A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge Regarding Burping Techniques on Newborn in Primi Mothers at Selected Hospitals of the City: A Pre-Experimental Study

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***Abstract*—Background of the study Breastfeeding has a number of benefits to both mother and baby that infant formula lacks. Increased breastfeeding to near-universal levels could prevent an estimated 823,000 infant deaths and 20,000 maternal deaths each year. Breast milk contains all the nutrients an infant need in the first six months of life, including antibodies that help protect against infection The neonatal period is a highly vulnerable time for infants, particularly in the first few weeks of life, where proper feeding and related techniques play a crucial role in promoting the health and well-being of the newborn. Among the essential post-feeding practices, burping is significant in preventing common gastrointestinal discomforts such as regurgitation, gas accumulation, and colic· Burping helps to expel the swallowed air during feeding, which if retained, can lead to irritability and feeding refusal in new nonprime parous mothers, due to their lack of prior experience, often face challenges in effectively practicing newborn care techniques, including burping. Postnatal period is a best time to educate a mother regarding burping. Studies have shown that maternal knowledge and confidence in newborn care practices directly influence the health outcomes of their babies. Burping, an essential aspect of infant care, plays a crucial role in relieving gastric discomfort, preventing colic, and ensuring proper digestion. Despite its significance, there is limited research exploring the efficacy and comparative benefits of different burping techniques. Caregivers often rely on traditional methods, which may not always be evidence-based or effective. Understanding the most efficient burping techniques can enhance infant comfort, reduce parental anxiety, and minimize common issues such as regurgitation or excessive crying. In the current healthcare landscape, where evidence-based practices are increasingly prioritized, there is a pressing need to investigate and validate effective burping practices. Future studies on this topic can provide a foundation for standardized guidelines, ensuring better outcomes for both infants and caregivers. Additionally, this research can inform training programs for healthcare providers, enhancing the support offered to new parents. Addressing this gap in knowledge can contribute to overall infant well-being and improve the quality of neonatal and paediatric care. despite the widespread use of structured teaching programmes, there remains a lack of empirical evidence regarding their effectiveness in improving maternal knowledge and practices regarding burping techniques. By rigorously evaluating the impact of these interventions, this study seeks to fill this gap in the literature and contribute to the development of evidence-based guidelines and interventions in neonatal care. Objectives of the study primary general objective to find out the effectiveness of structure teaching on knowledge regarding burping techniques on new born in primi mothers at selected hospitals of the city. Secondary specific objectives. To assess the knowledge regarding burping techniques on newborn in primi mothers at selected hospitals of the city. To find out the association between pre-test and post-test knowledge score and selected demographic variables of primi mothers at selected hospitals of the city. RESULT the effectiveness of planned teaching on knowledge and practice on burping techniques of newborn was assessed by selecting 60 mothers by using convenience sampling technique. The pre-test was conducted using a structured questionnaire and observation checklist; planned teaching was conducted for each sample. Most of the mothers (n=37, 61.66%) had poor knowledge, (n=12, 20%) had very poor knowledge, whereas 10 (16.66%) had average knowledge, while 1 (1.66%) of mothers had good knowledge while in**

practice. It revealed that all 60 (100%) of mothers had poor practice. The post-test revealed that 37 (61.66%) of mothers had good knowledge, while 13 (21.66%) had average knowledge and 10 (16.66%) were in excellent knowledge category, whereas in practice it revealed that 34(60%) had excellent practice, 24 (40%) had good practice. There was high association between knowledge and practice score with age, religion, education, occupation, source of information and position of child and no association with awareness of burping. The correlation of the knowledge and practice score revealed moderate positive correlation in the pre-test with the value of 0.79 and 0.49 in the post-test which was statistically confirmed. This study demonstrated that planned teaching on burping techniques of newborn is effective in improving the knowledge and practice level of mothers of newborn. CONCLUSION it concluded that the correlation of the knowledge and practice score revealed moderate positive correlation in the pre-test with the value of 0.79 and 0.49 in the post-test which was statistically confirmed. This study demonstrated that planned teaching on burping techniques of newborn is effective in improving the knowledge and practice level of mothers of newborn.

***Index Terms*—structured teaching programme effectiveness knowledge burping techniques newborn primi mothers selected hospitals**

I. INTRODUCTION

As stated by the World Health Organization, breastfeeding involves providing human breast milk to an infant, either directly from the breast or by pumping the milk and feeding it to the baby. They advise that exclusive breastfeeding should occur for the first six months of a child's life. In India, breastfeeding is nearly universal, often continuing for children well beyond their infant years. It provides a joy for both the mother and the child that is difficult to put into words. The experience a mother has while nourishing her baby at her breast and witnessing the baby flourish on breast milk is incredible. Infants are immature, their digestive systems are still developing, and feeding times can often result in discomfort. Burping is a method used to expel excess air and is a crucial component of both neonatal care and digestion, though it is often neglected. Primiparous mothers frequently encounter significant challenges while breastfeeding their infants. Their unfamiliarity with various aspects of the process not only leads to feelings of inadequacy but also exposes their babies to various risks. The challenge of newborn health in India is more significant than in any other country worldwide. The neonatal phase is a critical period for infants, during which they undergo essential physiological changes needed for survival outside the womb. Our attention is now directed towards neonatal care. Implementing a centralized scheme for newborns could revolutionize child care practices, enhancing hygiene and overall care. Burping, which is also referred to as belching or eructation, is the expulsion of gas from the upper digestive system, specifically the esophagus and stomach, through the mouth. Burping assists in expelling some of the air that infants typically swallow during feeding. Failing to burp a baby frequently, combined with excessive air swallowing, may lead to spitting up or cause discomfort and gas. It is essential to burp a baby both during the day and at night. Occasionally, infants doze off while feeding, and you may need to find a method to burp them even while they're still asleep. It's impressive how much a newborn can remain undisturbed. Burping is one of the many responsibility's parents have until their child develops greater independence. Unlike kids and adults, many babies require assistance in releasing gas because they possess limited control over their body positioning. Primi Postnatal mother is an important care provider and therefore, her education and access to information will help her, about care of her neonates. It is possible to increase prenatal survival and quality of human life through prompt and adequate management of neonates. So the care of neonates is so much important. On account of above stated matters the researcher understood that along with breast feeding, burping is also very important for survival and healthy development of neonates. Thus, it was a motivation for the researcher to conduct a study regarding burping its knowledge and practice assessment and on a belief that their knowledge and practice will be enhanced by teaching. However, despite the widespread use of structured teaching programmes, there remains a lack of empirical evidence regarding their effectiveness in improving maternal knowledge and practices regarding burping techniques. By rigorously evaluating the impact of these interventions, this study seeks to fill this gap in the literature and contribute to the development of evidence-based guidelines and interventions in neonatal care.

II. OBJECTIVES OF THE STUDY

PRIMARY GENERAL OBJECTIVE

1. To find out the effectiveness of structure teaching on knowledge regarding burping techniques on new born in primi mothers at selected hospitals of the city.

SECONDARY SPECIFIC OBJECTIVES

1.To assess the knowledge regarding burping techniques on newborn in primi mothers at selected hospitals of the city.

2. To find out the association between pre-test and post-test knowledge score and selected demographic variables of primi mothers at selected hospitals of the city.

III. MATERALS AND METHODS

The approach of research study depends on factors like nature of phenomenon under study. At this stage of the research study, conceptual framework may or may not be incorporated. In this study, quantitative approach is used. In this study pre-experimental research design is used with the objective of the study effectiveness of structured teaching programme on knowledge regarding burping techniques on newborn in primi mothers at selected hospitals of the city. population were primi mothers in selected hospitals of the city. In this study, sample consisted of 60 primi mothers residing in selected hospital areas who were available during the time of data collection and tool used Semi structured questionnaire on demographic variable. The investigator constructed this tool to collect the data and Self-structured questionnaires on knowledge regarding burping techniques on newborn among primi mothers. In the study, the reliability of the tool was determined by administer questionnaire to the 10 subjects. By using Split half method. So in split half method the KR-20 formula is applied to find out the reliability. The reliability for structured knowledge questionnaire was r 0.96. It is reliable to the instrument.

STATISTICAL ANALYSIS. In the study, the reliability of the tool was determined by administer questionnaire to the 10 subjects. By using Split half method. So in split half method the KR-20 formula is applied to find out the reliability. The reliability for structured knowledge questionnaire was r 0.96. It is reliable to the instrument. Data of pre-test and post-test score would be analysed by using paired 't' test, that would be used to detect the effectiveness of structured teaching programme. The association between the knowledge with demographic variables, would be calculated using ANOVA and unpaired 't' test.

IV. RESULT

SECTION A DISTRIBUTION OF SUBJECT WITH REGARDS TO DEMOGRAPHIC VARIABLE

Table no 1: Distribution of subject in relation to their demographic variables n=60

Demographic Variables	(Frequency =f)	Percent %
Age		
19-23	3	5.0
24-28	29	48.3
29-33	26	43.3
34-38	2	3.3
Religion		
Hindu	42	70.0
Buddhist	6	10.0
Muslim	11	18.3
Christian	1	1.7
Education		
Primary	0	0
Secondary	3	5.0

Higher secondary	35	58.3
Graduate and above	22	36.7
Area of residence		
Urban	46	76.7
Rural	14	23.3
Occupation		
Private employee	17	28.3
Homemaker	23	38.3
Government employee	4	6.7
Business	16	26.7
Monthly income		
Rs.10000-15000	0	0
Rs.15001-20001	4	6.7
Rs.20001-25000	16	26.7
Rs.25001 and above	40	66.7
Source of Information		
Health personnel	31	51.7
Family	18	30.0
Friends	3	5.0
Mass Media	8	13.3
Other	0	0

SECTION B ASSESSMENT OF LEVEL OF PRE- TEST KNOWLEDGE SCORE REGARDING BURPING TECHNIQUES ON NEWBORN IN PRIMI MOTHERS AT SELECTED HOSPITALS OF THE CITY.

Table 2: Distribution of subject in relation to their pretest knowledge score regarding burping techniques on newborn among subject in selected hospitals. n=60

Knowledge Score (PRE)	Score Range	Level of pre Knowledge Score	
		Frequency (f)	Percentage (%)
Poor	0 to 5 (0-20%)	8	13.3
Average	6-10 (21-40%)	42	70.0
Good	11-15 (41-60%)	10	16.6
Very Good	16-20 (61-80%)	0	0.0
Excellent	21-25 (81-100%)	0	0.0
Minimum Score		4	
Maximum Score		14	
Mean Knowledge Score		8.667± 2.911	
Mean % Knowledge Score		34.67%	

ASSESSMENT OF LEVEL OF POST- TEST KNOWLEDGE SCORE REGARDING BURPING TECHNIQUES ON NEWBORN IN PRIMI MOTHERS AT SELECTED HOSPITALS OF THE CITY.

Table No.3: Distribution of subject in relation to their post-test knowledge score regarding burping techniques on newborn among subject in selected hospitals. n=60

Knowledge Score (POST)	Score Range	Level of Knowledge Score	
		Frequency (f)	Percentage (%)
Poor	0 to 5 (0-20%)	0	0.0
Average	6-10 (21-40%)	0	0.0
Good	11-15 (41-60%)	5	8.3
Very Good	16-20 (61-80%)	22	36.7
Excellent	21-25 (81-100%)	33	55.0
Minimum Score		14	
Maximum Score		25	
Mean Knowledge Score		20.267± 2.4416	
Mean % knowledge score		81.07%	

SECTION C ASSESSMENT OF EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMMED ON KNOWLEDGE REGARDING BURPING TECHNIQUES ON NEWBORN IN PRIMI MOTHERS AT SELECTED HOSPITALS OF THE CITY.

Table 4: Significance difference between Knowledge score in pre and post-test of subject. (analysis using t-Paired test) n=60

		Mean	N	Std. Deviation	Std. Error Mean	df	T-Test	P-value
Knowledge	Pre	8.6667	60	2.91112	0.37632	59	23.723	<0.0001
	Post	20.2667	60	2.44164	0.31521			

SECTION D ASSOCIATION OF PRE AND POST TEST KNOWLEDGE REGARDING BURPING TECHNIQUES ON NEWBORN IN PRIMI MOTHERS AT SELECTED HOSPITALS OF THE CITY IN RELATION WITH DEMOGRAPHIC VARIABLES.

Table no. 5: Association Pretest of knowledge score with Demographic variable in relation to their Age.

No. of Primi Mothers	Poor	Average	Good	Very Good	Excellent	X2-value	P value
3	0	1	2	0	0	2.505	0.868 NS
29	3	10	16	0	0		
26	2	11	13	0	0		
2	0	0	2	0	0		

Table no. 6: Association of pretest knowledge score with Demographic variable in relation to their Religion.

Religion	No. of Primi Mother	Poor	Average	Good	Very Good	Excellent	X2-value	P value
Hindu	42	3	16	23	0	0	3.277,	0.773 NS
Muslim	6	0	3	3	0	0		
Buddhism	11	2	3	6	0	0		
Christian	1	0	0	1	0	0		

Table 7: Association of pretest knowledge score with Demographic variable in relation to their Education.

Education	No. of Primi Mothers	Poor	Average	Good	Very Good	Excellent	X2-value	P value
Primary	0	0	0	0	0	0	3.428	0.048 S
Secondary school	3	0	0	3	0	0		
Higher secondary	35	4	13	18	0	0		
Graduate and above	22	1	9	12	0	0		

Table 8: Association of pretest knowledge score with Demographic variable in relation to Area of Residence. n=60

Area of Residence	No. of Primi Mothers	Poor	Average	Good	Very Good	Excellent	X2 value	P value
Urban	46	4	17	25	0	0	0.051	0.975 NS
Rural	14	1	5	8	0	0		

Table 9: Association of pretest knowledge score with Demographic variable in relation to their Occupation.

n=60

Occupation	No. of Primi Mothers	Poor	Average	Good	Very Good	Excellent	X2-value	P value
Private employee	17	2	4	11	0	0	5.969	0.427 NS
Homemaker	23	0	10	13	0	0		
Government employee	4	1	1	2	0	0		
Business	16	2	7	7	0	0		

Table 10: Association of pretest knowledge score with Demographic variable in relation to their Monthly income.

n=60

Monthly income	No. of Primi Mothers	Poor	Average	Good	Very Good	Excellent	X2-value	P value
Rs. 10000-15000	0	0	0	0	0	0	1.311	0.859 NS
Rs. 15001 – 20000	4	0	1	3	0	0		
Rs. 20001 – 25000	16	1	7	8	0	0		
Rs. 25001 and above	40	4	14	22	0	0		

Table 11: Association of pretest knowledge score with Demographic variable in relation to their Source of information.

n=60

Source of information	No. of Primi Mothers	Poor	Average	Good	Very Good	Excellent	X2-Value	P value
Health Personnel	31	2	9	20	0	0	6.963	0.0324 S
Family	18	1	9	8	0	0		
Friends	3	1	0	2	0	0		
Mass media	8	1	4	3	0	0		

Table 12: Association of knowledge post test score with Demographic variable in relation to their Age.

n=60

Age in years	No. of Primi Mothers	Poor	Average	Good	Very Good	Excellent	X2-value	P value
19-23	3	0	0	0	1	2	2.505	0.868 NS
24-28	29	0	0	3	10	16		
29-38	26	0	0	2	11	13		
34-38	2	0	0	0	0	2		

Table 15: Association of posttest knowledge score with Demographic variable in relation to their Religion.

n=60

Religion	No. of Primi Mother	Poor	Average	Good	Very Good	Excellent	X2-value	P value
Hindu	42	0	0	3	16	23		
Muslim	6	0	0	0	3	3	3.277	0.773 NS
Buddhism	11	0	0	2	3	6		
Christian	1	0	0	0	0	1		

Table 16: Association of posttest knowledge score with Demographic variable in relation to their Education.

n=60

Education	No. of Primi Mothers	Poor	Average	Good	Very Good	Excellent	X2-value	P value
Primary School	0	0	0	0	0	0	3.428	0.489 NS
Secondary school	3	0	0	0	0	3		
Higher secondary	35	0	0	4	13	18		
Graduate and above	22	0	0	1	9	12		

Table 17: Association of post knowledge score with Demographic variable in relation to their Area of Residence.

n=60

Area of Residence	No. of Primi Mothers	Poor	Average	Good	Very Good	Excellent	X2 value	P Value
Urban	46	0	0	4	17	25	0.051	0.975 NS
Rural	14	0	0	1	5	8		

Table 18: Association of knowledge score with Demographic variable in relation to their occupation.

n=60

Occupation	No. of Primi Mothers	Poor	Average	Good	Very Good	Excellent	X2 Value	P value
Private Employee	17	0	0	2	4	11	5.969	0.427 NS
Homemaker	23	0	0	0	10	13		
Government employee	4	0	0	1	1	2		
Business	16	0	0	2	7	7		

Table 19: Association of post test knowledge score with Demographic variable in relation to their Monthly income.

Monthly income	No. of Primi Mothers	Poor	Average	Good	Very Good	Excellent	X2 Value	P value
Rs. 10000-15000	0	0	0	0	0	0	1.311	0.859 NS
Rs. 15001 – 20000	4	0	0	0	1	3		
Rs. 20001 – 25000	16	0	0	1	7	8		
Rs. 25001 and above	40	0	0	4	14	22		

Table 20: Association of posttest knowledge score with Demographic variable in relation to their Source of information.

n=60

Source of information	No. of Primi Mothers	Poor	Average	Good	Very Good	Excellent	X2 value	P value
Health Personnel	31	0	0	2	9	20	6.963	0.0324 S
Family	18	0	0	1	9	8		
Friends	3	0	0	1	0	2		
Mass media	8	0	0	1	4	3		

V. CONCLUSION

After the detailed analysis, this study leads to the conclusion that knowledge score in primi mothers at selected hospitals of the city found to be effective in improving the knowledge of the subjects. It shows in association in relation to their demographic variables. Hence based on above finding, it was concluded that undoubted the written prepared material bythe researcher in the form of structured teaching help the subject to improve their knowledge regarding the burping techniques. Hence, based on the above finding it was concluded undoubtedly that the written prepared material by the researcher helped to improve the knowledge of burping techniques.

VI. ACKNOWLEDGEMENT

Gratitude can never be expressed in words, but it is only the deep perception that makes the words to flow from one's inner heart. It is my immense pleasure to thanks Ms. Priyanka Kosare, Head of Department of, Obstetrics and Gynaecological, MKSSS Sitabai Nargundkar College of Nursing for Women, Nagpur. as well as my research guide for giving me a change to execute my ideas behind this study and heartfelt thanks for her valuable suggestion and support throughout the period of this study. I take opportunity to thank the entire teaching faculty of MKSSS, Sitabai Nargundkar college of Nursing for women Nagpur. I render my deep sense of gratitude especially to my guardian My Father Mr. Gulabrao Pande and My Mother Mrs. Leela Pande and My Husband Mr. Shyam Chavhan and My sister Pragati Pande and all family for their constant support, love and blessings throughout the study. I am greatful thanks to my friends

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