



## KNOWLEDGE OF MOTHERS ON DIAPER DERMATITIS: A DESCRIPTIVE SURVEY

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### ABSTRACT

Diaper dermatitis is one of the most common skin conditions in neonates and infants. In infants diaper dermatitis is one of the leading causes of stress and discomfort. Physicians and parents and the care givers of the infants do not report many cases of diaper dermatitis because they resolve after a few days without the need for medical treatment. **Objective:** This study was designed to assess the knowledge of mothers on diaper dermatitis and to find the association with selected variables. **Methods:** A cross sectional study was conducted among 100 mothers of infants between the age group 0-12 months, attending selected hospitals of Mangaluru by non-probability purposive sampling. The data was collected using a valid semi structured knowledge questionnaire. The data was collected from January 2017 to March 2017. **Findings:** Majority of the study population (54%) had average knowledge on diaper dermatitis and it was independent with the socio demographic variables ( $p > 0.05$ ). **Conclusions:** This study revealed that mothers had average knowledge on diaper dermatitis. Interventions such as educational/ awareness programmes need to be conducted which will in turn help the mothers to gain knowledge on child care.

**KEYWORDS:** Diaper Dermatitis, knowledge, infant, mother.

### INTRODUCTION

Diaper dermatitis is one of the most common dermatoses occurring in infants. It is an irritant dermatitis, in which a variety of factors act in concerned to produce inflammation of the diapered skin.<sup>[1]</sup> Diaper dermatitis also known as napkin dermatitis, nappy rash, or diaper rash, is a nonspecific term used to describe any inflammatory reaction of the skin in the diaper area.<sup>[2,3]</sup> Diaper dermatitis is one of the most common skin conditions in neonates and infants. Its prevalence is estimated to be between 25% and 50%, depending on age and the methods applied in specific studies.<sup>[3,5]</sup> It is one of the most common dermatitis in infants, being reported by up to 75% of parents but because it is often mild and transient, fewer than 10% of cases are referred to physicians for management.<sup>[1]</sup> Physicians and parents or the care givers of the infants do not report many cases of diaper dermatitis because they resolve after a few days without the need for medical treatment.<sup>[6]</sup>

It is reported that diaper rash was almost unheard of before the use of rubber or plastic pants in the 1940's.<sup>[7]</sup> In an article published in the Journal of Pediatrics in 1959, before the introduction of disposable diapers, only 7.1% of 1,505 babies in a onetime clinical study had

diaper rash.<sup>[8]</sup> In a study of diaper rash in the 1980's, some twenty years after the invention of disposable diapers, 63% of 1,050 babies has diaper rash at least once in an 8-week period.<sup>[9]</sup> In another study it's been reported that at least half of all babies will exhibit diaper rash at least once during their diapering years.<sup>[10]</sup> Over the years, diaper rash was thought to have been caused by numerous sources including teething, diet and ammonia in the urine.<sup>[11]</sup> A combination of factors, of which the most important is prolonged contact of the skin with urine and feces, causes diaper dermatitis.<sup>[2,12]</sup> Obstruction causes increase in skin hydration and raises skin pH, while exposed to fecal enzymes damages the integrity of the skin barrier and increases its permeability. Decrease in barrier function of the skin makes the skin susceptible to irritant and microbial invasion, leading to localized skin inflammation.<sup>2</sup> Early signs of diaper dermatitis appear as asymptomatic mild erythema over a limited surface area of the skin, with minimal maceration and chafing.<sup>[10]</sup> The areas of the skin that are most affected are the buttocks, genitals, abdomen, perianal area, and thighs. As the condition progresses, moderate erythema with maceration affecting a larger surface area and skin breakdown leading to exudative or ulcerated lesions can be ensured.<sup>[10]</sup>

In order to manage and treat diaper dermatitis area experts recommend changing of diapers frequently; lessening the use of diaper; use of disposable, superabsorbent, and breathable diapers instead of cloth diapers; use of topical preparations; and parent education. In severe cases with clinical signs of secondary infections require medical attention, with careful diagnosis and proper treatment.<sup>[13,15]</sup> In infants diaper dermatitis is one of the leading causes of stress and discomfort. Parents and caregivers must have adequate knowledge for the identification, management and for the prevention diaper dermatitis in their infants. The current study therefore aimed to assess the knowledge of mothers on diaper dermatitis in their infants between the age group of 0-12 months attending selected hospitals of Mangaluru.

### MATERIALS AND METHODS

A descriptive survey design was used for this study. This study was conducted in selected hospitals of Mangaluru. Non probability purposive sampling was adopted. A validated semi structured knowledge questionnaire was used to collect the data. The data collection tool was examined by experts for content validity. The questionnaire was pretested using 5 mothers who cover the inclusion criteria. The reliability of the knowledge questionnaire was calculated by administering the tool to

10 mothers. Reliability was calculated using split half method and the reliability coefficient obtained was 0.7. The tool was found to be reliable. After obtaining the ethical approval from the institutional ethical committee, data were collected. The tool was administered to mothers with the children between the age group of 0-1 year. The study was explained to the mothers by giving participant information sheet. A written informed consent was obtained from each of the participants. Anonymity of the subjects and confidentiality of the data were maintained. Data was collected from January 2017 to March 2017. Mothers who were not willing to participate were excluded from the study. A total of 100 mothers were included in the study. Sample characteristics were collected using demographic proforma. The semi structured knowledge questionnaire contained 28 items pertaining to the knowledge of mothers on diaper dermatitis, divided under domains such as meaning, causes, risk factors, way of occurrence, signs and symptoms, prevention and management. The knowledge level was scored as poor knowledge (0-7), average knowledge (8-14), good knowledge (15-21) and excellent knowledge (22-28). The data collected were analyzed using SPSS version 23 statistical program. Descriptive statistics and  $\chi^2$  -test for differences in proportions were used for univariate analysis. A p-value of 0.05 or less was considered statistically significant.

### RESULTS

**Table 1: Distribution of participant characteristics based on demographic variables. n=100**

Sl.no	Demographics	Frequency
<b>1.</b>	<b>Age groups in years (Mother)</b>	
	21-25	35
	26-30	38
	31-35	20
	36-40	7
<b>2.</b>	<b>Age of infant</b>	
	0-3 months	65
	4-6 months	30
	7-9 months	5
<b>3.</b>	<b>Number of children</b>	
	1	31
	2	41
	More than 2	28
<b>4.</b>	<b>Religion</b>	
	Hindu	21
	Christian	8
	Muslim	70
	Others	1
<b>5.</b>	<b>Type of family</b>	
	Nuclear	38
	Joint	45
	Extended	1
<b>Sl.no</b>	<b>Demographics</b>	<b>Frequency</b>
<b>6.</b>	<b>Education status</b>	
	Primary	8
	Higher primary	23
	High school	32

	Higher secondary	28
	Diploma	7
	Graduate	1
	Post Graduate	1
<b>7.</b>	<b>Occupation</b>	
	Employed	9
	Home maker	91
<b>8.</b>	<b>Family income</b>	
	Less than 3000	16
	3001-6000	24
	6001-9000	40
	Greater than 9000	20
<b>9.</b>	<b>Previous experience of child care</b>	
	Yes	36
	No	64
<b>10.</b>	<b>Previous knowledge</b>	
	Yes	47
	No	53
<b>11.</b>	<b>Source of information</b>	
	Family members	42
	Relatives	13
	Health professionals	31
	Media	8
	Others	6

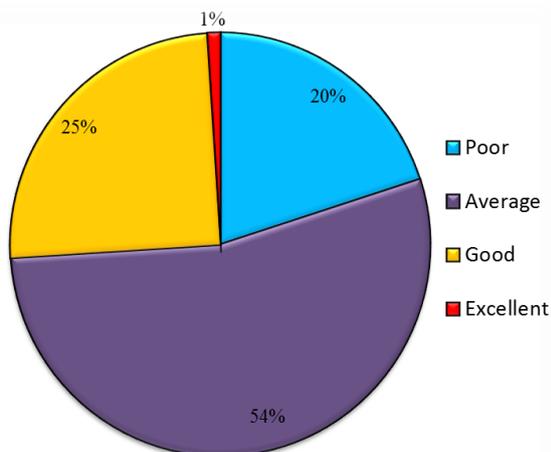
**Note:** sample size (n) is 100. Frequency and Percentage remains the same so Percentage is not shown in the table.

The data presented in Table 1 depicts that 38% of mothers belongs to the age group of 26-30 years and 65% of mothers with the infant between the age group of 0-3 months. About 41% of mothers had given birth to 2 children. Majority 70% of mothers belongs to the Muslim religion and 45% belongs to the joint family with educational status of high school in 32% of mothers. Majority of 90% of mothers are housewives and the family income was 6001-9000 in 40% of mothers. Out of 100 participants 63% of mothers had a previous experience of child care. The highest 53% of mothers had a previous knowledge of diaper dermatitis and 42% of mothers received the information on diaper dermatitis by family members.

Keys: Poor knowledge: 0-7, Average knowledge: 8-14, Good knowledge: 15-21 and Excellent knowledge: 22-28

The data presented in figure 1 denotes that majority i.e 54 out of 100 (54%) mothers had average knowledge, 25 out of 100(25%) mothers had good knowledge, 20 out of 100(20%) mothers had poor knowledge and 1 out of 100 (10%) mother had excellent knowledge on diaper dermatitis.

n=100



**Fig 1:** Pie diagram showing knowledge of mothers on diaper dermatitis

**Table 2: Association between Knowledge scores and selected demographic variables.**  
n=100

Sl.no	Socio demographic variables	Knowledge scores				$\chi^2$	df	p value
		Poor	Average	Good	Excellent			
1.	<b>Age groups in years</b>							
	21-25	5	22	8	0			
	26-30	10	21	7	0	9.87	9	0.3
	31-35	4	7	8	1			
	36-40	1	4	2	0			
2.	<b>Number of children</b>							
	1	5	20	6	0			
	2	10	19	11	1	3.8	6	0.7
	More than 2	5	15	8	0			
3.	<b>Type of family</b>							
	Nuclear	6	23	9	0			
	Joint	8	22	14	1	6	6	0.4
	Extended	6	9	2	0			
4.	<b>Educational status</b>							
	Primary	2	4	2	0			
	Higher primary	6	11	5	1			
	High school	8	15	9	0			
	Higher secondary	3	17	8	0	13.5	18	0.7
	Diploma	1	6	0	0			
	Graduate	0	0	1	0			
	Post Graduate	0	1	0	0			
Sl.no	Socio demographic variables	Knowledge scores				$\chi^2$	df	p value
		Poor	Average	Good	Excellent			
5.	<b>Previous experience of child care</b>							
	Yes	9	17	10	0	1.9	3	0.5
	No	11	37	15	1			
6.	<b>Previous knowledge</b>							
	Yes	11	27	9	0	2.8	3	0.4
	No	9	27	16	1			
7.	<b>Source of information</b>							
	Family members	11	20	11	0			
	Relatives	1	7	4	1			
	Health professionals	5	18	8	0	11.9	12	0.4
	Media	2	4	2	0			
	Others	1	5	0	0			

***P < 0.05 - Significant association***

The Chi square presented in table 2 denotes that there is no significant association between knowledge and selected demographic variables such as age group in years ( $\chi^2_{(9)}=9.87$ ,  $p=0.3$ ), number of children ( $\chi^2_{(6)}=3.8$ ,  $p=0.7$ ), type of family ( $\chi^2_{(6)}=6$ ,  $p=0.4$ ), educational status ( $\chi^2_{(18)}=13.5$ ,  $p=0.7$ ), previous experience of child care ( $\chi^2_{(3)}=1.9$ ,  $p=0.5$ ), previous knowledge ( $\chi^2_{(3)}=2.8$ ,  $p=0.4$ ) and source of information ( $\chi^2_{(12)}=11.9$ ,  $p=0.4$ ). These variables are independent to each other.

## DISCUSSION

The present study revealed that out of 100 samples, 54% had an average knowledge on diaper dermatitis. The study findings are supported by a study conducted by Joseph JE and Mathew on the effectiveness of teaching program regarding diaper dermatitis in Allahabad. The study comprised of 60 mothers and finding showed a less percentage of pre-test knowledge scores (52.76%).<sup>[16]</sup>

This shows that there was an inadequate knowledge among mothers on diaper dermatitis and the need for the teaching program. Another study by Maya KS on Effectiveness of awareness programme on prevention and management of diaper dermatitis among mothers of children of age 0 to 1 year suggested that 54.8% of mothers had average knowledge on diaper dermatitis during pretest whereas during posttest 71.4% scored excellent.<sup>[17]</sup> So the present study recommends that there is a need for educational/awareness program for the mothers to gain knowledge on child care.

## CONCLUSION

The present study concludes that mothers had average knowledge on diaper dermatitis. Interventions such as awareness programmes are needed which will help mothers to gain knowledge on child care. Similarly the

interventions may be effective and helpful in changing the attitude and practice of mothers.

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