

Effectiveness of Garlic with Milk on Lactation among Post-natal Mothers at Selected Hospitals in Bhilai, Durg District

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Breastfeeding for the first six months of a baby's life, followed by breastfeeding plus weaning food up to the age of two, represents proper breastfeeding practice. Around 1.5 million children's lives may be spared each year if breastfeeding practices around the world were improved, according to UNICEF.

Breastfeeding reduces the death rate of infants and improves their nutritional and cognitive health. More than 80,000 fatalities of children under the age of five in developing nations may be averted if their moms breastfed them optimally until they were two years old. As a result, a mother's capacity to produce adequate milk is vital to the health and well-being of her children.

This study was undertaken to assess the effectiveness of garlic with milk on lactation among post-natal mothers at a selected hospitals in Bhilai, Durg District in Chhatisgarh.

Objectives

The study had following objectives.

1. To determine the level of adequate breast milk production among post-natal women in both the groups.
2. To determine the impact of garlic combined with milk on breastfeeding in post-natal mothers.
3. To investigate the relationship between the post-test assessment of breast milk adequacy among post-natal mothers in the experimental group and the demographic characteristics that were collected.

Hypotheses

H1: There will be a significant difference between the pre-test and post-test level of milk adequacy among post-natal mothers after the administration of garlic with milk.

H2: There will be a significant association between post-test level of milk adequacy among post-natal mother in experimental group with their selected demographic variables.

Need for the study

Galactagogues are substances considered to in-

crease the commencement, maintenance, and augmentation of milk supply in nursing women, and garlic is a common galactagogue dish in Indian cuisine and around the world. It enhances the release of prolactin, which in turn raises the production of milk. It also contains carbohydrates, nutrients, chemicals, enzymes, and trace metals. The greatest strategy to promote breast milk production is to eat a lot of kale, which has been demonstrated to improve lactation in nursing women.

Only 40 percent of infants under the age of six months are exclusively breastfed, according to the WHO's Global Breastfeeding Scorecard of 194 nations. Only 23 countries have early breastfeeding (EBF) rates surpassing 60 percent. Breast milk is provided to about 42 percent of the world's babies in their very first hour after being born. Contrary to common assumption, only about 55 percent of Indian newborns are nursed exclusively during the first six months of their life, despite the fact that the practice has long been customary in India.

Review of Literature

Josephine Carmel Rani (2016) conducted an experimental study to examine the impact of almond powder on lactation among post-natal mothers in the Institute of Obstetrics and Gynecology and Hospital, Chennai. Random sampling was used to identify 60 postpartum mothers. Both the experimental and control group persons filled out a modified breast milk adequacy tool. Dried and powdered almonds were administered for five days in a row in the form of 30g of powder mixed with 100 ml of milk at breakfast time (morning 10 am). According to the findings, experimental moms produced acceptable amounts of breast milk at a rate of 86.7 percent, whereas the control group produces milk at a rate of 100 percent. This discrepancy demonstrates the almond powder's ($p=0.000$) ability to improve the adequacy of breast milk in the experimental group.

Achon et al (2019) evaluated the maternal milk and dairy consumption pattern during pregnancy and lactation among healthy women. Among other things, this study examines the impact of a mother's dairy consumption on her child's birth weight. Research published up till May 2018 was systematically reviewed. A preliminary literature search revealed 5,695 citations. More than 30 articles were considered for inclusion, but only 17 studies

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made the cut. In addition to the prospective cohort studies, there were intervention studies, retrospect cohort studies, cross-sectional research, and two case-control investigations. Maternal breast milk intake during pregnancy appears to have a good effect on the birth weight and length of the baby, although the number and type of research is insufficient to draw firm conclusions.

Sim TF, et al (2013) performed a study using quasi-experimental design in Mangaluru, India, to examine how garlic affects breast milk's smell and behaviour in nursing infants. The study was conducted on eight mothers, all of whom exclusively breastfed their 3- to 4-month-old infants. Post-natal moms who take garlic preparations showed a substantial change in their pre-test and post-test breastfeeding production scores.

Methodology

Research approach employed in this present study was quantitative evaluative research type. Quasi experimental design with non-equivalent control group

Table 1: Comparison of pre- and post-assessment level of breast milk adequacy among post-natal mothers between experimental and control group

Adequacy of breast milk secretion	Experimental group				Control group			
	Pre-test		Post-test		Pre-test		Post-test	
	F	%	F	%	F	%	F	%
Adequate	02	6.7	20	66.6	04	13.3	04	13.33
Moderately adequate	07	23.3	10	33.3	06	20	10	33.3
Inadequate	21	70	0	0	20	66.6	16	53.3

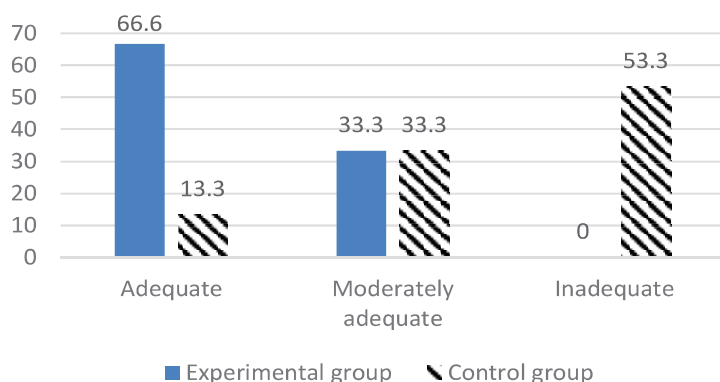


Figure 1: Post-assessment level of breast milk adequacy among post-natal mothers between the experimental and control group.

Table 2: Comparison of mean, standard deviation, mean difference and 't' value of pre-test and post-test level of milk adequacy among post-natal mothers between experimental and control group

Adequacy of breast milk secretion	Pre-test		Post-test		Mean difference	't'-value
	Mean	SD	Mean	SD		
Experimental group	6.8	3.7	12.7	3.8	5.9	10.05**
Control group	7.5	4.25	10.4	5.02	2.9	8.15*

pre- and post-test design was adopted. The study was carried out in the post-natal ward of Sparsh Hospital (experimental group) and Pulse Hospital (control group), Bhilai, Durg district. The accessible populations were post-natal mothers who meet the inclusion criteria. A total of 60 postpartum women were included in the study (30 in experimental group and 30 in control group). Purposive sampling is a research technique that selects samples based on their potential to improve lactation in postpartum women.

Data collection tool: The data collection tool used in the present study were:

Demographic variables: Breast milk adequacy checklist

Description of the tool: Section A - Demographic questionnaire. This consists of age, education, occupation, monthly income, religion, residence, type of family, type of diet, mode of delivery, number of children, condition of the nipple, source of information, knowledge regarding benefits of garlic.

Section B - Breast milk Adequacy Checklist includes 20 questions regarding breast milk secretion. The checklist also has 2 options for correct response 'Yes', 1 mark was awarded and for 'No', zero mark was awarded.

Classification of Breast Milk adequacy

- Adequate breast milk secretion: 14-20
- Moderate breast milk secretion: 7-13
- Inadequate breast milk secretion: 1-6

Section C: Intervention tool - Garlic with Milk. The Garlic milk was prepared by boiling 7 flakes of peeled garlic in 300 ml of milk and reducing this quantity to 100 ml. This preparation should be given to the post-natal mother for consecutive 7 days. No additional substitutes should be added along with milk.

Data collection procedure: The participants in the study gave their informed consent before being split into two groups: one was the experimental group, and the other was the control group. The goal of the study was made clear to the participants, and their personal information was kept private. The patient was given an explanation of the data gathering process. Breast milk adequacy was pretested in both groups. The experimental group was given 100 ml of garlic with milk once a day for seven days, whereas the control group was fed a normal diet. On the 8th day, the identical breast milk adequacy checklist was

used for the post-test in both the experimental and control groups. The researcher took about 30 minutes to give intervention for each post-natal mother. Their questions about breastfeeding and post-partum nutrition were also explained by the researcher during this time.

Results

Table 1 and Fig 1 revealed that during pre-test only 6.7 percent of post-natal moms in the experimental group had adequate breast milk secretion, 23.3 percent have average breast milk secretion, and 70 percent had poor breast milk secretion. After the intervention, 66.6 percent of post-natal mothers had adequate secretion, 33.3 percent had moderate milk secretions and 0 percent have inadequate milk secretions.

Control group post-natal mothers had adequate breast milk secretion during pre-assessment; 20 percent of them had average breast milk and 66.6 percent had inadequate breast milk secretion. In post-assessment, only 13.33 percent of the post-natal mothers had adequate breast milk secretion, with 33.33 percent having moderate and 53.33 percent having inadequate breast milk. This reveals that there is a substantial difference between the experimental and control groups when it comes to the assessment of breast milk adequacy. Hence the stated hypothesis H1 is accepted.

Table 2 shows that the mean pre-test score in the experimental group was 6.8 ± 3.7 SD and the mean post-test score was 12.7 with a standard deviation of 3.8. The mean difference was 5.9 points. The obtained 't' value 10.05 was highly significant

Table 3: Association between the post-test assessment of breast milk adequacy among post-natal mothers in experimental group with their selected demographic variables

Demographic variables	Adequate		Moderately adequate		Inadequate		Total	p-value
	F	%	F	%	F	%		
1. Age								
a. 19-23 years	0	0	01	3.3	02	6.6	03	$\chi^2=10.8$ df =6 NA
b. 24-29 years	0	0	01	3.3	14	46.6	15	
c. 30-35 years	01	3.3	02	6.6	04	13.3	07	
d. ≥36 years	01	3.3	03	10	01	3.3	05	
2. Educational status								
a. Primary education	01	3.3	0	0	01	3.3	02	$\chi^2=13.2$ df =6 *SA
b. Secondary education	0	0	03	10	10	33.3	13	
c. Under graduate	01	3.3	02	6.6	09	30	12	
d. Post graduate	0	0	02	6.6	01	3.3	03	
3. Occupation								
a. House wife	01	3.3	04	13.3	04	13.3	18	$\chi^2=4.1$ df =6 NS
b. Govt. employee	0	0	0	0	0	0	0	
c. Private employee	01	3.3	01	3.3	01	3.3	09	
d. Self-employee	0	0	0	0	02	6.6	03	
4. Family monthly income								
a. Rs ≤ 10,000	0	0	02	6.6	13	43.3	15	$\chi^2=7.8$ df =6 NS
b. Rs 10,001-20,000	01	3.3	02	6.6	07	23.3	09	
c. Rs 20,001-30,000	01	3.3	03	10	01	3.3	05	
d. Rs ≥30,001	0	0	0	0	0	0	0	
5. Religion								
a. Hindu	0	0	03	10	18	60	21	$\chi^2=8.2$ df =4 NS
b. Christian	01	3.3	02	6.6	02	6.6	05	
c. Muslim	01	3.3	02	6.6	01	3.3	04	
6. Residence								
a. Urban	01	3.3	02	6.6	04	13.3	07	$\chi^2=1.2$ df =2 NS
b. Rural	01	3.3	05	16.6	17	56.6	23	
7. Type of family								
a. Nuclear family	0	0	05	16.6	20	66.6	25	$\chi^2=5.4$ df =4 NS
b. Joint family	02	6.6	02	6.6	01	3.3	05	
c. Extended family	0	0	0	0	0	0	0	
8. Dietary pattern								
a. Veg	0	0	02	6.6	01	3.3	03	$\chi^2=3.3$ df =2 NS
b. Non-Veg	02	6.6	05	16.6	20	66.6	27	
9. Mode of delivery								
a. Normal	01	3.3	02	6.6	01	3.3	04	$\chi^2=13.8$ df =4 *SA
b. LSCS	0	0	05	16.6	19	63.3	24	
c. Forceps delivery	01	3.3	0	0	01	3.3	02	
10. Number of children								
a. 1	01	3.3	05	16.6	17	56.6	23	$\chi^2=0.7$ df =6 NS
b. 2	01	3.3	02	6.6	04	13.3	07	
c. 3	0	0	0	0	0	0	0	
d. More than 3	0	0	0	0	0	0	0	
11. Condition of the nipple								
a. Normal	02	6.6	04	13.3	17	56.6	23	$\chi^2=1.6$ df =4 NS
b. Inverted nipple	0	0	02	6.6	03	10	05	
c. Cracked nipple	0	0	01	3.3	01	3.3	02	
12. Source of information regarding galactogenous diet								
a. Mass media	0	0	03	10	02	6.6	05	$\chi^2=14.7$ df =6 *SA
b. Friends / relatives	0	0	02	6.6	03	10	05	
c. Family members	01	3.3	0	0	02	6.6	04	
d. Health personnel	01	3.3	01	3.3	14	46.6	16	
13. Knowledge regarding benefits of garlic								
a. Facilitate digestion	01	3.3	02	6.6	07	23.3	10	$\chi^2=1.3$ df =4 NS
b. Reduce gas accumulation	0	0	02	6.6	08	26.6	10	
c. Promote breastfeeding	01	3.3	03	10	06	20	10	

*Significant at $p < 0.05$.

at $p < 0.05$ level. The mean pre-test score for the control group was 7.5 ± 4.25 SD while the mean post-test score was 10.4 with an SD of 5.02. The mean differences was 2.9 't' value 8.15 was highly significant at $p < 0.05$ level. There was a significant difference between the mean pre-and post-test level of milk adequacy among post-natal mothers in control group, but it was less when compared to experimental group. Hence, normal diet was less effective in improving the adequacy of breast milk secretion among post-natal mothers.

Hence garlic with milk was effective in improving the adequacy of Breast milk secretion among post-natal mothers.

Table 3 shows the association between post-test assessment of breast milk adequacy among post-natal mothers with their selected demographic variable in experimental group. Statistical significance was calculated using chi square test. A significant association was found between post-test assessment of breast milk adequacy with demographic variables like educational status, mode of delivery, source of information regarding galactogenous diet. Hence the stated hypothesis (H2- There will be a significant association between posttest level of milk adequacy among post natal mother in experimental group with their selected demographic variables) is accepted.

Discussion

The present study was supported by a similar study conducted by Renjitha & Hemalatha (2013) at selected community area at Mangaluru examining the effectiveness of garlic preparation intake in promotion of breastfeeding among post-natal mothers. The results of the study showed that post-natal moms who consumed garlic preparations before and after the test had significantly different breastfeeding output scores.

Nursing implications

Nursing practice

- Garlic in milk is a safe and effective modality that increases satisfaction of post-natal mother.
- This intervention could aid post-natal mothers with insufficient milk production.

Nursing administration

- Garlic with milk is a very cost-efficient nursing intervention to stimulate breast milk secretion.
- This assists the nurse administrator to develop and implement effective non-pharmacological strategies for the development of breast milk secretion.

Nursing education

- A student nurse could be inspired by this study

to investigate new methods for promoting breast milk supply in postpartum women.

- Nursing and other health care workers can use this paper as a reference in the library.

Nursing research

- The release of this research will open up new horizons for nursing practice in this field of evidence-based practice.
- A comparison study might be carried out to compare the effectiveness of garlic with milk to other interventions.

Limitations

- The sample size of post-natal mothers was 60 and hence generalisation is not possible.
- Only post-natal mothers with breast milk inadequacy were selected as study subjects.

Recommendations

- The study may be replicated with large sample and with randomisation
- Other type of alternative therapies can be examined in promoting breast milk secretion.
- A study can be conducted by including more number of variables and at different geographic locations.

Conclusion

This study examined the influence of garlic and milk on lactation adequacy. Pregnant women who consumed garlic and milk had a considerable increase in the amount of breast milk they produced. It was found that the experimental group had a better sense of breast milk secretion than the control group. The satisfaction effect is also realised in control groups rather than in the experimental group.

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HEALTH EVENT

International Nurses Day

May 12 is a D-day for nurses around the world as Florence Nightingale, an English nurse, social reformer and a statistician who founded the foundation of modern nursing was born on this day in 1820. The global celebrations on this day acknowledge the commitment and bravery of nurses around the world.

The varietal programmes of IND are organised by the umbrella organisation of nurses, the International Council of Nurses (ICN) that works to ensure quality nursing care for all, sound health policies globally, and the advancement of nursing knowledge. A significant highlight of IND is producing and distributing IND resources and evidence. The overarching theme, Nurses: A Voice to Lead - Invest in Nursing and Respect Rights to Secure Global Health, focuses on the need for nurses to become more active and vocal in policy development and implementation. The resources and evidence deal with critical issues of the time and highlight the many ways in which nurses are making an impact.

Nursing can be described as both an art and a science; a heart and a mind. At its heart lies a fundamental respect for human dignity and an intuition for a patient's needs. They perform physical exams and take health histories, provide health promotion, counseling and education, administer medications and other personalised interventions, and coordinate care with a wide array of health care professionals.

Nursing is a highly specialised profession that is continuously evolving to address the emerging needs of health-conscious society. From ensuring the most accurate diagnoses to the ongoing education of the public about critical health issues; nurses are indispensable in safeguarding public health. Nurses work in hospitals, nursing homes, doctors' offices, homeless shelters, senior care homes, rehab centres and correctional facilities serving a wide spectrum of needy persons.

Globally, nurses have a crucial role in upkeep of the health of people. Highly trained members of the medical team, most nurses have a broad skill set and a wide range of responsibilities that can vary from one patient to another. In patient care, a nurse helps manage physical needs, prevent illness, and treat health conditions. They observe and monitor the patient, recording relevant information to aid in treatment. In patient advocacy, she advocates for the best interests of the patient and maintains the patient's dignity during treatment and care. In her role in planning of care, a nurse is directly involved in the decision-making process for the treatment of patients. Nurses think critically when assessing patient signs and identifying potential problems so as to make the appropriate recommendations and actions. They are the most familiar with the individual patient situation as they monitor their signs and symptoms on an ongoing basis and should collaborate with other members of the medical team to promote the best patient health outcomes.

Responsible for ensuring that patients understand their health, illnesses, medications, and treatments, nurses serve as educators and supporters. She explains to the patient and their escorts what to do and what to expect when they leave the hospital or medical clinic. They make sure that the patient feels supported and knows where to seek additional information. The Corona period demonstrated nurses' seminal role in diagnosis and care of the victims; in the process, many of them lost their lives too. They were rightly referred to as frontline warriors.

We salute nurses this International Nurses' Day.