



**ORIGINAL RESEARCH PAPER**

**Nursing**

**EFFECTIVENESS OF TOPICAL APPLICATION OF BREAST MILK & NATURAL METHOD OF UMBILICAL CORD DRYING IN A NEWBORN**

**KEY WORDS:** Umbilical cord, Topical application of breast milk, newborn

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**ABSTRACT**

**Background of the study:** The umbilical cord is a flexible, tube-like structure that has a spongy appearance. The cord is surrounded in a jelly-like substance. A newborn's umbilical cord stump typically falls off within about two weeks after birth. **Material and method used:** Evaluative research approach and checklist used. **Statistical method used:** Student t test and Chi-square test was used. As calculated t value which is more than table value (1.677) So null hypothesis is rejected which indicates that there was significant difference in signs of inflammation, redness, warmth, approximation of the umbilical cord as the receives the topical application of the breast milk There is a significant association in the umbilical infection for 5 days observation.

**INTRODUCTION**

The umbilical cord is a flexible, tube-like structure that has a spongy appearance. The cord is surrounded in a jelly-like substance. A newborn's umbilical cord stump typically falls off within about two weeks after birth. The baby's umbilical cord stump will change from yellowish green to brown to black as it dries out and eventually falls .

**NEED OF THE STUDY**

The infant mortality is about 54.63 per thousand live births in India, inspire of the target by Alma-Ata declaration 2000. Presently it is 34.61 per thousand live births. Though the morbidity and mortality is comparatively reduced, still the knowledge among people is less.

In neonates, umbilicus is the area most susceptible for bacterial colonization, which may occasionally lead to neonatal infections such as omphalitis and sepsis. Thus, care of the umbilical cord is important to prevent the occurrence of infection during the neonatal period

**STATEMENT OF THE PROBLEM**

"A comparative study to determine the effectiveness of topical application of breast milk & natural method of umbilical cord drying in a newborn of a selected hospital of Bhopal (M.P)"

**OBJECTIVES**

1. To assess the effectiveness of topical application of breast milk in umbilical cord drying among newborn (experimental group) by an observational checklist.
2. To assess the effectiveness of natural method in umbilical cord drying among newborn (Control group) by an observational checklist.
3. To compare the effectiveness of topical application of breast milk & natural method of umbilical cord drying in newborn.
4. To find out the association between the topical application of breast milk with their selected socio-demographic variables.

**HYPOTHESIS**

**H<sub>1</sub>** : There is a significant difference between the topical breast milk application and natural method of umbilical cord drying.

**H<sub>2</sub>**: There is a significant association between the topical application of breast milk with their selected variables.

**DELIMITATION**

The study is delimited to

- Babies born out with caesarean section delivery.

- The observation is limited only during hospitalization.

**REVIEW OF LITERATURE**

**Seema s. Chavan 2013:** "A comparative study between the topical breast milk pplikation and natural method of umbilical cord drying in newborns of a selected hospital at Mangalore" Newborn Babies Delivered By Caesarean section and admitted in the hospital from the time of birth until the discharge of their mothers. the selected newborn samples will be subjected with an intervention,i.e. application of breast milk to the umbilical cord (group 1), whereas the other group (group 2) will be allowed to have a natural drying of umbilical cord.Purposive sampling technique was used. The finding of the study suggest that topical application of breast milk helps in early healing of the umbilical cord.

**METHODOLOGY**

**RESEARCH DESIGN:** Quasi –experimental research design was used .The subjects were selected by Non Probability convenient sampling techniques.

**VARIABLES**

Variables are characteristics that vary among the subjects being studied.

**Independent variable:-** The breast milk application on the umbilical cord

**Dependent variable:-**The umbilical cord of the neonates.

**INCLUSION CRITERIA FOR SAMPLING**

- Babies born to mothers through caesarean section in the hospital.
- Mothers willing to co-operate for intervention and apply their breast milk to their babies umbilical cord.
- Newborns from the first day of life.

**EXCLUSION CRITERIA FOR SAMPLING**

- Neonates with surgical intervention.
- Neonates with serious illness.

**RELIABILITY OF TOOL**

The reliability of tools calculated by Karl Pearson's coefficient of correlation.

**ORGANISATION AND PRESENTAION OF DATA**

The data was organised under the following section:

**Section 1:** Description of socio-demographical variables in frequency and percentage.

**Section 2:** Description of subjects according to study parameters in newborn of both the group by frequency and

percentage.

**Section 3:** Descriptive measures such as mean, standard deviation will be used to assess the scores of both the group.

**Section 4:** The comparison of umbilical cord drying in newborn of experimental and control group is done after intervention.

**Section 5:** Unpaired t test will be used to compare the scores of experimental and control group.

**Section 6:** Chi-square test analysis will be used to find out the association of topical breast milk application and natural method of umbilical cord drying.

**Frequency and percentage distribution of newborn for experimental and control group.**

S no	General Demographic Characteristics	Experimental Group		Control Group	
		F	%	F	%
1.	<b>Gender</b>				
a.	Male	18	72	15	60
b.	Female	7	28	10	40
2	<b>Type of family</b>				
a.	Nuclear family	12	48	15	60

b.	Joint family	13	52	10	40
3	<b>Religion of the mother</b>				
a.	Hindu	23	92	19	76
b.	Muslim	2	8	6	24
c.	Other (Specify)	0	0	0	0
4	<b>Educational status of the mother</b>				
a.	Illiterate	5	20	7	28
b.	Undergraduate	18	72	12	48
c.	Graduate	2	8	5	20
d.	Postgraduate	0	0	1	4
5	<b>Occupation of the mother</b>				
a.	Labour	3	12	2	8
b.	Business	0	0	0	0
c.	Govt/Private Employee	1	4	1	4
d.	Housewife	21	84	22	88
6.	<b>Previous source of information</b>				
a.	Word of mouth	0	0	0	0
b.	Mass media	0	0	0	0
c.	Others	0	0	0	0
d.	No information	25	100	25	100

**Mean, Standard Deviation And "T" Test Value From Day 1 To Day 5**

Areas Group		Days		Mean	Mean diff	SD	T value	significant
Signs of inflammation	Experimental	Pre	Day 1	25	0	0	0.807	Not Significant
		Post	Day 5	25				
	Control	Pre	Day 1	25	13	.52	4.172	Significant
		Post	Day 5	12				
Redness	Experimental	Pre	Day 1	25	0	0	0.807	Not Significant
		Post	Day 5	25				
	Control	Pre	Day 1	25	4	0.72	2.4053	Significant
		Post	Day 5	19				
Edema	Experimental	Pre	Day 1	25	0	0	0.807	Not Significant
		Post	Day 5	2 25				
	Control	Pre	Day 1	25	0	0	0.807	Not Significant
		Post	Day 5	25				
Warmth	Experimental	Pre	Day 1	25	0	0	0.807	Not Significant
		Post	Day5	25				
	Control	Pre	Day 1	25	7	6.008	6.006	Significant
		Post	Day 5	18				
Fever	Experimental	Pre	Day 1	25	0	0	0.807	Not Significant
		Post	Day5	25				
	Control	Pre	Day 1	25	2	0.382	1.850	significant
		post	Day 5	23				
Approximation of umbilical cord	Experimental	pre	Day 1	0	15	0.6	6.121	Significant
		post	Day5	15				
	Control	Pre	Day 1	0	5	0	2.499	Significant
		Post	Day 5	5				

Significant at .05 levelL df:48 (1.677)

The above table depicts that the comparison of the signs of infection between the experimental and control group. In experimental group The difference was found in the mean of signs of inflammation, redness, warmth and approximation of the umbilical cord in the experimental group.

As calculated t value which is more than table value (1.677) So null hypothesis is rejected which indicates that there was significant difference in signs of inflammation, redness, warmth, approximation of the umbilical cord as the receives the topical application of the breast milk.

**SECTION 4: ASSOCIATION OF TOPICAL BREAST MILK APPLICATION WITH UMBILICAL CORD INFECTION IN 5 DAYS DURATION**

there is a significant association in the umbilical infection for 5 days observation, as calculated value of chi square is 18.67

and the table value of the chi square is 3.84 at 0.05 level of significance, Therefore the calculated value of the chi square is greater than the table value, hence **H<sub>2</sub> is accepted**

**RECOMMENDATIONS**

From the findings of the study the following recommendations are suggestions.

- A similar study can be replicated on a large sample.
- Planned teaching programme can be conducted to improve the knowledge of staff nurse.
- This study can also be used for various types of wound healing.
- Being simple and non-pharmacological, breast milk application for umbilical cord drying can be taught and easily learned by people and can prevent omphalitis.

**RESULT**

This section deals with the analysis and interpretation of the comparison of the pre and post test score of newborns of

experimental and control group. The students t test for small correlated samples was used to test significance of difference between the signs of inflammation, redness, warmth, fever, discharge and approximation of the umbilical cord of the experimental and control group before and after intervention at 0.05 level of significance.

As calculated t value which is more than table value (1.677) So null hypothesis is rejected which indicates that there was significant difference in signs of inflammation, redness, warmth, approximation of the umbilical cord as the receives the topical application of the breast milk. Whereas in the control group the calculated t value of ecchymosis, evidence of arteries and veins are prominent were less than table value, so null hypothesis is rejected which indicates that there is no difference in any areas. So **H<sub>1</sub> is accepted**

There is a significant association in the umbilical infection for 5 days observation, as calculated value of chi square is 18.67 and the table value of the chi square is 3.84 at 0.05 level of significance, Therefore the calculated value of the chi square is greater than the table value, hence **H<sub>2</sub> is accepted**

There is a significant association in the umbilical cord detach on the 5<sup>th</sup> days, as calculated value of chi square is 6.67 and the table value of the chi square is 3.84 at 0.05 level of significance, so the calculated chi square value is greater than the table value. Hence **H<sub>2</sub> is accepted**

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