

# Effect of Health Teaching on Knowledge and Practice of Postnatal Mother Admitted In Selected Hospital Regarding Using Diaper in Children to Prevent Systemic Bacterial Infection

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## ABSTRACT

A pre-experimental study aimed to assess the effect of health teaching on knowledge and practice of postnatal mother admitted in selected hospital regarding using diaper in children to prevent systemic bacterial infection, Pune with objectives to determine the postnatal mother knowledge regarding use of diaper in children, to determine practice of postnatal mother to prevent diaper rash in children, to find out the effect of health teaching on knowledge and practice among postnatal mother regarding use of diaper in children, to find out the association between the knowledge and practice of postnatal mother regarding use of diaper in children with selected demographic variables. The study was based on one group pre-test post-test design with 100 samples selected by using a non-probability purposive sampling technique. Structured questionnaire was used for knowledge with score poor (0-3), average (4-7) and good (8-11). Modified likert scale was used for practice with score poor (0-6), average (7-14) and good practice (15-22). Initially, the level of knowledge and practice of postnatal regarding use of diaper were assessed by administered questionnaire to mother and health teaching was given on the 2<sup>nd</sup> day and on the 8<sup>th</sup> day a post-test was conducted. In analysis there was statistically remarkable difference between pretest & posttest scores on regarding use of diaper in children at p value <0.00001. There was significant improvement in knowledge (t=71.3, p=0.00) and practice (t=46.8, p=0.00) were identified. This study concluded that health teaching is proved to be significantly effective in improving the knowledge of the postnatal mothers regarding use of diaper in children.

**Keywords:** Diaper dermatitis, health teaching, knowledge

## INTRODUCTION

'A healthy child is nation's pride.' Health is a basic human need for all racial groups. Common health cannot be accomplished without hygienic practice. The disease affecting in the pediatric age group will turn affect the health and wealth of nation as such. Children are the future of nation and the most valuable resources. Almost 3.9 million infant deaths that occur

worldwide out of which 30% occur in India. Newborn period comprises the first four weeks of extra uterine life. Newly born infants have distinctive skin structure, physiology so that the skin easily breaks, hence skin cleansing is essential to maintain good skin integrity of the newborn. The skin is the largest organ of human body. It serves many vital functions like regulate body temperature, maintain water and electrolyte

balance, and sense painful and pleasant stimuli. The skin disorder can be prevented so that we can nurture a generation which is physically, mentally and emotionally healthy. Diapers have been used for babies since decades for prevention of diaper area soiling and for social convenience. The diaper leads to a risk of developing diaper rash. The frequency of diaper dermatitis in India (2015) is 4-35% in the first 2 years of life. It is one of the widespread skin problems in newborn often caused by irritant that promote skin breakdown, such as moisture and fecal enzymes. The diaper rash is developed at least once in a two-month period for more than half of babies having age group between 4-15 months. The health of the child after birth depends on the health care practice adopted by the caregiver, especially by the mothers. The mortality and morbidity during the neonatal period can be reduced with the help of neonatal problems and newborn care practices Information. [1]

Skin may also be an index of many systemic and genetic disorders. Approximately 30% of pediatric OPD attendance is accounted by dermatologic disorders as such or as associates of other illnesses. Many skin disorders occur in early childhood. Most are easily treated and do not have long-term consequences. Dermatitis is a condition in which changes occur in the skin response to external stimuli. It is most common in infants from 4 to 12 months of age. The rash appears in areas of direct contact with the diaper, usually the perineum, genitals, buttocks and skin folds. Urine, stool, baby wipes, and detergents can irritate the perineal area. The warm, moist environment of the wet or soiled diaper is conducive to bacterial and fungal growth and is a mechanical irritant to the infant's delicate skin. The four most common types of dermatitis that occur in infants, children, and adolescents are contact dermatitis, diaper dermatitis, seborrheic dermatitis, and eczema. It is important to understand that these skin disorders bring with them emotional

problems for the family and children and need to be reassured that the child is not infectious. [2,3]

In 2014, K.C. Leena et.al conducted a study at India to assess the knowledge of general problems of newborn in between primi mothers admitted in a particular hospital for safe delivery. Total 60 primi mothers, who were admitted for safe confinement for a period of one-month. This study revealed that no alliance was found between the knowledge of primi mothers and chosen baseline variables. The study concluded that there is a requirement to give sufficient information to first-time mothers about general newborn issues which will help mothers to take care their newborns better. [4]

The major health problem in the pediatric age group is skin problem. Many studied done over the world to find out aspects that may have an effect on the prevalence of skin problems in between pediatric age group. In several parts of India, it has been observed that the patterns of skin diseases are outcomes of poverty, illiteracy, malnutrition, inferior hygiene and social backwardness. According to World Health Organization skin problem is stated that a high ubiquity rate of skin infections is highly associated with low socioeconomic level where incidence of skin infections like climate issues, inferior hygiene, and interpersonal transmission has been shown to be positive. [5]

A study was conducted by B Hurdoyal and Pandamikum L, 2015 at Mauritius, to diagnose different issues which affect the prevalence of nappy rash in between babies aged 0 to 36 months in a tropical country. Samples were randomly selected 400 mother/baby pairs and interviewed with questionnaire to have at least one episode of nappy rash history, with a peak at the age group between 7 to 12 months. This study showed that babies used disposable nappies exclusively were found highest prevalence of nappy rash. The elect of nappy was affected by household income and number of children per family ( $p < 0.05$ ).

Education should importance for Parents on breast feeding and aeration of nappy area. [6]

In the United States, 10 to 20% all skin disorders evaluated diaper dermatitis by general pediatrician. According to the National Ambulatory Medical Care Survey (2001), 8.2 million pediatric visits for diaper dermatitis and the risk of developing diaper dermatitis is calculated risk of developing throughout childhood was one in four. In infants, the prevalence of diaper dermatitis estimated ranges from 7 to 35%. Diaper dermatitis can evolve as early as one week of age, but the peak incidence occurs among age groups 9 to 12 months. [7]

Diapering practices vary among different countries from the use of cloth diaper. In the last few decades, advanced diaper technology has significantly decreasing the prevalence of systemic bacterial infection. Infections and infestations in pediatric age group constitute a major portion of the dermatological disorders. Various reports on the prevalence of skin diseases in children highlight the predominance of diseases like parasitic infections, bacterial and fungal infections in all age groups. The one of the most general skin disorders in infants and children is diaper rash. The incidence and age of onset varies worldwide, related to differences in use of diaper, hygiene, toilet training, and child-rearing practices in different countries. [8]

A study was conducted by M. Mahadevi et.al, 2016 at Chennai, Tamilnadu, India to determine the effect of diaper rash preventive strategies on knowledge, practice regarding diaper rash among primi mothers and incidence of diaper rash between newborns. Total 60 primi mother posted for elective caesarean delivery were randomly allocated 30 each study and control group with questionnaire for knowledge, Checklist for practice, and Neonatal skin condition scale with One-to-one teaching with laptop and demonstration of diaper changing. This study showed that there was significant increase in the knowledge and practice at the level of p

value  $p < 0.001$  for the study group. The study group newborns experienced lesser degree of diaper rash than the control group even though there is no statistical significance between the study and the control group. The diaper rash preventive strategies facilitate knowledge acquisition, improves practices, prevent the diaper rash among newborn. [9]

A study was conducted by P. Cristina & Ana L Ionch Sabates, 2008 at Brazil, to decide the knowledge, care actions and adhesion of mothers to nursing performances to treat with irritant diaper dermatitis in their babies. The study samples were 29 mothers, and 29 children with irritant diaper dermatitis. The results showed that the mothers (58.8%) had no knowledge of irritant diaper dermatitis, 93.1% usage of disposable diapers whereas 58.7% usage of moist tissue during diaper change and maintaining perineal hygiene. The majority of the skin pilling present with deficient hygiene and hyperemia in the diaper area, in relation to the child conditions. It was found that 65.5% of the mothers attached to all the prescribed nursing conducts, 17.2% attached only partially, and 17.2% did not attach at all to the nursing conducts. Therefore, to minimize the incidence of diaper dermatitis mother's orientation is more important in the preventive care actions of dermatitis, not only after birth of the child but also during the gestational period. [10]

About one third of the pediatric outpatients visit includes skin problems. There are varieties of primary skin disorders seen in childhood. Rash in the diaper region are common during early infancy. It is more common in artificially feed infants, especially those, in whom it is changed infrequently. It may involve buttocks, scrotal sac, mons pubis or inner side of thigh. Most often skin lesions are contact dermatitis secondary to detergents used in laundering the diaper and antiseptic medication. Bacterial action on urine soiled diaper produces ammonia (from urea) and

non-alkaline putrefactive enzymes, which produce diaper rash. [11]

## MATERIALS AND METHODS

Quantitative evaluative research perspective is adopted to evaluate the impact of health teaching on knowledge and practice of postnatal mother admitted in selected hospital regarding using diaper in children to prevent systemic bacterial infection. The design of the present study is pre experimental one group pre test - post test design. The main setting of the study was conducted in Dr. D Y Patil Hospital, Medical College and Research Center, Pimpri, Pune. Total 100 numbers of postnatal mothers admitted to the postnatal ward participated in this study. The selection of participants was done by using a non-probability purposive sampling technique. Participants of this study were postnatal mothers admitted in postnatal ward of Dr. D Y Patil Hospital, Medical College and Research Center, Pimpri, Pune.

They were given the demographic questionnaire and assessed for their socio demographic data.

The inclusion criteria for the study participants were (i) Postnatal mothers admitted in hospital. (ii) Postnatal mothers who can understand and speak, Hindi/English/Marathi. (iii) Postnatal mothers who are present during the time of data collection.

A structured knowledge questionnaire was used for assessing the knowledge and modified likert scale for assessing practice of postnatal mothers regarding use of diaper in children.

Initially the level of knowledge and practice of postnatal mother regarding use of diaper were assessed by administered questionnaire to mother and health teaching was given on the 2<sup>nd</sup> day and a post test was accomplished on 8<sup>th</sup> day.

Participants were co-operative and interested about part of this study and the researcher did not faced any difficulty in conducting study among participants.

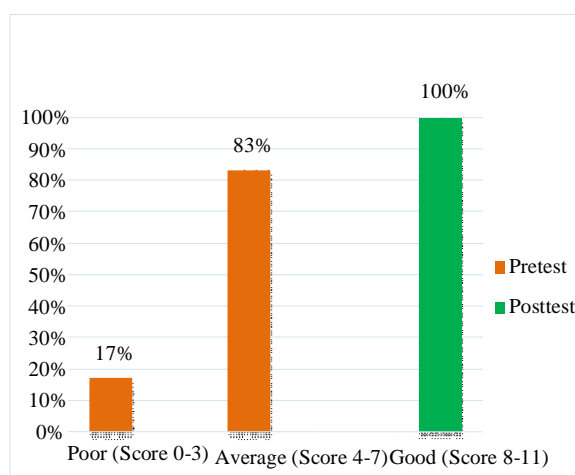
## RESULTS

Description of Description of study samples according to socio demographic variables.

**Table 1: Frequency (f) and percentage (%) distribution according to age of mother, age of child in days, no of children, education of mother, monthly family income, use disposable diaper for baby, frequently used diaper, knowledge regarding use of diaper, source of knowledge. (N=100)**

Variable	Frequency (f)	Percentage (%)
<b>Age of mother</b>		
20 years – 25 years	66	66
<b>Age of child in days</b>		
0 to 3	88	88
<b>No of children</b>		
Two	58	58
<b>Education of mother</b>		
Graduation and above	57	57
<b>Monthly family income rupees</b>		
Rs. 20,001-30,000	43	43
<b>Use disposable diaper for baby</b>		
Yes	96	96
<b>Frequently used diaper</b>		
During night & day time both	35	35
<b>Knowledge regarding use of diaper</b>		
Yes	92	92
<b>Source of knowledge</b>		
Mass media (TV/Radio/Internet)	64	64

Pre test & Post test level of knowledge and practice regarding use of diaper in children among postnatal mother using Frequency and percentage distribution through graphical presentation.



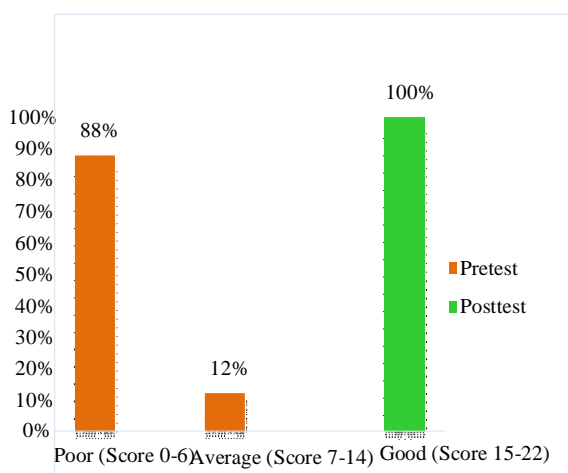
**Figure-1:** Bar diagram showing pre-test and post-test score on level of knowledge by using percentage. (N= 100)

**Table:-2: Comparison between pre-test and post-test scores on knowledge among participants using paired't' test. (N= 100)**

Sr.No.		Mean	SD	t	df	p-value
1	Pretest	4.3	0.96	71.3	99	0.000
2	Posttest	10.9	0.33			

**Table:-3: comparison between pre-test and post-test scores on practice among participants using paired't' test. (N= 100)**

Sr. No.		Mean	SD	t	df	p-value
1	Pretest	6.17	2.31	46.8	99	<b>0.000</b>
2	Posttest	18.5	1.18			



**Figure-2:** Bar diagram showing pre-test and post-test score on practice regarding prevention of diaper rash by using percentage. (N= 100)

## DISCUSSION

The present study was designed to assess the effect of health teaching on knowledge and practice of postnatal mother admitted in selected hospital regarding use of diaper in children to prevent systemic bacterial infection. This study was involved one group pretest and posttest pre experimental design, non-probability purposive sampling techniques. The size of the sample was 100 postnatal mothers of children age between births to 12 days admitted in selected hospital according to inclusion and exclusion criteria. The setting of the study was at Dr. D Y Patil Hospital, Pimpri, Pune, Maharashtra, India. Existing knowledge and practices of postnatal mothers regarding use of diaper in children were assessed with structured questionnaire and likert scale. In pretest, 17% of postnatal had poor knowledge (score 0-3), 83% of them had average knowledge (score 4-7). In posttest, 100% postnatal mothers had good knowledge (score 8-11). In pretest, 88% postnatal mothers had poor practices (score 0-6) and 12% of them had average practices (score 7-14). In posttest, 100% postnatal mothers had good practices (score 15-22). There was remarkable improvement in

knowledge ( $t=71.3$ ,  $p=0.00$ ) and practice ( $t=46.8$ ,  $p=0.00$ ) were recognized.

A similar study conducted by Maya K.S. et.al, 2015, to discover the impact of awareness program on prevention and management of diaper dermatitis. This study involves one group pretest and posttest pre experimental design, non-probability purposive sampling technique. The samples were 42 mothers of children age group between 0 to 1 year admitted in selected hospital as per inclusion and exclusion criteria. The setting of the study was at Kasturaba Hospital, Manipal University, Karnataka, India. The degree of knowledge, attitude and practice on prevention and management of diaper dermatitis were evaluated by conducting a structured questionnaire. Awareness programs were given on the 2<sup>nd</sup> day whereas a posttest was conducted on 8<sup>th</sup> day. The study showed that there was remarkable development in knowledge ( $t=13.813$ ,  $p=0.02$ ), attitude ( $t=8.34$ ,  $p=0.01$ ) and practice ( $t=11.32$ ,  $p=0.01$ ). The consciousness programme was a fruitful way in to increase the knowledge, attitude and practice on prevention and management of diaper dermatitis in between the mothers of new born babies. [12]

A study was conducted by CH Li & YH Dai, 2012, at Beijing, China to measure the prevalence of diaper dermatitis and identify risk factors relating to diaper dermatitis in Chinese children aged between 1-24 months. Samples were a total of 1036 children selected to the study, among 604 (58.3%) boys and 432 (41.7%) girls. The cross-sectional study based structured questionnaire was used during face-to-face interviews with parents to discover the risk issues attached with diaper dermatitis. The study revealed that 43.8% (454/1036) of the children had suffered diaper dermatitis in the initial 6 weeks. Prevalence of diaper dermatitis increased with growing newborn aged between several age groups (1-6, 7-12, 13-18 and 19-24 months) and was remarkably less in children aged 1-6 months compared with the other three age groups ( $P < 0.05$ ). There were no remarkable

contradictions between the other three age groups or between boys and girls (boys 43.9% [265/604] versus girls 43.8% [189/432]). Multivariate logistic regression analyses showed that diarrhea was a vital issue for diaper dermatitis. Affirmation of the determinant conditions could steer to better recognizing of the etiology of diaper dermatitis and to update prevention schemes in Chinese newborns. [13]

A study was conducted by Nanita F. Lim-Sulit, 2017, conducted a study in USA to develop a proof-based practice guideline for diaper dermatitis prevention. 4 per 100 child per day hospital obtained incidence between neonatal and pediatric patient wearing diaper. The motivation of this study was to spread an educational initiative enclosing an evidenced based practice guideline for perineal care, an educational syllabus plan for resource persons, and a power point presentation to leadership on the educational initiative. The study was done in Walden University, Washington, USA. A master's prepared pediatric nurse educator worked as content expert to assess the educational syllabus plan using a dichotomous scale (not met = 1/met = 2) design for the 8 objectives. Each of the 8 items was scored a 2, explaining all objectives were wrapped in the curriculum. The expert suggested that the processes and procedures utilized could be positioned in the staff orientation process. The educational initiative was presented to the leadership team (n = 11) who assessed the project by a Likert-type scale which ranges between 1 (highly disagree) to 5 (highly agree). A mean score of 5 was given, disclosing that the goals of the presentation were met. The leadership team suggested that the project be performed through proof-based nursing care thus encouraging welfare and prevention of hospital from gaining infections. [14]

## CONCLUSION

The findings from this study revealed that pretest average mean score of knowledge and practice score was rises after

health teaching. This indicates that the knowledge and practices grades improved after health teaching. So, it concluded that health teaching regarding use of diaper in children was found to be fruitful in boosting the knowledge and practice concerning the usage of diaper in children among postnatal mothers.

The implication of this study is beneficial in nursing profession as the nursing students can acquire the knowledge skill about brain gym exercise and can teach the patient or family members about this procedure by applying in clinical practice to reduce the symptoms and increase the level of self-esteem & quality of life among schizophrenic patients.

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