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## Ill effects of prolong use of diaper in infants among mothers: Planned teaching programme

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### Abstract

**Objectives:** To assess the existing level of knowledge and effectiveness of planned teaching programme regarding ill effects of prolong use of diaper in infants among mothers and to find out association of knowledge score with the selected demographic variables. The research hypothesis was there will be significant difference in pretest and post test knowledge score among mothers.

**Methodology:** This study was based on the Quantitative approach, Pre-experimental one group Pretest-Posttest design. The samples were 60 mothers of infant selected by convenient sampling technique. Structured Knowledge questionnaire was used to assess the ill effects of prolong use of diaper in infants among mothers

**Results:** In pretest 8.33% of the mothers had very poor knowledge, 25% had poor, 33.33% had average, 31.67% had good, and 1.67% of the mothers had very good level of knowledge score respectively. But in the post test, 28.33% of mothers had excellent knowledge, 38.33% of samples had very good knowledge, and 33.33% of mothers had good knowledge. There was a marked improvement in the post test score as mean was 22.21 compared to pretest mean score 12.81. So the hypothesis was accepted. There was a significant association between post-test knowledge score with age of the mothers ( $F=20.07, p<0.05$ ); Income of the family per month ( $F=3.44, P<0.05$ ); previous knowledge ( $t=6.71, P<0.05$ ).

**Conclusion:** The planned teaching programme was effective on enhancing the knowledge regarding ill effects of prolong use of diaper in infants among mothers.

**Keywords:** Diaper, ill effects, infants, mothers

### 1. Introduction

Every child has the rights to grow in a healthy environment. The future development of the child depends on their enjoying good health today. Today's children are citizens of tomorrow and to have a strong shoulder means a child should be free from morbidity [1].

A diaper or nappy is an absorbent garment worn by individuals who are incontinent (i.e., who lacks control over bladder or bowel movements), Unable to reach the toilet when needed. Mostly diapers are used for kids until they are potty trained. Now a day the demand for the commercial diapers has increased due to its advanced technology and comfort felt by mothers. Disposable nappies are a great convenience for busy parents [2]. Many families prefer the convenience of disposable diaper which may vary in style, size and function. Disposable diaper contains super absorbent gel material that helps maintain normal skin pH and therefore reduces the occurrence of diaper dermatitis [3].

The diaper must be changed every hour for the newborn and every 3-4 hours for an infant. This would help the prevention of diaper dermatitis based on evidenced based reviews [4]. Diaper rash is one of the major skin problem which occurs for a number of reasons eg:- prolong exposure to stool and urine, exposure to irritant brands, Poor diapering techniques etc [5]. Development delay in motor skill is also one of the recent problems which include delay in crawling, walking and toilet practice. These are the dramatic effect of habitual use of bulky diaper [6]. A longitudinal study was conducted in UK on the prevalence and incidence of diaper rash. The sample was 532 parents who had children wearing diapers. A method of data collection was by a questionnaire. The result of the survey showed that 16 percent of the study population had diaper dermatitis. In a multivariate analysis, current diaper dermatitis was associated with oral thrush, diarrhea, and frequency of diaper changes. The researcher concluded that the diaper dermatitis can be treated successfully [7].

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The skin of the diaper area has special needs for protection from the irritating effects of urine and feces and prevention of diaper dermatitis. These needs include products such as diapers that absorb the excreta, as well as products for cleansing and conditioning the skin. A number of factors play a role in development of diaper dermatitis, including prolonged exposure to excreta, alterations in skin pH or increased hydration, and changes in skin microbial flora. Continuing research offers the promise of new products with additional benefits for caregivers and infants [8]. Diaper rash's prevalence has been reported from four to 35% in the first two 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 [9].

**2. Methodology**

Quantitative approach and one group pre-test post-test design was used to find the effectiveness of planned teaching program. Study was conducted in selected urban areas after obtaining permission from the concerned authorities. Data was collected from 4<sup>th</sup> November 2013 to 15<sup>th</sup> December 2013 with the sample of 60 mothers having infant. Mothers who are using commercially available diapers for their infant and minimum educational qualification of +2 were included. The mothers who are health professionals and using simple homemade cloth diapers were excluded.

The tool used for this study was self-structured knowledge questionnaire, it consists of 30 multiple choice items in following areas i.ei) Knowledge regarding meaning and types of commercial diapers, ii) Knowledge regarding diapering techniques, iii) Knowledge regarding ill effect of prolong use of diaper in infants. The reliability coefficient of correlation for structured knowledge questionnaire was  $r = 0.89$ . After collecting the Pre-test questionnaire, the investigator administered individualized planned teaching to all the samples. Everyday approximately 5-10 samples were taken. After one week the investigator conducted the post-test of the same samples accordingly. The data was analyzed according to the objective and hypothesis of the study by using both descriptive and inferential statistics.

**3. Results**

Frequency and percentage were computed for describing selected demographic variables. The findings were presented in table 1.

**Table 1:** Percentage wise distribution of mothers according to selected demographic variables.

N=60

Demographic Variables	No. Of Mothers	Percentage (%)
<b>Age(in yrs)</b>		
a) 19-24	22	36.7
b) 25-30	30	50.0
c) 31-36 yrs and above	8	13.3
<b>Education of mother</b>		
a) Higher Secondary	12	20.0
b) Diploma	12	20.0
c) Graduate	26	43.3
d) PG	10	16.7
<b>Occupation of mother</b>		
a) Housewife	41	68.3
b) Private Job	9	15.0
c) Govt. Service	3	5.0
d) Others	7	11.7
<b>Number of children</b>		
a) One	31	51.7
b) Two and above	29	48.3
<b>Type of family</b>		
a) Nuclear	30	50.0
b) Joint	30	50.0
<b>Monthly income of the family</b>		
a) Below 5000 Rs	4	6.7
b) 5001-10000 Rs	17	28.3
c) 10001-16000 Rs	9	15.0
d) >16000 Rs	30	50.0
<b>Aware about ill effects of diaper</b>		
a) Yes	40	66.6
b) No	20	33.3
<b>Source of information</b>		
a) Family Members	9	22.5
b) Relatives	9	22.5
c) Friends	8	20.5
d) Mass Media	6	15.0
e) Health Workers	9	22.0
f) Others	9	22.5

**Table 2:** Frequency and percentage distribution of Pretest and Posttest knowledge score regarding ill effects of prolong of diaper in infants among mothers

N = 60

Level of knowledge	Score Range	Pretest		Post Test	
		Frequency	Percentage	Frequency	Percentage
Very Poor	0-5	5	8.33	0	0
Poor	6-10	15	25.00	0	0
Average	11-15	20	33.33	0	0
Good	16-20	19	31.67	21	35
Very Good	21-25	1	1.67	22	36.67
Excellent	26-30	0	0.00	17	28.33

**Table 3:** Effectiveness of planned teaching programme on knowledge regarding ill effects of prolong use of diaper in infants among mothers

N=60

Observation	Mean	SD	t-value	df	p-value
Pre Test	12.81	4.66	27.14*	59	0.000
Post Test	22.21	3.44			

\*- significant at  $p < 0.05$  level

This table shows the comparison of pretest and posttest knowledge scores of mothers in selected urban area of city in relation to ill effects of prolong use of diaper in infants. The overall mean pretest score was 12.81 and in the mean score

for the post test was 22.21. Mean, standard deviation and mean difference values are compared and student 't' is applied at 5% level of significance. The tabulated value for  $n=60-1$  i.e 59 degrees of freedom was 2.00. The calculated

't' value are much higher than the tabulated value at 5% level of significance for all the areas of knowledge score which is statistically acceptable level of significance. In addition the calculated 'p' values for overall and area wise knowledge regarding prolong use of diaper in infants was 0.000 which is

ideal for any population. Hence it is statistically interpreted that the planned teaching programme on knowledge regarding prolong use of diaper among infants was effective. Thus the H<sub>1</sub> is accepted.

**Table 4:** Association of knowledge score regarding ill effects of prolong use of diaper with selected demographic variables

Demographic variables	n	Mean	SD	F-value	p-value
<b>1. Age in years</b>					
a) 19-24	22	19.36	2.46	20.07	0.000*, p<0.05
b) 25-30	30	23.66	2.68		
c) 31-36	8	24.62	3.24		
<b>2. Educational Status</b>					
a) Higher Secondary	12	20.16	3.80	1.96	0.13 <sup>NS</sup> , p>0.05
b) Diploma	12	22.41	3.39		
c) Graduate	26	22.69	2.85		
d) PG	10	23.20	3.96		
<b>3. Occupational Status</b>					
a) Housewife	41	21.75	3.61	1.22	0.31 <sup>NS</sup> , p>0.05
b) Private Job	9	24.11	2.36		
c) Govt. Service	3	23	3.60		
d) Others	7	22.14	3.18		
<b>4. Number of children</b>					
a) One	31	21.64	3.56	1.33	0.18 <sup>NS</sup> , p>0.05
b) Two	29	22.82	3.25		
<b>5. Type of family</b>					
a) Nuclear	30	22.60	3.37	0.86	0.39 <sup>NS</sup> , p>0.05
b) Joint	30	21.83	3.51		
<b>6. Monthly Family Income(Rs)</b>					
a) Below 5000 Rs	4	19.75	0.95	3.44	0.023*, p<0.05
b) 5001-10000 Rs	17	20.64	3.95		
c) 10001-16000 Rs	9	24	3.42		
d) >16000 Rs	30	22.90	2.89		
<b>7. Awareness</b>					
a) Yes	40	23.87	2.67	6.71	0.000*, p<0.05
b) No	20	19.14	2.45		
<b>8. Source of information</b>					
a) Family Members	9	23.11	2.36	1.15	0.35 <sup>NS</sup> , p>0.05
b) Relatives	1	21	0.00		
c) Friends	7	24.42	1.51		
d) Mass Media	6	24.33	2.25		
e) Health Workers	8	25.12	3.52		
f) Others	9	22.66	3.12		

Table-4 shows the association with the selected Demographic variables, among them age, monthly income and previous knowledge showed a major role in influencing knowledge score among mothers which was statistically significant at 0.05 level.

**4. Discussion**

The present findings revealed that the overall mean percentage of the pre-test knowledge score of the mothers was (42.7%). A study was conducted by Jemy Elizabeth Joseph, Shiju Mathew, to assess the effectiveness of teaching programme regarding Prevention and management napkin dermatitis in infants among mothers in Allahabad. The findings were revealed that the overall mean percentage of the pre-test knowledge score of the mothers was less (52.76%). This shows that there is inadequate knowledge among mothers in all aspects regarding prevention and management of napkin dermatitis in infants [10].

The study revealed that there was a considerable improvement in the knowledge of mothers after the administration of structured teaching programme and was

statistically established as significant. Comparison between pre and posttest knowledge scores; the mean difference was 9.40 and paired 't' test value (27.14) indicates there was a significant difference. This findings were too similar with a study conducted by Jemy Elizabeth Joseph, Shiju Mathew, to assess the effectiveness of teaching programme regarding Prevention and management napkin dermatitis in infants among mothers. Comparison between pre and posttest knowledge scores of mothers regarding General awareness about napkin dermatitis showed that; pretest knowledge score was (3.63), posttest knowledge score was (5.2), pair 't' test value (7.45) indicates there was a significant difference at 0.05 level. Their study result showed that the educational programme was effective. [10]

There exist a significant association between post-test knowledge score and age of the mothers (F=20.07, p<0.05), Income of the family per month (F=3.44, P<0.05) and previous knowledge (t=6.71, P<0.05). There exist no significant association between education, occupation, number of children, type of family, source of information and posttest level of the mothers. In the above mentioned

study, the association between the demographic variables and post-test knowledge scores of mothers was calculated using Chi square test at 0.05% (5% level). There was significant association between post-test knowledge level and educational status of the mothers, source of information. There was no significant association between post-test knowledge level of mothers, Per-capita monthly income of the family [10].

## 5. Conclusion

The study concluded that planned teaching programme was effective in increasing knowledge regarding ill effects of prolong use of diaper.

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