

# IMPACT OF HAND WASHING PRACTICES ON DIARRHOEAL MORBIDITY AMONG UNDER-FIVE CHILDREN IN JAJMAU AREA OF KANPUR

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## ABSTRACT

*The present study was designed to find out the prevalence of diarrhoea among under five children in four randomly selected areas of Jajmau, Kanpur and to know the impact of hand washing practices on the childhood diarrhoeal morbidity and mortality. It was observed that the diarrhoeal prevalence was significantly associated with age of child, highest in the age group of 1-3 years belonging to joint families and was also found significantly higher among economically poor Muslim children (66.48%) as compared to Hindu children (43.23%) The diarrhoeal prevalence was observed associated with hand washing practices. The children who did not wash their hands after defecation showed higher prevalence. Even the prevalence was observed higher among those children whose parents did not wash their hands after cleaning the child excreta. The diarrhoeal prevalence was also found higher among those children whose mothers did not wash their hands before feeding the child.*

## INTRODUCTION

Acute diarrhoeal diseases are one of the leading causes of childhood mortality and morbidity in the developing countries and a major contributor to malnutrition. The diarrhoeal diseases cause nearly 5 million deaths per year among under five children in developing countries and about 1.5 million deaths per year in India alone. Diarrhoeal diseases cause a heavy economic burden on the Health services as the children with diarrhoea occupy about 30 percent beds of paediatric hospital and occupy responsible for 23-30 percent of all deaths below 5 years in India. The diarrhoeal infection occurs through water, food contamination with bacteria such as E. Coli, Shigella, Salmonella and Rota- Virus etc. by faeco-oral route. In India with limited resources, the diarrhoeal magnitude can be reduced drastically by simple interventions like hand washing before feeding and after defecation.

## MATERIAL & METHOD

The present study was conducted in 4 different areas of Jajmau, constituting 2700 households; out of

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which 10% (270) households were randomly selected. A total of 405 under five children in the study area were studied. The diarrhoeal morbidity and the hand washing practices among the children were enquired by parents/ guardian in door to door survey on pretested schedules. All those children who were having 3 or more than 3 loose watery stools/24 hours in the last 15 days prior to survey time were considered for knowing the diarrhoeal prevalence.

## RESULTS AND DISCUSSION

The overall diarrhoeal prevalence was found 53.33%. It was higher among Muslims (66.48) mainly in 1-3 years of age (70.25%) belonging to low social class IV 79.86%) of joint families 65.06% (Table I) 62.72% children were not having any latrine facility preferring to go for open field defecation. Among 20.96% children, who were not washing their hands after defecation, 84.70% diarrhoeal morbidity was observed. Amongst those who were washing hands, the commonest method applied was with water only 44.53% (Table II). Similar findings have been observed by Hutchinson <sup>1</sup> and Price <sup>2</sup> that various enteric pathogens causing diarrhoeal disease can survive on the hands if not washed after defecation.



Table I. Diarrhoeal morbidity in relation to Bio-social characteristics of under five children

Bio-social Characterstics	Total children		Children suffered with Diarrhoea		Prevalence rate	
	No.	%	No.	%	%	
<b>Age</b>						
0-1 year	98	24.19	63	29.17	64.26	X <sup>2</sup> = 60.79 p < .1 df = 2
1-3 years	158	39.01	111	51.38	70.25	
3-5 years	149	36.80	42	19.45	28.16	
Total	405	100.00	216	100.00	53.33	
<b>Religion</b>						
Hindu	229	56.54	99	45.83	43.23	X <sup>2</sup> = 21.61 p < .01 df = 1
Muslim	176	43.46	117	54.17	66.48	
Total	405	100.00	216	100.00	53.33	
<b>Type of family</b>						
Nuclear	314	77.54	157	72.68	50.06	X <sup>2</sup> = 6.24 P < .05 df = 2
Joint	83	20.49	54	25.01	65.06	
Extended	8	1.97	5	2.31	62.50	
Total	405	100.00	216	100.00	53.33	

Table II. Relationship of Diarrhoea with hand washing practices among children after defecation

Practices*	Total children		Children suffered with Diarrhoea		Prevalance rate *
	No.	%	No.	%	
No hand washing	85	20.96	72	33.33	84.70
Washing with water only	182	44.53	117	54.16	64.26
Washing with mud	83	20.45	42	19.44	50.00
Washing with ash	40	9.87	12	5.55	30.00
Washing with soap	48	11.85	15	6.94	31.25
No Reply	111	27.40	39	18.05	35.13

\* Multiple response

Table III. Diarrhoeal morbidity in relation to hand washing practice of parents after cleaning the child excetra

Practices*	Total children		Children suffered with Diarrohea		Prevalance rate
	No.	%	No.	%	
No hand washing	17	4.19	15	6.94	88.23
Washing with water only	206	50.86	123	56.94	59.70
Washing with mud	48	11.85	26	12.03	54.16
Washing with ash	86	21.23	42	19.44	48.63
Washing with soap	46	11.35	11	5.09	23.91
No specific reply	52	12.23	28	12.96	53.84

\* Multiple response



Table III. Diarrhoeal morbidity in relation to hand washing practice of parents after cleaning the child excreta

Practices*	Total children		Children suffered with Diarrhoea		Prevalance rate
	No.	%	No.	%	
No hand washing	16	3.95	14	6.48	87.50
Washing with water only	294	72.55	188	87.03	63.94
Washing with mud	9	2.22	7	3.24	77.77
Washing with ash	—	—	—	—	—
Washing with soap	69	17.03	11	5.09	15.94
No specific reply	83	20.45	11	5.09	13.25

\* Multiple response

The majority of parents of children were washing their hands after cleaning child excreta. Out of the various methods practiced, the main were to clean with water only (50.86%) mud (1.85%), Ash (21.23%) and soap 11.35%. The diarrhoeal prevalence was found highest (88.23%) among those children whose parents were not washing their hands (4.19%) and lowest (23.91%) among those children whose parents were using soap (11.35%) for washing the hands after cleaning the child excreta. (Table III)

Casewall<sup>3</sup> also observed that the hand washing with

water alone removed less than 98% of inoculated *Klebsella* while washing hands with soap and water removed more than 98% of *Klebsella*. Similar findings were observed by Lowbury<sup>4</sup>, and Sprunt<sup>5</sup>.

The majority (72.55%) of children's mothers were washing their hands with water before feeding their children. The diarrhoeal prevalence was found highest (87.5%) among those children whose mothers were not washing their hands and lowest (15.94%) among those children whose mothers were cleaning their hands with soap (Table IV). These findings are similar to those of Saran *et al* who observed higher diarrhoeal prevalence (69.23%)<sup>6</sup> among children whose mother did not wash their hands before feeding their children.

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