30 to the control group. The quasi-experimental group received dill seeds tea in the morning for five days, consisting of 1 teaspoon of dill seeds, 200 ml of water, 1 teaspoon of jaggery, and half a teaspoon of cow ghee. The sample selection followed specific inclusion and exclusion criteria. The research tools utilized in the study included a questionnaire to gather demographic and obstetrical data, as well as a Likert scale to assess breastfeeding adequacy in postnatal mothers. The study results revealed that during the pre-test, the majority of the control group (86.7%) experienced inadequate lactation, while 13.3% had satisfactory lactation. In the experimental group, the majority (93.3%) had inadequate lactation, with only 6.7% experiencing satisfactory lactation. During the post-test, the control group had a majority of 76.7% with inadequate lactation. In contrast, the experimental group had 80% with adequate lactation and 20% with satisfactory lactation. The study's findings indicate that the majority of postnatal mothers in both the experimental and control groups initially experienced insufficient breast milk production, but after receiving dill seeds tea, lactation improved among the postnatal mothers. Therefore, it can be concluded that dill seeds tea was effective in enhancing lactation in postnatal mothers.

Keywords: Breast Milk Production, Dill Seeds Tea, Lactation, Postnatal Mother

1. Introduction

The postnatal period, which lasts roughly 6 weeks after parturition, is characterized by the retrogression of major reproductive organs to their pre-pregnancy state, both anatomically and physiologically¹. Lactation begins during this period, but the process for successful lactation thresholds during gestation².

The mammary gland in female undergoes significant growth in both the ductal and lobuloalveolar systems,

a process known as monogenesis. Milk stashing in the breast lobules is enhanced through the influence of hormones similar as growth hormone, thyroxine, glucocorticoids, and insulin during lacto birth. Milk is discharged from the mammary gland through the action of the hormone oxytocin and the baby's sucking, which stimulates the compression of alveoli in the galactosidase phase. Prolactin is the essential hormone for maintaining lactation³⁻⁵. breast milk is the primary source of nutrition and vulnerable protection for babies.

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It provides the necessary nutrients for their growth and development while also fostering cling, trust, love, and a sense of security. Breastfeeding cannot be replaced by any other form of food⁶. Mothers also witness benefits from breastfeeding, similar as a reduced threat of developing bone and ovarian cancer, as well as a lower threat of osteoporosis and coronary heart complaint⁷.

Inadequate breast milk product, frequently appertained to as Insufficient Milk Syndrome (IMS), is a significant challenge for breastfeeding durability. The frequency of perceived inadequate milk product among mothers ranges from 30 to 80. This issue is associated with the early termination of breastfeeding, as beforehand as 1-4 weeks postpartum. Factors contributing to low milk force include motherly body constitution, unscheduled caesarean delivery, vaginal delivery with the prolonged alternate stage of labor, and low birth weight babies⁸. Shy milk force can lead to passions of inadequacy in breastfeeding and motherhood, performing in unseasonable conclusion of breastfeeding. Studies suggest that these conditions affect roughly 5 % of women in the population, and the perception of inadequate milk product contributes to early breastfeeding conclusion rates⁹.

Galactagogues are substances or specifics believed to help initiate, maintain, or increase motherly milk product. They are generally recommended for converting lactation in consanguineous maters, easing relaxation after weaning, managing motherly hypothyroidism, stimulating lactation in maters with babies in the neonatal ferocious care unit, and abetting mothers who express milk by hand or pump. Low milk force is one of the most common reasons for discontinuing breastfeeding. Galactagogues can be set up in specifics similar as domperidone and metoclopramide, as well as in herbs like dill seeds, almonds, fenugreek, blessed thistle, and fennel. These substances affect the hormones oxytocin and prolactin, thereby adding hormone stashing and milk production¹⁰.

Dill seeds (*Anethum grave lens*) contain essential oil rich in carvone and limonene, as well as phenolic similar as trans- anethole and flavonoids. Dill is believed to have Galactagogues properties. Dill seeds have been set up to contain roughly 7 - 9 humidity, 16 - 18 protein, 14 - 20 lipid, 35 - 55 carbohydrates, and 20 - 30 total salutary fiber, along with vitamins and 1- 8 essential oil painting. Dill is generally considered safe as a food by the U.S. Food and Drug Administration (FDA). In two studies, nursing mothers were given d-carvone (set up in dill seeds), and no adverse effects were observed in either the mothers or their babies¹¹.

2. Materials and Methods

A quasi-experimental exploration design and quantitative approach were used to collect data by Convenient sampling technique from 60 postnatal maters who were admitted to tertiary care hospitals 30 enrolled in the quasi-experimental group and 30 in the control group. The postnatal mothers who were willing to participate and whose babies were admitted to NICU were included while postnatal mothers who had critical illness or medical/obstetrical complications were eliminated from the study. The study was carried out in Dhiraj Multispecialty Hospital, Vadodara after taking formal authorization from the hospital authority and ethical clearance from the institution's ethical commission to conduct the investigation. Dill seeds tea was given to the quasi-experimental group for 5 days in the morning which is made up of 1 tablespoon of dill seeds, 200 ml water, 1 tablespoon jaggery, and half a tablespoon of cow ghee. The tools used for the study were a questionnaire to collect demographic and obstetrical data and a Likert scale to collect data related to suckling sufficiency in postnatal mothers. The statistical analysis was conducted using Statistical Package for the Social Sciences interpretation 2023. Descriptive Statistics was used for the frequency and percentage distribution and Inferential Statistics like the Chi-Square test was used to find the association.

3. Results

The current study is a quasi-experimental study conducted in a tertiary care hospital, involving a total of 60 postnatal mothers. These mothers were divided into two groups: 30 in the quasi-experimental group and 30 in the control group.

4. Demographic Variables

Regarding the age distribution of the mothers, the highest percentage of participants in both the quasi-experimental group and the control group fell within the age range of 26 - 30 years, with 33.3 % and 40 % respectively. In terms of education, 17 (56.7 %) participants in the control group and 16 (53.3 %) in the quasi-experimental group had received primary education. The majority of the postnatal mothers in both groups were housewives. In terms of family income, approximately half of the postnatal families had a monthly income of Rs. 5000 – 15000/-.

5. Obstetrical Variables

In terms of the type of delivery, the majority of postnatal mothers in the control group (40 %) had undergone a caesarean delivery. In the quasi-experimental group, 10 (33.3 %) had a caesarean delivery and 10 (33.3 %) had a vacuum delivery. Regarding the initiation time of breastfeeding, majority of mothers in the control group (46.7 %) started breastfeeding within the first hour, while in the quasi-experimental group, the majority (46.7 %) initiated breastfeeding within 1 - 5 hours. The most common position for breastfeeding in the control group was the cradle hold position, with 22 (73.3 %) mothers using it, while in the quasi-experimental group, 15 (50 %) mothers used the cradle hold position. In terms of the duration of breastfeeding, the majority in both groups breastfed for less than 10 minutes, with 19 (63.4 %) in the control group and 16 (53.4 %) in the quasi-experimental group.

6. Lactation Among Postnatal Mothers

Table 1 presents the pre-test and post-test levels of lactation among postnatal mothers in both the control and experimental groups. The results showed that during the pre-test, the majority in the control group (86.7 %) and the experimental group (93.3 %) had inadequate lactation, while a small percentage had satisfactory lactation. In the post-test, the majority in the control group (76.7 %) still had inadequate lactation, while in the experimental group, the majority (80 %) had adequate lactation, with a smaller percentage having satisfactory lactation.

The results of the study showed that during the pre-test, there was no significant difference in the mean scores of lactation between the control group (mean score: 6.53 ± 3.104) and the experimental group (mean score: 6.63 ± 2.205). The mean difference was 0.10, and the statistical analysis ($t = 0.144$, $df = 58$, $p = 0.886$) indicated

that this difference was not statistically significant at the $p < 0.05$ level. However, during the post-test, there was a significant improvement in lactation among postnatal mothers in the experimental group (mean score: 24.70 ± 7.822) compared to the control group (mean score: 6.87 ± 3.511). The mean difference was 17.83, and the statistical analysis ($t = 11.39$, $df = 58$, $p = 0.001$) indicated that this difference was highly significant at the $p < 0.05$ level. These findings suggest that the use of dill seed tea was effective in improving lactation among postnatal mothers in the experimental group compared to the control group.

In terms of the association between lactation and selected demographic variables, the chi-square test was conducted in both the control and experimental groups. The results showed that only the duration of breastfeeding was significantly associated with lactation among postnatal mothers at the $p < 0.05$ level. Other demographic variables such as age, education, occupation, monthly income of the family, type of delivery, time of initiation of breastfeeding, knowledge on breastfeeding, and gap between breastfeeding were not found to be statistically significant in relation to lactation among postnatal mothers.

7. Discussion

In the current study, postpartum moms who were hospitalised to a tertiary care hospital in Vadodara were evaluated to see how well dill seed tea improved breastfeeding. The sample included 60 postpartum women who had trouble producing enough milk, including 30 in the quasi-experimental group and 30 in the control group. A breastfeeding adequacy evaluation scale and a sociodemographic and obstetric profile questionnaire for postpartum moms were used as study instruments to gather data. Descriptive and inferential statistics were used to analyse the acquired data, and the discussion followed the goals of the study.

Table 1. Pre-test and post-test level of lactation among postnatal mother in the control and quasi experimental

Lactation Level	Control group (n = 30)		Quasi experimental group (n = 30)	
	Pre-test	Post-test	Pre-test	Post-test
	f (%)	f (%)	f (%)	f (%)
Inadequate	26 (86.7 %)	28 (93.3 %)	23 (76.7 %)	0
Satisfactory	4 (13.3 %)	2 (6.7 %)	7 (23.3 %)	6 (20 %)
Adequate	0	0	0	24 (80 %)

This experiment supports a prior one that looked at the effect of almond powder on lactation. Using a modified technique for lactation adequacy, the amount of breast milk that was adequate was evaluated each morning. The findings revealed a statistically significant rise in postpartum moms' adequate levels of breast milk in the experimental group¹².

In the current investigation, it was discovered that both the quasi-experimental and control groups had adequate levels of breast milk at pretest. The post-test findings, however, showed that the mean score in the experimental group was 24.707.822, with a mean difference of 17.83, whereas it was 6.873.511 in the control group. A statistically extremely significant difference at the p0.05 level was shown by the calculated t-value of 11.39 (df = 58, p = 0.001). These results imply that dill seed tea was superior to the control group in terms of increasing breastfeeding in postnatal women.

Research of Roghayeh Javan, Behjat Javadi, *et al.*, and Hastan Huseyine is used to support the conclusions of this study. They claimed in their investigations that taking use of traditional knowledge might help uncover potent phytopharmaceuticals for boosting breast milk production as many natural ingredients are recognised to be galactogogue agents¹⁰⁻¹³.

Additionally, research by Hekmatzadeh SF, Bazarganipour F, *et al.*, showed that boiled dill seeds may have the ability to lessen labor-related anxiety, and research by Talebi F, Malchi F, Abedi P. and Jahanfar S., suggested that using dill seeds might shorten labour, particularly in low-risk pregnant women^{14,15}.

8. Conclusion

In conclusion, the utilization of dill seeds during the postnatal period has been found to enhance lactation among postnatal mothers. Healthcare professionals can play a crucial role in educating mothers about the benefits of incorporating galactagogues into their diet during pregnancy and the postnatal period. This knowledge can help mothers sustain breastfeeding for the well-being of their infants.

9. References

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