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Research Article

Effectiveness of Planned Teaching Program on Knowledge Related to Diaper Dermatitis among the Mothers

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ABSTRACT

Aim: The aim of this study was to assess the effectiveness of planned teaching program on knowledge related to diaper dermatitis among the mothers. **Introduction:** Diaper dermatitis is also known as diaper rash. Almost every mother and child has had some experience with diaper rash at some time. To many 1st-time mothers, a case of diaper rash may shake their confidence in their ability to be an adequate mother and to care for their infant. **Objective:** The present study was carried out to assess the pre-existing knowledge related to diaper dermatitis among the mothers of children age (0–1 year) and effectiveness of planned teaching program on knowledge related to diaper dermatitis. **Methodology:** The research design used was one group pre-test – post-test design to collect the sample constitutes; 70 mothers of children (0–1 year) in pediatric unit of selected hospitals from Sangli-Miraj Area. **Results:** Results of present study shown that the knowledge of the mothers of pre-test mean score is 8.08, standard deviation is 1.79, and in post-test mean score is 12.17, standard deviation is 1.65, $t = 35.64$ and $P = 0.000$, that is, it is highly significant as $P < 0.005$; therefore, there is increase in the knowledge score after planned teaching program. **Conclusion:** The present study shows that the planned teaching program was effective. The study findings could be utilized in various matter as well and recommended in developing better manner.

Keywords: Dermatitis, Diaper, Perinatal infection, Teaching program

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Introduction

Diaper dermatitis, also known as diaper rash, is one of the most common skin disorders in infants. It is commonly caused by irritation in the diaper area. The rash is usually evident in the abdomen, genitalia, and inside the skin folds of the thighs and buttocks and affects infants between the ages of 4 months and 15 months.[1] The use of medical remedies has little chance of success without concomitant control of predisposing factors.[2]

Diaper rash is also most likely to be diagnosed in infants 8–12 months old, perhaps in response to an increase in eating solid foods and dietary changes around that age that affects fecal composition.[3] Although diaper rash is the most prevalent of rashes in infancy with a majority of children expected to suffer at least one episode by the time, they are toilet trained.[4] Over the years, diaper rash was thought to have been caused by numerous sources including teething, diet, and ammonia in the urine.[5] The causes of diaper rash are varied. Some of the causes include yeast infection, irritation from paper diapers, generally sensitive skin, reaction to the soap used to wash the diapers, and digestive disturbance from some food that the nursing mother has eaten, and a reaction to antibiotic medications. The symptoms are a red rash, sometimes mild, sometimes a bright red, almost scalded look to the skin around the genitals, and bottom of the baby.[6,7]

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Globally, diaper rash's prevalence has been reported from 4% to 35% in the 1st 2 years of life. Incidence triples in babies with diarrhea. It is not unusual that for every child has at least one episode of diaper rash by the time he or she is toilet trained. Different studies showed that there is a prevalence rate of 15–20% diaper rash in Italy, and a peak incidence of 19.4% those aged 3–6 months, in Britain 25% among the 1 month old children, 7% in Nigeria, in Kuwait 4%, and in India 13%.[8,9]
Successful treatment of diaper dermatitis depends mainly on the detection and prevention of the predisposing factors. Mother should pay more attention to her baby. The general measures include washing the cloth napkin with mild soap, soak it for some time, and dry, which do not use strong antiseptic, diaper should not be too tight or loose. Mother should choose good quality disposable diapers which can absorb easily. She has to take care of the inner lining of the diaper to be free from plastic or polyester inner lining which comes in contact with the skin of the infant, and diaper should frequently change. The homecare of the diaper dermatitis includes gentle cleansing the area, skin care, and proper application of the medications.[10]
A descriptive study was conducted in UK on frequency and severity of diaper rash among a general infant population in U K. The sample of the study was 1089 infants of 1–20 months. The skin samples were collected and analyzed for *Candida albicans* and a questionnaire given to the parents. The result showed the frequency of diaper rash reaching a maximum around 9–12 months. The prevalence of the severe rash correlated with the presence and level of *C. albicans*. The researcher concluded that the infants diapered with in disposable diapers showed less rash than those diapered sometimes in cloth diapers.
The above data showed that careful determination is needed to choose the diapering system and ignorance of diaper rash may lead to severe complication. The mothers will be unaware of the proper prevention and management of diaper dermatitis. Thus, the present study was carried out to assess the knowledge of mothers of newborn on prevention and management of diaper dermatitis. Furthermore, the effectiveness of planned teaching program on knowledge related to diaper dermatitis was assessed.

Research Methodology

In the present study, quantitative research approach was used. Pre-experimental study, one group pre-test and post-test design, was adopted for study. In this study, the planned teaching program has been used as independent variables, whereas knowledge of mothers related to diaper dermatitis was considered as dependent variable by the researches to provide information. The study was conducted at pediatric units of Bharati Hospital, Sangli. The present study was conducted among 70 mothers, whose children's (0–1 year) are admitted in selected hospitals of sangli, miraj area. Simple random sampling techniques were used.

Self-structure knowledge questionnaire was prepared to assess the knowledge of mothers regarding diaper dermatitis. To ensure the content validity of the tool, it was submitted to 12 experts along with the blue prints. Out of the 12 experts, three were from pediatrics department, five from medical department, two from community, and two from obstetrics and gynecology department. The experts were selected based on their clinical expertise, experience, and interest in the problem being studied. They were requested to give their opinion on the appropriateness and relevance of item in the tool. The reliability of the questionnaire was determined by the administration of the questions to samples. Test retest method was used for the reliability. The reliability coefficient "r" of questionnaire was 0.9, which is more than 0.7; hence, the questionnaire was found to be reliable.

Inclusion criteria

The following criteria were included in the study:
- Mothers who can understand, read, and speak Marathi or Hindi language.
- Mothers who are available at the time of data collection.

Exclusion criteria

The following criteria were excluded from the study:
- Mothers who are not willing to participate in study.

Pilot study

A pilot study conducted on September 25, 2017 to September 30, 2017. This was done to assess the feasibility of the study for statistical analysis. Prior administrative permission was obtained from the Sangli Civil Hospital. The study was conducted on 10 mothers from Sangli Civil Hospital. The sample was selected by simple random technique. Data were collected through the questionnaire, the data were analyzed with the help of paired *t*-test. It was found feasible for the investigator to do the final study.

Data collection and analysis

The final study was conducted in Bharati Hospital Sangli. Data collection was done on 70 mothers.
The following schedule was followed for collection.
- An objective of the study was discussed with the subject.
- Consent was obtained from the participants.
- They were assured about the confidentiality of the data.
- The investigator administered questionnaire as a pre-test.
- The answers were recorded immediately.
- Planned teaching program is given immediately after pre-test.
- Post-test is taken after 8 days.

The collected data were analyzed using both descriptive and inferential statistics. The data on sample characterized were described in the form of frequency and percentage. The data have been represent in the form of graphical representation whenever it was applicable.

These data were collected, validated, summarized, categorized, and tabulated for the further statistical analysis.

Result/Interpretation of DataTable 1 shows that

- Age – 16–26 age group of mothers were 64.28% and 26–36 age group of mothers were 35.73%.
- Religion – 65.72% of mothers are Hindu, 21.42% of mothers are Muslim, 10% were Christian, and 2.86% were from other religion.
- Education – 14.28% were illiterate, 35.72% were from primary education, 42.86% were higher secondary, and 7.14% were graduated.
- Occupation – 7.14% of mothers were working and 92.86% were non-working.
- Family type – 92.86% of mothers belong from joint family and 7.14% of mothers were from extended family.
- Family income – Rs. 5000–10,000 family income was of 50% mothers. Rs. 11,000–15,000 family income was of 14.28% mothers. Rs. 16,000–20,000 family income was of 21.44% mothers. Moreover, 14.28% mother's family income was above 20,000.

Number of children – 28.58% mothers were having 1 number of children. About 57.14% of mothers were having 2 number of children. Moreover, 14.28% mothers were having 3 number of children.

Table 2 shows that 88.58% of mothers had average knowledge score, 7.14% of mother's knowledge were poor, and only 4.28% of mother's knowledge score were good.

Table 3 shows that 85.72% of mother's knowledge score were good. Moreover, 14.28% of mothers had average knowledge score.

Table 4 shows that knowledge of the mothers of pre-test mean score was 8.08, standard deviation was 1.79, and in post-test mean score was12.17, standard deviation was1.65, $t = -35.64$ and $P = 0.000$, that is, it is highly significant as $P < 0.005$; therefore, there is increase in the knowledge score after planned teaching program.

Discussion

The birth of an infant is one of the most awe-inspiring and emotional events that can occur in one's life time. Babies are bits of star dust, blown from the hand of God.[1] The health of the baby should be guarded from the day of conception. Most mothers observe their babies carefully and are often worried by minor physical peculiarities, which may be of no consequences. Newborn's skin is like a wax paper; it holds everything in without dripping anything. Skin diseases are common in children and about 30% of pediatric outpatient department attendance is associated by these conditions.[9] Perinatal infections, especially neonatal bacterial infections, are the commonest cause of neonatal mortality in India. Infections can occur in intrauterine line, or during delivery or in neonatal period. Compared to older children and adults, new-born are immune-deficient which are prone to get a higher incidence of infections.[3] More frequently than the adults, newborns are affected by a variety of skin problems

Table 1: Frequency and percentage distribution of demographic variables *n*=70

Demographic characteristics	Frequency	Percentage
1. Age in years		
a. 16–26	45	64.28
b. 26–36	25	35.72
c. 36–46	00	00
2. Religion		
a. Hindu	46	65.72
b. Muslim	15	21.42
c. Christian	7	10
d. Others	2	2.86
3. Education		
a. Illiterate	10	14.28
b. Primary	25	35.72
c.Higher secondary	30	42.86
d. Diploma	00	00
e. Graduation	5	7.14
4. Occupation		
a. Working	5	7.14
b. Non-working	65	92.86
5. Family type		
a. Joint family	65	92.86
b. Nuclear family	5	7.14
c. Extended family	0	00
6. Family income (Rs.)		
a. 5000–10,000	35	50
b. 11,000–15,000	10	14.28
c. 16,000–20,000	15	21.44
d. Above 20,000	10	14.28
7. Number of children		
a. 1	20	28.58
b. 2	40	57.14
c. 3	10	14.28
d. More than 3	0	00

Table 2: Frequency and percentage distribution of level of knowledge score in pre-test *n*=70

Level of knowledge	Frequency	Percentage
Poor (0–5)	5	7.14
Average (6–10)	62	88.58
Good (11–16)	3	4.28

Table 3: Frequency and percentage distribution of level of knowledge score in post-test *n*=70

Level of knowledge	Frequency	Percentage
Poor (0–5)	00	00
Average (6–10)	10	14.28
Good (11–16)	60	85.72

Table 4: Comparison between pre-test and post-test knowledge score *n*=70

Paired samples statistics	Mean	Standard deviation	Stdandard error mean	*t* value	*P* value
Pre-test score	8.0857	1.79	0.21	–35.64	0.000
Post-test score	12.171	1.65	0.19		

such as rashes, warts, and other skin infections. Skin problems due to the use of absorbent hygiene products, such as diapers, incontinence pads, and feminine sanitary articles, are mostly due to climate or chafting discomfort. If these conditions are allowed to prevail, these may develop into an irritant contact dermatitis and eventually superficial skin infections.[10] Although multiple treatments are available for the same, prevention may be the best treatment approach for this infection.

A quantitative study was carried out on the mothers of children (0–1 year) who are admitted in pediatric units of selected hospitals from sanglimiraj area to assess the effectiveness of planned teaching program so as to assess knowledge regarding diaper dermatitis. The main objective of the study was to assess the pre-existing knowledge regarding diaper dermatitis. The study was carried out to find out the effectiveness of planned teaching program on knowledge regarding diaper dermatitis among the mothers.

For assessing pre-existing knowledge, the data consisted of a questionnaire, which consists of 16 multiple choice questions. This was done to evaluate the pre-existing knowledge of the mothers of children (0–1 year) in selected hospitals of sanglimiraj area. It was found that tool was reliable and valid. A pilot study was conducted on ten samples in Sangli Civil Hospital to check feasibility and practicability of the questionnaire. A final study was carried out on 70 samples from Bharati Hospital Sangli. Based on the objectives, the data were analyzed and using various statistical test, that is, frequency, percentage, mean, and standard deviation. It was found that the majority (85.71%) of the mothers were having good knowledge regarding diaper dermatitis and it was also found that only (14.28%) of mothers had average knowledge score.

Conclusion

The present study shown that majority of the mothers were having good knowledge regarding diaper dermatitis and it was also found that only few of them had average knowledge score. There was increase in the knowledge score after planned teaching program concluding that planned teaching program was effective.

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