



# A STUDY TO ASSESS THE EFFECTIVENESS OF AWARENESS PROGRAMME ON KNOWLEDGE AND ATTITUDE REGARDING USE OF DIAPER RELATED PROBLEMS AMONG MOTHERS IN SELECTED BABY CARE CENTERS AT MANGALURU

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## ABSTRACT

**Background:** Newborn's skin is like a wax paper; it holds everything in without dripping anything. Skin diseases are common in children and about 30 percent of paediatric outpatient department attendance is associated by these conditions. 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. There is no doubt that disposable diapers are wonderfully convenient but are they safe for the babies? It is clear that there are also a number of potential dangers. Most of the parents are not aware of the adverse effects of this product being in contact with baby's reproductive organs 24 hours a day more than two years and the long-term effects it causes to the surroundings. The diaper must be changed every hour for the newborn and every 3-4 hours for an infant. The use of disposable diaper for the infants is increasing day by day for children who are not yet potty trained or experience bedwetting. But most of the parents are not concerned about hazards of diaper. For an infant the main person who cares is usually the mother. She is one who keeps the baby's skin stay healthy by preventing soreness. Care has to be taken to maintain baby's skin healthy and hygienic whether at home or in health centre setting.

**Objectives:** The objectives of the study are to assess the level of knowledge and attitude of mothers regarding use of diaper related problems. Determine the effectiveness of awareness programme regarding use of diaper related problems in mothers. Find the relationship between pre test knowledge, attitude and the selected demographic variables.

**Methodology:** A pre experimental study was conducted among 60 mothers who were selected by non-probability purposive sampling technique. The study was conducted in Nisarga Play School, Early Learning Center, and Tree House Play Group, Mangaluru. Data was collected through baseline information, structured knowledge questionnaire and Likert scale. The data collected was analysed and interpreted based on descriptive and inferential statistics.

**Result:** Majority of samples 22 (36.7%) were aged between 25-30 years, most of the samples 33 (55%) were Christians, 30(50%) of the samples were completed their graduation, 25 (41.7%) of the samples were private employees, most of the samples 27 (45%) had monthly income of Rupees 10001-15000, 47 (78.3%) of the samples were belongs to nuclear family, 36(60%) of the samples had one child in the family, higher number 38 (63.3%) of the samples were using disposable diaper, 49 (81.7%) of the samples were changing diaper below 6 times per day, most of the i.e. 26 (43.3%) of the samples had information regarding diaper related problems by family and friends, 37(61.7%) of the samples had babies aged 1-2 years.

With regard to the level of knowledge 51.67% of the mothers had inadequate knowledge, 43.33% were had moderate level of knowledge and only 5% of the mothers had adequate knowledge regarding diaper related problems in the pre test assessment. After giving the awareness programme 60% of the mothers had moderate level of knowledge, 25% of them had adequate knowledge and only 15% of mothers had inadequate knowledge diaper related problems. In the attitude most of the mothers i.e. 51.67% had neutral attitude, 36.67% were having negative attitude and only 11.66% were having positive attitude in pres test. In the post test 43.33% had neutral attitude, 38.33% of them had positive attitude and only 11.84% of them had negative attitude regarding diaper related problems. The overall mean and mean percentage of pre-test knowledge scores regarding diaper related problems was 10.21 and 34.03% respectively. The overall post test mean and mean percentage of knowledge score was 18.06 and 60.2% respectively. The overall mean and mean percentage of pre-test attitude scores regarding diaper related problems was 38.93 and 56.42% respectively. The overall post test mean and mean percentage of attitude score was 49.41 and 71.60% respectively. The calculated "t" value in all the areas is higher than the table value ( $t=1.67$ ) at  $p<0.05$  level of significance. It implies that the mean post-test knowledge and attitude scores are significantly higher than the mean pre-test knowledge and attitude scores in all the areas. It indicates that awareness programme was effective in enhancing the knowledge and attitude of mothers regarding diaper related problems. Association of pre-test knowledge and attitude scores with the selected demographic variable findings revealed that there was no significant association found between pre-test knowledge and attitude scores with the selected demographic variables.

**Conclusion:** Findings of the present study proved that awareness programme is an effective teaching strategy to enhance the knowledge and attitude of mothers regarding diaper related problems.

**Key words:** Awareness programme, Knowledge, Attitude, Diaper related problems, Mothers.

## Introduction:

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<sup>1</sup>. 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 percent of pediatric outpatient department attendance is associated by these conditions. There are many health problems associated with infancy such as respiratory, cardiac, brain and skin infections. In the skin there are many like scabies, edema, in that dermatitis also a main problem.<sup>2</sup>

The infants are unique when compared with older children and adults which make them highly susceptible to severe dermatological disorders. The skin of premature infants is less developed than that of full-term infants and lacks the fully functional barrier properties of the stratum corneum. With decreasing gestational ages and a deficiency in the stratum corneum, premature infants are known to have increased trans epidermal water loss (TEWL), which can lead to significant issues such as dehydration, thermal instability and electrolyte imbalances. Because the stratum corneum is thinner and less effective in premature infants than in adults or full-term infants, these infants may have an increased risk of infection and systemic toxicity due topical absorption of substances on the skin. This makes infants especially sensitive to the development of diaper dermatitis.<sup>3</sup>

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.<sup>4</sup> There is no doubt that disposable diapers are wonderfully convenient but

are they safe for the babies? It is clear that there are also a number of potential dangers. Most of the parents are not aware of the adverse effects of this product being in contact with baby's reproductive organs 24 hours a day more than two years and the long-term effects it causes to the surroundings. Disposable diapers have been implicated by diapering proponents like leak proof polymers, super absorbent polymers and some scented chemicals which are the key factors for everything from chronic diaper rash, respiratory problems like asthma, male infertility even to testicular cancer.<sup>5</sup> There are actually toxic chemicals that can be found in disposable diapers that are not labeled as “unbleached” or “bleached with peroxide”. The toxic chemicals may harm infants. The emission of volatile organic compounds or VOC, particularly toluene, ethyl benzene, xylene and dipentene, may expose the babies to serious threats of cancer or even a case of brain damage in severe cases. Another potential chemical danger is sodium polyacrylate, the super absorbent gel that allows your baby to go 5 to 7 hours in a diaper. The gel can hold up to 100-300 times its weight in water. Some experts have pointed out this substance in tampons as the possible cause of toxic shock syndrome, and others claim this toxin is very harmful, and causes severe skin irritations, oozing blood from perineum and scrotal tissues, fever, vomiting and staph infections in babies.<sup>6</sup>

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. 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. 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.<sup>7</sup>

The use of disposable diaper for the infants is increasing day by day for children who are not yet potty trained or experience bedwetting. But most of the parents are not concerned about hazards of diaper. About one in two of all infants suffer from diaper rash at some point of infancy with peak prevalence at 9-12 months.<sup>8</sup>

## Objectives of the Study

The objectives of the study were to:

- Assess the level of knowledge and attitude of mothers regarding use of diaper related problems.
- Determine the effectiveness of awareness programme regarding use of diaper related problems in mothers.
- Find the relationship between pre test knowledge, attitude and the selected demographic variables.

## Hypotheses:

All hypothesis will be tested at 0.05 level of significance.

**H<sub>1</sub>:** The mean post-test knowledge and attitude scores will be significantly higher than their mean pre-test knowledge and attitude scores.

**H<sub>2</sub>:** There will be significant association between the pre-test knowledge and attitude with the selected demographic variables.

**Materials and Methods:** A pre experimental study was conducted among 60 mothers who were selected by non-probability purposive sampling technique. The study was conducted in Nisarga Play School, Early Learning Center, and Tree House Play Group, Mangaluru. Data was collected through baseline information, structured knowledge questionnaire and Likert scale. The data collected was analyses and interpreted based on descriptive and inferential statistics.

**Result:****PART – I: Description of demographic variables of the mothers****Table 1: Frequency and percentage distribution of samples according to the demographic variables**

Sl.No	Variables	Frequency (f)	Percentage (%)
1.	<b>Age in years</b>		
	1.1 19-24	13	21.7
	1.2 25-30	22	36.7
	1.3 31-36	17	28.3
	1.4 Above 36	8	13.3
2.	<b>Religion</b>		
	2.1 Hindu	20	33.3
	2.2 Muslim	7	11.7
	2.3 Christian	33	55
3.	<b>Education</b>		
	3.1 Primary school	0	0
	3.2 Higher secondary school	0	0
	3.3 High school	9	15
	3.4 PUC/Diploma	21	35
	3.5 Graduate & above	30	50
4.	<b>Occupation</b>		
	4.1 House wife	5	8.3
	4.2 Private employee	25	41.7
	4.3 Government employee	17	28.3
	4.4 Self employed	13	21.7
5.	<b>Monthly income of family</b>		
	5.1 Below 5000 Rs	0	0
	5.2 5001-10000 Rs	11	18.3
	5.3 10001-15000 Rs	27	45
	5.4 Above 15001 Rs	22	36.7
6.	<b>Type of family</b>		
	6.1 Nuclear	47	78.3
	6.2 Joint	13	21.7
7.	<b>Number of children</b>		
	7.1 One	36	60
	7.2 Two	24	40
	7.3 Three and above	0	0

8.	<b>Type of diaper used</b>			
	8.1	Cloth diaper	13	21.7
	8.2	Disposable diaper	38	63.3
	8.3	Both	9	15
9.	<b>Frequency of diaper change</b>			
	9.1	< 6 times/day	49	81.7
	9.2	≥ 6 times /day	11	18.3
10.	<b>Source of information</b>			
	10.1	Mass media	9	15
	10.2	Family and friends	26	43.3
	10.3	Health personnel	25	41.7
	10.4	Others		
11.	<b>Age of the baby</b>			
	11.1	Less than a year	0	0
	11.2	1-2 years	37	61.7
	11.3	2-3 years	23	38.3

**PART – II: Description of the knowledge and attitude level of mothers regarding diaper related problems**

**Table 2: Frequency and percentage distribution of the mothers according to the level of knowledge scores regarding diaper related problems**

N=60

Level of knowledge	Pre-test		Post-test	
	f	%	f	%
Inadequate	31	51.67	9	15
Moderate	26	43.33	36	60
Adequate	3	5	15	25

**Table 3: Range, maximum scores, means, standard deviation and median of pre-test and post-test knowledge scores of mothers**

N=60

	Range of scores	Maximum possible	Mean	Median	Standard deviation	Mean %
Pre-test knowledge score	4-23	30	10.21	10	4.09	34.03
Post-test knowledge score	5-28	30	18.06	19	5.42	60.2

**Table 4: Area-wise mean, standard deviation and mean percentage of pre-test and post-test knowledge scores of mothers regarding diaper related problems**

N=60

Areas of knowledge	Max. score	Pre-test		Post-test			
		Mean	SD	Mean	Mean	SD	Mean %
General information	5	1.51	0.85	30.2	3.13	1.47	62.6
Diaper related problems	13	4.83	2.35	37.15	7.73	2.66	59.46
Management	12	3.83	2.21	31.91	7.20	2.92	60

**Table 5: Frequency and percentage distribution of the mothers according to the level of attitude scores regarding diaper related problems**

N=60

Level of attitude	Pre-test		Post-test	
	f	%	f	%
Negative	22	36.67	11	18.34
Neutral	31	51.67	26	43.33
Positive	7	11.66	23	38.33

**Table 6: Range, maximum scores, means, standard deviation and median of pre-test and post-test attitude scores of mothers**

N=60

	Range of scores	Maximum possible score	Mean	Median	Standard deviation	Mean %
Pre-test attitude score	25-61	23	38.93	39	9.51	56.42
Post-test attitude score	30-65	23	49.41	49.5	10.14	71.60

**PART – III: Effectiveness of awareness programme on diaper related problems among mothers**  
**Comparison of the overall pre-test and post-test knowledge of the mothers**

**H<sub>01</sub>:** There is no significant difference between pre-test and post-test knowledge scores at 0.05 level of significance.

**Table 7: Comparison of pres test & post-test knowledge scores of mothers**

N=60

Parameter	Mean	Standard deviation	Mean difference	't' value
Pre-test	10.21	4.09	7.85	7.87*
Post- test	18.06	5.42		

$t_{59} = 1.67, P < 0.05$

\*Significant

**Table 8: Comparison of pres test & post-test knowledge scores of mothers**

N=60

Sl. No	Area	Pre test		Post test		Mean % difference	't' value
		Mean	SD	Mean	SD		
1	General information	1.51	0.85	3.13	1.47	32.4	7.69*
2	Diaper related problems	4.83	2.35	7.73	2.66	22.31	5.52*
3	Management	3.83	2.21	7.20	2.92	28.09	6.97*

$t_{59} = 1.67, P < 0.05$

\*Significant

**Comparison of the overall pre-test and post-test attitude of the mothers**

**H<sub>01</sub>:** There is no significant difference between pre-test and post-test attitude scores at 0.05 level of significance.

**Table 9: Comparison of pres test & post-test attitude scores of mothers**

N=60

Parameter	Mean	Standard deviation	Mean difference	't' value
Pre-test	38.93	9.51		
Post- test	49.41	10.14	10.48	8.83*

 $t_{59} = 1.67, P < 0.05$ 

\*Significant

**PART – IV: Association between the pre-test knowledge and attitude scores regarding diaper related problems and the selected demographic variables.**

**H<sub>02</sub>:** There is no significant association between the pre-test knowledge and attitude scores of mothers and their selected demographic variables at 0.05 level of significance.

**Table 10: Association between pre-test knowledge scores of mothers with selected demographic variables**

N=60

Sl. No	Variables	≤ Median	> Median	$\chi^2$ value	p value	Remarks
1.	<b>Age in years</b>					
1.1	19-24	7	6			
1.2	25-30	12	10	1.22	0.74	Not significant
1.3	31-36	7	10			
1.4	Above 36	5	3			
2.	<b>Religion</b>					
2.1	Hindu	13	7			
2.2	Muslim	2	5	3.35	0.18	Not significant
2.3	Christian	15	18			
3.	<b>Education</b>					
3.1	High school	5	4			
3.2	PUC/Diploma	11	10	0.09	0.95	Not significant
3.3	Graduate & above	15	15			



<b>4. Occupation</b>						
4.1	House wife	3	2			
4.2	Private employee	14	11	2.94	0.39	Not significant
4.3	Government employee	10	7			
4.4	Self employed	4	9			
<b>5. Monthly income of family</b>						
5.1	5001-10000 Rs	7	4			Not significant
5.2	10001-15000 Rs	13	14	0.78	0.67	
5.3	Above 15001 Rs	11	11			
<b>6. Type of family</b>						
6.1	Nuclear	25	22	0.20	0.65	Not significant
6.2	Joint	6	7			
<b>7. Number of children</b>						
7.1	One	16	20	1.87	0.17	Not significant
7.2	Two	15	9			
<b>8. Type of diaper used</b>						
8.1	Cloth diaper	7	6			Not significant
8.2	Disposable diaper	19	19	0.12	0.94	
8.3	Both	5	4			
<b>9. Frequency of diaper change</b>						
9.1	< 6 times/day	26	23			Not significant
9.2	≥ 6 times /day	5	6	0.20	0.64	
<b>10. Source of information</b>						
10.1	Mass media	4	5			Not significant
10.2	Family and friends	19	7	3.45	0.01	
10.3	Health personnel	8	17			
<b>11. Age of the baby</b>						
11.1	1-2 years	18	19	0.35	0.55	Not significant
11.2	2-3 years	13	10			

$\chi^2$  (df<sub>1</sub>=3.84),  $\chi^2$  (df<sub>2</sub>=5.99),  $\chi^2$  (df<sub>3</sub>=7.81)

**Table 11: Association between pre-test attitude scores of mothers with selected demographic variables**

N=60

Sl. No	Variables	≤ Median	> Median	$\chi^2$ value	p value	Remarks
<b>1. Age in years</b>						
1.1	19-24	7	6	0.59	0.89	Not significant
1.2	25-30	14	8			
1.3	31-36	10	7			
1.4	Above 36	4	4			
<b>2. Religion</b>						
2.1	Hindu	13	7	2.98	0.22	Not significant
2.2	Muslim	2	5			
2.3	Christian	20	13			
<b>3. Education</b>						
3.1	High school	6	3	0.59	0.74	Not significant
3.2	PUC/Diploma	11	10			
3.3	Graduate & above	18	12			
<b>4. Occupation</b>						
4.1	House wife	3	2	4.47	0.21	Not significant
4.2	Private employee	14	11			
4.3	Government employee	13	4			
4.4	Self employed	5	8			
<b>5. Monthly income of family</b>						
5.1	5001-10000 Rs	5	6	1.65	0.43	Not significant
5.2	10001-15000 Rs	18	9			
5.3	Above 15001 Rs	12	10			
<b>6. Type of family</b>						
6.1	Nuclear	26	21	0.81	0.36	Not significant
6.2	Joint	9	4			
<b>7. Number of children</b>						
7.1	One	22	14	0.28	0.59	Not significant
7.2	Two	13	11			
<b>8. Type of diaper used</b>						
8.1	Cloth diaper	7	6	1.18	0.55	Not significant
8.2	Disposable diaper	24	14			
8.3	Both	4	5			

**9. Frequency of diaper change**

9.1	< 6 times/day	27	22	1.14	0.28	Not significant
9.2	≥ 6 times /day	8	3			

**10. Source of information**

10.1	Mass media	3	6	3.27	0.19	Not significant
10.2	Family and friends	15	11			
10.3	Health personnel	17	8			

**11. Age of the baby**

11.1	1-2 years	24	13	1.69	0.19	Not significant
11.2	2-3 years	11	12			

$\chi^2$  (df<sub>1</sub>=3.84),  $\chi^2$  (df<sub>2</sub>=5.99),  $\chi^2$  (df<sub>3</sub>=7.81),  $\chi^2$  (df<sub>4</sub>=9.48),  $\chi^2$  (df<sub>5</sub>=11.07)

**Discussion:** Findings related to objectives and hypothesis.

All hypothesis will be tested at 0.05 level of significance.

**H<sub>1</sub>:** The mean post-test knowledge and attitude scores will be significantly higher than their mean pre-test knowledge and attitude scores.

**H<sub>2</sub>:** There will be significant association between the pre-test knowledge and attitude with the selected demographic variables.

**Major findings of the study****Demographic characteristics of the sample****Demographic characteristics of the sample**

- majority of samples 22 (36.7%) were aged between 25-30 years
- most of the samples 33 (55%) were Christians
- majority of the samples 30(50%) were completed their graduation
- majority 25 (41.7%) of the samples were private employees
- most of the samples 27 (45%) had monthly income of Rupees 10001-15000
- majority i.e. 47 (78.3%) of the samples were belongs to nuclear family
- majority i.e. 36(60%) of the samples had one child in the family
- higher number 38 (63.3%) of the samples were using disposable diaper
- most of the i.e. 49 (81.7%) of the samples were changing diaper below 6 times per day

- most of the i.e. 26 (43.3%) of the samples had information regarding diaper related problems by family and friends
- most of the i.e. 37(61.7%) of the samples had babies aged 1-2 years

**Conclusion:** The following conclusions were drawn on the basis of the findings of the study:

- Pre-test findings showed that mothers had inadequate knowledge and neutral attitude regarding diaper related problems.
- The awareness programme was effective in improving the knowledge and attitude of the mothers regarding diaper related problems.
- There was no significant association found between pre-test knowledge and attitude scores with their selected demographic variables.

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