



A Study to Assess the Effectiveness of Structured Teaching Program on Knowledge and Practices of Storage and Use of Expressed Breastmilk Among Working Women in Selected Schools and Offices of Kamrup, Metro.

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Abstract

Introduction: It is a well-known fact that breastfeeding is the best method of feeding babies both nutritionally and emotionally. WHO recommends exclusive breastfeeding for babies up to 6 months for optimal growth and health and to continue breastfeeding till 2 years or longer if the mother and child are willing. The commonest obstacle today is maternal employment. Breastfeeding is undoubtedly the best form of feeding. Breast milk is the best nutritional choice for infants, and it is possible to administer it even in the absence of the mother during feeds by pumping, storing and using it as and when required. The study aimed to assess the effectiveness of structured teaching program on knowledge and practices of storage and feeding of expressed breastmilk among working women and to determine the association between pre-test knowledge and practice scores of working mothers with selected socio-demographic variables. **Methods:** Sixty participants from the selected schools and offices from Kamrup, Metro were selected using a purposive sampling technique. Socio-demographic Performance and structured knowledge questionnaire and structured practice checklist were administered followed by a structured teaching program on storage and use of expressed breastmilk. The post-test was conducted after a week. Data was analyzed by using the software package SPSS 26 version. **Results:** The findings of the study revealed that most of the working women 66.7% had moderate knowledge, 33.3% had inadequate knowledge; 51.7% of the women had average practices and 48.3% had poor practices before the teaching was administered.

After the teaching was administered 83.3% had adequate knowledge, 16.7% had moderate knowledge; 88.3% had good practices and 11.7% had average practices. The mean pre-test scores for knowledge were 6.5 and practices were 8.9; the mean post-test scores for knowledge were 11.83 and practices were 17.17. the t-test value for knowledge ($t_{59} = 11.56$ at $df=59$ $p < 0.05$) and t-test value for practice ($t_{59} = 19.88$ at $df=59$ $p < 0.05$) was highly significant at 0.05 level of significance which shows that structured teaching program was effective in improving knowledge and practices regarding expression and storage of expressed breastmilk among working women. There was a statistically significant association found between pre-test knowledge and practice scores with the age of the mother and the educational status of the mother regarding storage and use of expressed breastmilk. **Conclusion:** This study revealed that the structured teaching program was effective in improving the knowledge and practices of working women in relation to the storage and use of expressed breastmilk so that they can effectively manage the nutrition of their child even when they are working.

Keywords: Structured teaching program, knowledge, practices, working women, expressed breastmilk feeding and storage.

INTRODUCTION

It is a well-known fact that breastfeeding is the best method of feeding babies both nutritionally and emotionally.¹ WHO recommends exclusive breastfeeding for babies up to 6 months for optimal growth and health and to continue breastfeeding till 2 years or longer if the mother and child are willing.^{2,3} The commonest obstacle today is maternal employment.⁴ Based on these facts, WHO also recommends countries to grant 24 weeks of maternity leave to protect maternal and child health.⁵ Parliament of India passed an amendment to the Maternity Benefit Bill (2016) stating that every organization (public or private) with more than fifty female employees should grant 26 weeks maternity leave to all working mothers in the organization. Sadly, many organizations are yet to implement it. In such a scenario and after 26 weeks of maternity leave, working mothers have to make a difficult choice regarding feeding options for their babies.

A relatively simple alternative is formula feed. Formula milk provides babies with the nutrients they need to grow and thrive.⁶ They have become a popular choice among Indian women who are away from their babies due to work. Breastfeeding is undoubtedly the best form of feeding. Breast milk is the best nutritional choice for infants, and it is possible to administer it even in the absence of the mother during feeds by pumping, storing and using it as and when required for their babies for approximately a duration of 6-8 hours^{7,8}

NEED FOR THE STUDY

Breast feed is the most natural feed and breast milk is the best milk. The basic food for the infant is the mother's milk. WHO recommends exclusive breast feeding for babies up to 6 months for optimal growth and health and to continue breast feeding till 2 years or longer if the mother and child are willing. Today the commonest obstacle for this is maternal employment. According to Periodic Labor Force Survey (PLFS), latest quarterly survey in January- March 2021 stated that female labor force participation in India is 16.9%.⁹ And the working mother can only feed their babies when they have leisure time. One of the other methods through which working women can manage their baby's health is through expressed breast milk. Expression of breast milk is beneficial to both the baby as well as the mother; it provides nutrition to the child as well as prevents the breast complications also. Premature cessation of exclusive breast feeding, and introduction of formula feed unnecessarily exposes children to the risk of infection and malnutrition. About 1.4 million deaths of child aged below two years are due to the sub-optimal breast-feeding practices. 20% of neonatal deaths can be prevented by enacting exclusive breast feeding.¹⁰ Rai S, (2017), conducted a study to assess the knowledge, attitudes and practices regarding expressed breast milk feeding among working postnatal mothers and to identify and explore the barriers against it. A double-blinded cross-sectional study was conducted among 100 working postnatal breastfeeding mothers with infants up to 1 year. A validated questionnaire was used for data collection, which consisted of personal characteristics, knowledge regarding expressed breast milk feeding, attitude towards it and presently followed practices by working mothers. The results showed the knowledge regarding expressed breast milk feeding was unsatisfactory in 64% of women. Only 36% of them had satisfactory knowledge. Positive attitude towards expressed breast milk feeding was seen in 60% of them and 40% of them had negative attitude. Expressed breast milk feeding was practiced by 11% of them, formula milk by 53%, mixed feeding by 10% and cow milk by 26% as a substitute to breast feeding in their absence. Univariate analysis revealed no statistically significant determinant of their knowledge, attitude and practices. Knowledge about expressed breast milk feeding in Indian working breastfeeding mothers is suboptimal. Imparting adequate knowledge can improve feeding practices.¹¹

AIMS AND METHODS

The present study was carried out to assess the effectiveness of structured teaching program on knowledge and practices of storage and use of expressed breast milk among working women in selected schools and offices of Kamrup, Metro. A quantitative research approach, pre-experimental design was used for the study. Coding

criteria was prepared for socio-demographic variables. Self-structured questionnaire was used to assess the knowledge and self-structured checklist was used to assess the practices. total number of questions were 36.

ETHICAL CONSIDERATIONS

- Ethical clearance was obtained from the institutional ethical committee, Army Institute of Nursing, C/O 151 Base hospital, Guwahati.
- Formal permission was taken from the concerned authorities of the selected schools and offices of Kamrup, Metro.
- Formal written consent was taken from the participants duly signed by them after explanation of the aims and objectives of the study.

PLAN FOR DATA ANALYSIS

The data was organized, tabulated and analyzed by using descriptive and inferential statistics.

DISCUSSION

The results of the present study revealed that majority of the working women, 66.7% participants had moderate knowledge, 33.3% had inadequate knowledge, 51.7% of the participants had average practices while 48.3% of the participants had poor practices at the pre-test level. 83.3% of the participants had adequate knowledge and 16.7% had moderate knowledge, 88.3% had good practices and 11.7% had average practices at the post test level.

A similar study was conducted by Nankumbi J (2017) to assess the perceptions of breastmilk expression among working mothers in Uganda. In which 79.3% of the respondents were knowledgeable about the breastmilk expression but only a few knew about the storage and use of expressed breastmilk. Breastmilk expression was not practiced by most mothers 73.7% and the majority 64.5% did not like to express breastmilk, raising doubts on acceptability, hygiene and safety.¹²

FINDINGS

In the present study, majority of the participants, 53.3% of the women were of the age group between 26-35 years, 30% were 36-45 years, while only 16.7% of the participants were below 25 years. 35% of the participants were having family monthly income (in rupees) between 7102-11836, 25% having it between 2391-7101, 15% between 17756-23673, 13.3% between 11837-17755, and 11.7% had it less than 2390 per month. 83.3% of the participants were living in a nuclear family, while 16.7% of them were living in a joint family. 58.3% of the

participants joined back work when their child attained an age of 19- 24 months, 20% resumed when child was 13-18 months old, 13.3% of them joined between 6-12 months while, 8.3% joined back in less than 6 months age group. 63% of the respondents had their children born after 36 weeks of gestation, 20% of the respondents had their children born at less than 36 weeks of gestation, while 17% of them had their child born at 36 weeks of gestation. 80% of them were graduates and 20% of them were postgraduates. 67% were primiparous 33% of them were multiparous. 50% of them followed Hinduism, 31.7% followed Islam and 18.3% of them followed Christianity. 66.7% of the respondents were the ones working in the private sector, 18.3% of them were working in public sector and 15% respondents were working in the government sector. 77% of the mothers expressed their breastmilk, while 23% of the respondents did not express their breastmilk. 65% of them used breast pumps, 11.7% used hands for breastmilk expression, and 23.3% of them did not use any of the methods for the breastmilk expression. 83% had not attended any training or workshop, while 17% of the respondents have attended some training or workshop for the same. 62% respondents had undergone caesarean section delivery while 38% respondents had undergone normal vaginal delivery. 53.3% respondents got the information from family, 30% of the respondents got the information from the friends and 16.7% got the information from the mass media sources.

The results of the present study revealed that the pre-test mean knowledge score was with a standard deviation of 2.159, and the practices mean score was 8.9 with a standard deviation of 2.874, while after the administration of the teaching, the mean knowledge score was of 11.83 with a standard deviation of 2.430 and mean practice score was 17.17 with a standard deviation of 1.586 There is significant association of level of knowledge and practices related to storage and use of expressed breast milk with age of the mother, type of the family, gestational age of the child at birth, age of the child when mother resumed work, if the mother expressed breastmilk and if the mother had attended any training or workshop; age of the mother and educational status of the mother respectively; among working women.

RESULT

The overall findings of the study revealed that the mean post-test score (11.83) was higher than the mean pre-test score (6.50). The post test score (SD=2.430) seemed to be less dispersed than the pre-test score (SD=2.159). So, it is evident that the post-test knowledge scores were higher than the pre-test knowledge scores. The mean post-test practice score (17.17) was higher than the mean pre-test practice score (8.9). The post test score (SD=1.586) seemed to be less dispersed than the pre-test score (SD=2.874). So, it is evident that the post-test

practice scores were higher than the pre-test practice scores. The age of the mother and educational qualification of the mother was found to be statistically significantly associated at $p < 0.05$ level. While other variables like family monthly income, type of family, age of the child when mother resumed working, gestational age of the child at birth parity, religion, place of work, mothers expression of breastmilk, methods used for expressing breastmilk, previously attended workshop or training, type of delivery the mother underwent and the source of information were not found to be statistically significant.

Table 1: Frequency and percentage distribution of knowledge regarding storage and use of expressed breast milk among working women before and after administration of teaching

N=60

Level of knowledge	Before		After	
	Frequency	%	Frequency	%
Inadequate knowledge	20	33.3	0	0
Moderate knowledge	40	66.7	10	16.7
Adequate knowledge	0	0	50	83.3

Table 1 depicts the frequency and percentage distribution of knowledge regarding the use and storage of expressed breast milk among working women before and after the administration of teaching. Results revealed that before teaching majority 40(66.7%) of participants had moderate knowledge and 20(33.3%) of participants had inadequate knowledge but after teaching majority 50(83.3%) had adequate knowledge and 10(16.7%) had moderate knowledge regarding storage and use of expressed breast milk. **N=60**

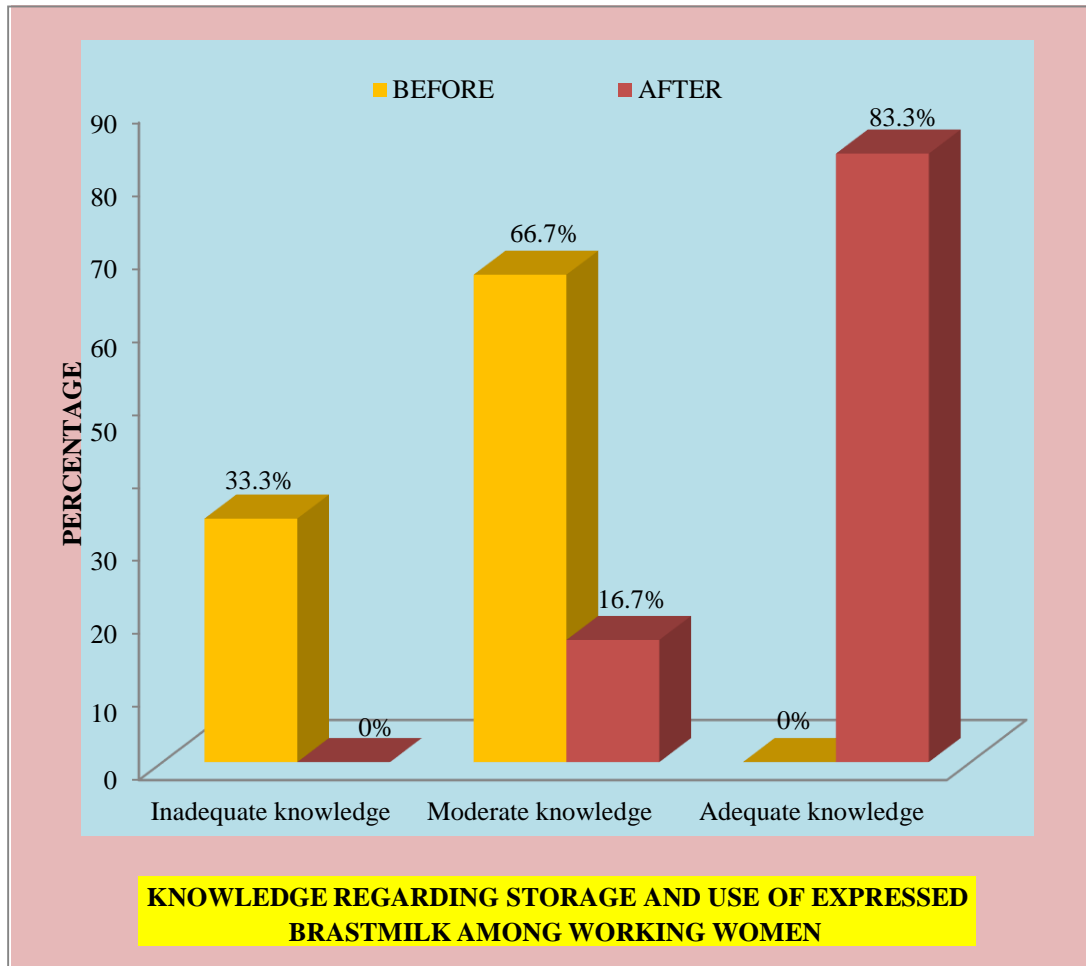


Figure 1: Percentage distribution of knowledge regarding storage and use of expressed breast milk among working women before and after administration of teaching

Table 2: Frequency and percentage distribution of practice regarding use and storage of expressed breast milk among working women before and after administration of teaching N=60

Level of practice	Before		After	
	Frequency	%	Frequency	%
Poor practice	29	48.3	0	0
Average practice	31	51.7	7	11.7
Good practice	0	0	53	88.3

Table 2 depicts the frequency and percentage distribution of practice regarding storage and use of expressed breast milk among working women before and after the administration of teaching. Results revealed that before teaching majority 31 (51.7%) of participants had average practice and 29 (48.3%) had poor practice while after teaching majority 53 (88.3%) had good practice and 7 (11.7%) of participants had average practice regarding use and storage of expressed breast milk.

N=60

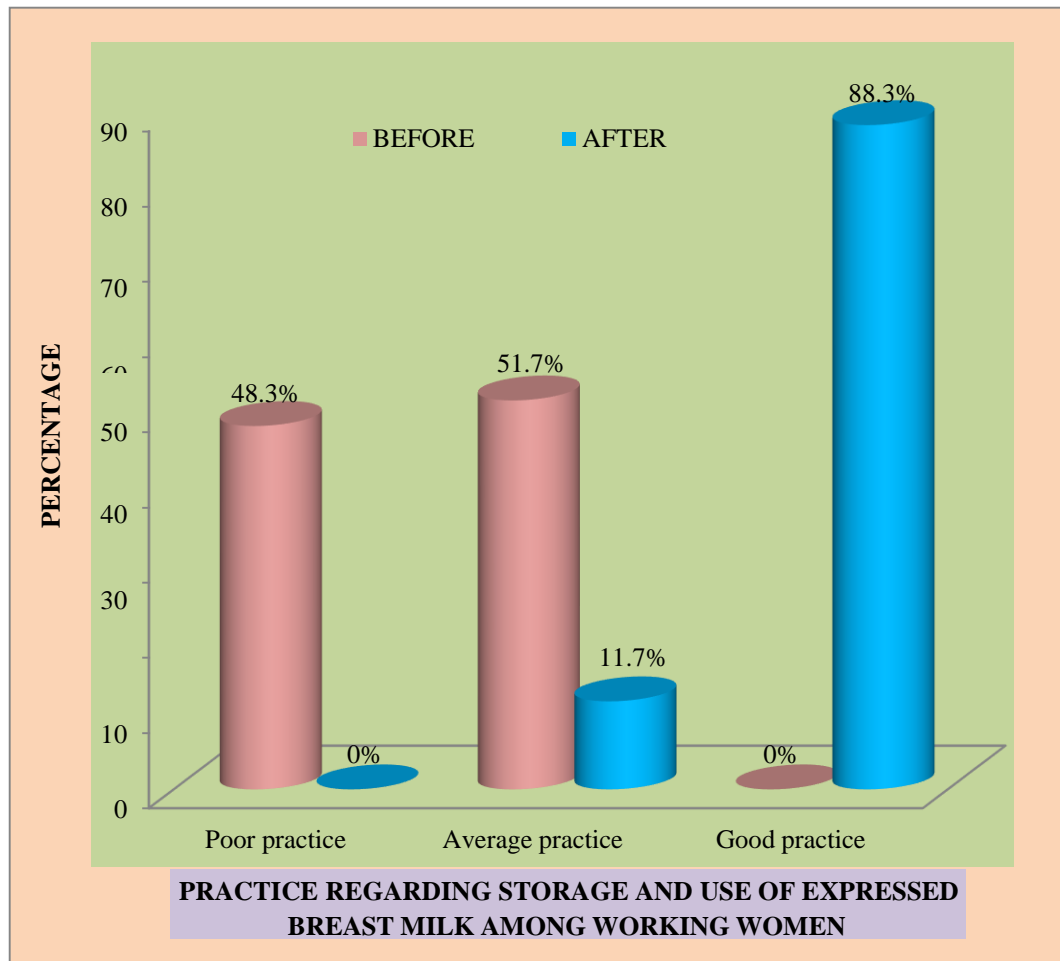


Figure 2: Percentage distribution of practice regarding storage and use of expressed breast milk among working women before and after administration of teaching

Table 3: Compare the level of knowledge regarding the use and storage of expressed breast milk among working women before and after the administration of teaching.

N=60

Comparison	Mean	SD	Mean Difference	t test value	df	p value
BEFORE	6.50	2.159	5.33	11.56	59	0.001**
AFTER	11.83	2.430				

Table 6 depicts the comparison of the level of knowledge regarding the use and storage of expressed breast milk among working women before and after the administration of teaching which was tested by using paired t test. Findings showed that before teaching mean knowledge score was 6.50 ± 2.159 and after teaching mean knowledge score was 11.83 ± 2.430 with mean difference was 5.33 with obtained ($t=11.56$) at $df = 59$ was statistically significant at $p < 0.05$ level.

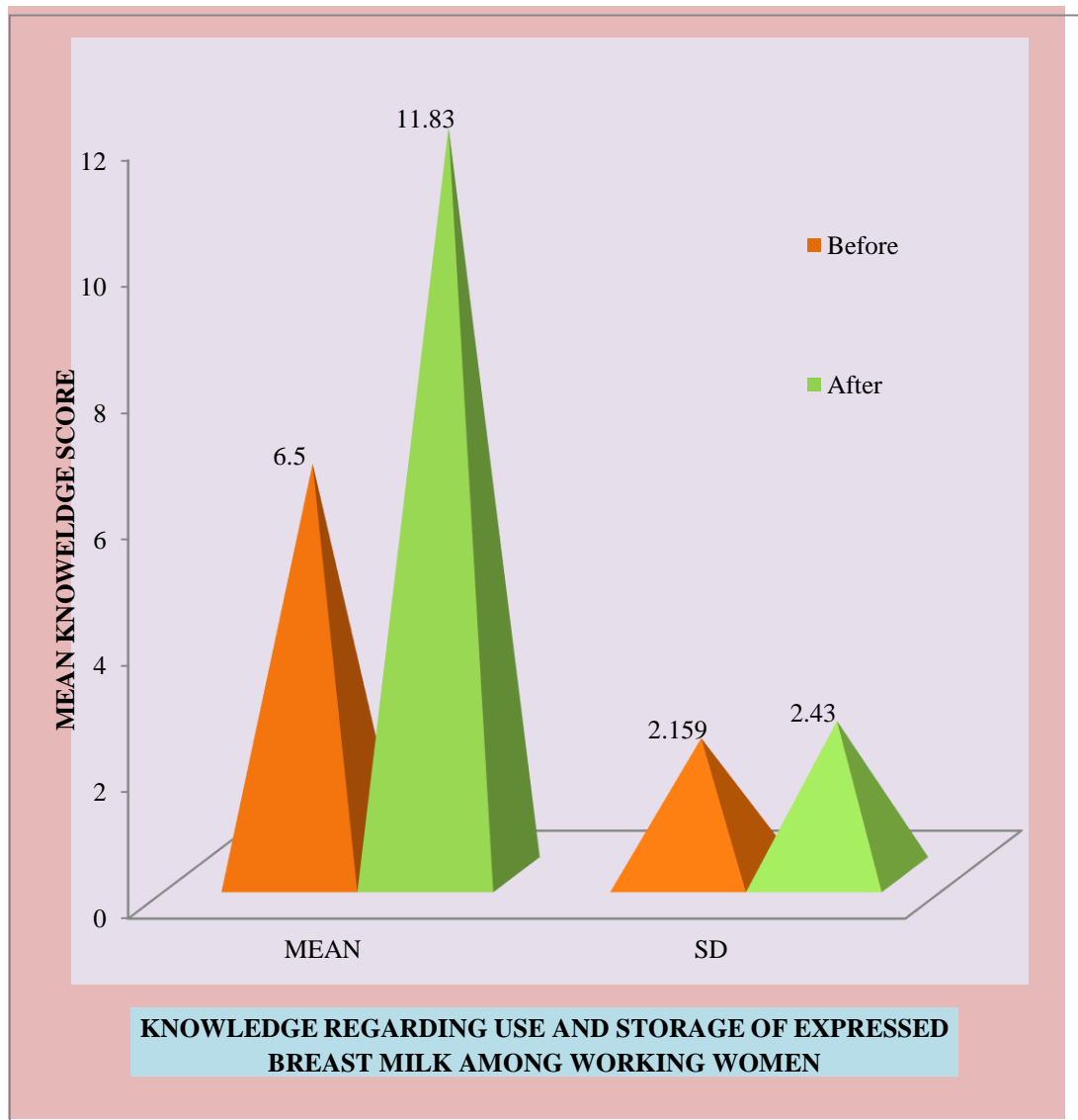


Figure 3: Distribution of mean and SD of knowledge regarding use and storage of expressed breast milk among working women before and after administration of teaching

Table 4: Compare the level of practice regarding the use and storage of expressed breast milk among working women before and after the administration of teaching

N=60

Comparison Practice	Mean	SD	Mean Difference	t testvalue	df	p value
BEFORE	8.90	2.874	8.27	19.88	59	0.001**
AFTER	17.17	1.586				

Table 4 depicts the comparison of the level of practice regarding the use and storage of expressed breast milk among working women before and after the administration of teaching which was tested by using paired t-test. Findings showed that before teaching mean practice score was 8.90 ± 2.874 and after teaching mean practice score was 17.17 ± 1.586 with a mean difference was 8.27 with obtained ($t=19.88$) at $df=59$ was statistically significant at $p < 0.05$ level.

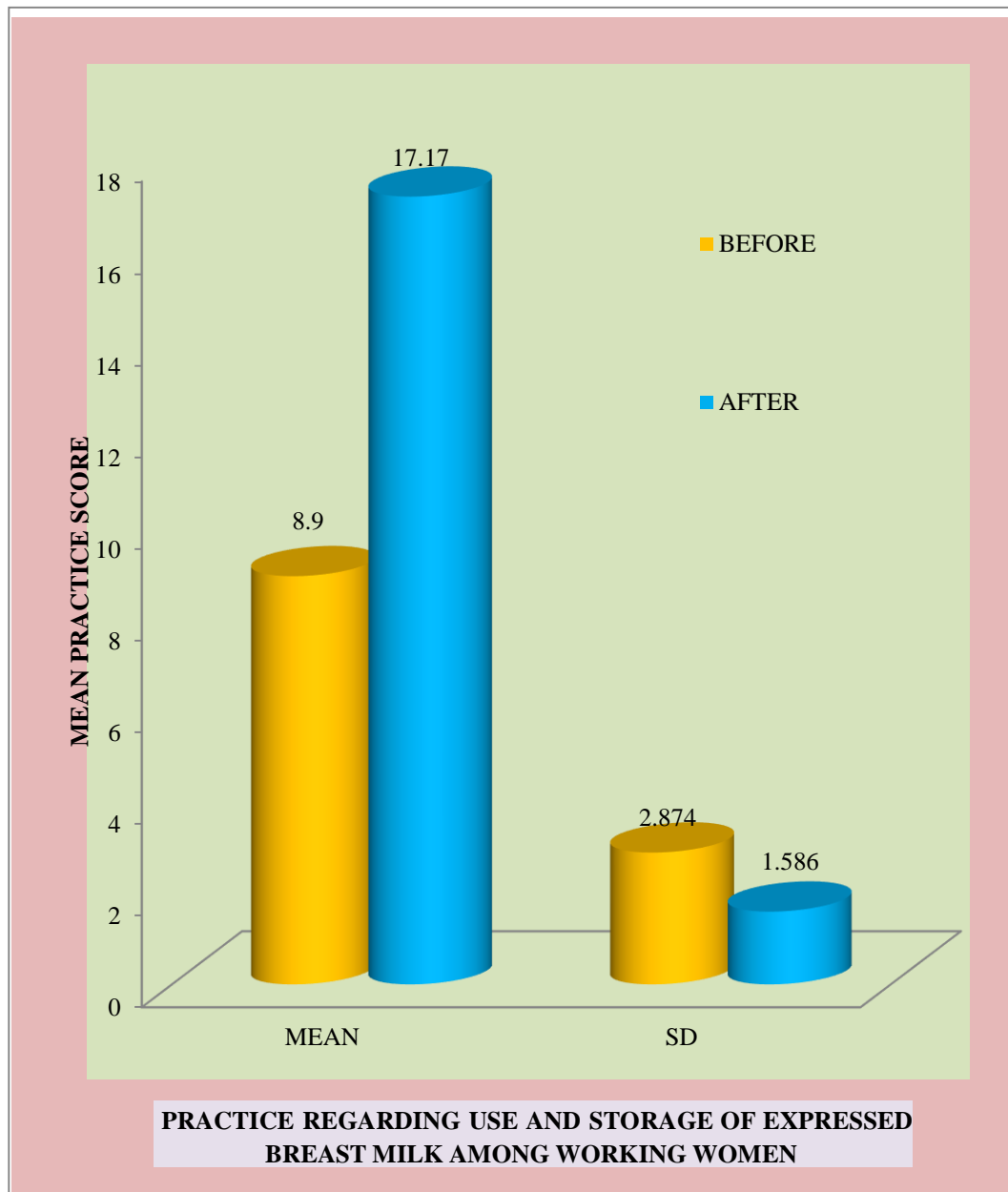


Figure 4: Distribution of mean and SD of practice regarding use and storage of expressed breast milk among working women before and after administration of teaching

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