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## To study the causes and hygiene practices of diarrhoea

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### Abstract

In general Diarrhoea is caused by a gastrointestinal problem, but may be a symptoms of some underlying ailment such as irritable bowel syndrome, diverticular disease, bowel cancer, celiac disease etc. Diarrhoea caused by enteric infection is a major factor in morbidity and mortality worldwide. An estimated 2 - 4 billion episodes of infectious diarrhea occur each year and are occur in especially prevalent in infants. This study reviewed literature on diarrhoeal disease causes, control in infants and children in india from literature published in PubMed, Google search engine and other databases on the internet. Data were described in terms of determinants, management and intervention strategies, preventive strategies, Role of home scientist to control diarrhoea, knowledge of home remedies to mother etc.

**Keywords:** Diarrhoea, mortality, morbidity, home-remedies, infection

### 1. Introduction

Diarrhoea is characterized by frequent, watery bowel movements, often accompanied by stomach cramps, abdominal pain and gas. Diarrhoea may be of various colors and contain mucous, blood or pus. In general Diarrhoea is caused by a gastrointestinal problem, but may be a symptoms of some underlying ailment such as irritable bowel syndrome, diverticular disease, bowel cancer, celiac disease, pancreatitis, hyperthyroidism, crohns disease, dysentery, AIDS or ulcerative colitis, among others. It is therefore, important to discover the cause of the Diarrhoea. Diarrhoea is considered to be one of nature's defense systems used to help rid the body of toxins and poisons as quickly as possible. It is important to know what diarrhea does to the body besides the obvious effects. The salivary glands in the mouth, the mucous membrane in your stomach, and the liver and pancreas produce saliva which is used in the digestive process to break down food.

When diarrhea strikes the saliva is lost and the digestive process is interrupted. In addition, diarrhea depletes the body of important minerals (potassium, magnesium, chloride, sodium and calcium) called electrolytes, needed for good health. Without these minerals one may feel weak, tired, depressed, have an abnormal heart rhythm, and become dehydrated.

### Objectives

- To identify the causes of diarrhea.
- To identify hygiene and sanitation in food habits in daily life.

### Research Methodology

This chapter deals with the research procedures applied in conducting the present study. For convenience, the research methodology has been discussed under the following three sub-heads

- Research design
- Data gathering procedure and statistical techniques used

### Research design

It comprises of the following sub-parts

1. Locale of the study
2. District under study
3. Selection of the slums
4. Sample of respondents
5. Pilot study

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6. Pre-testing of instruments
7. Tools and data collection
8. Statistical analysis of data

### I. Locale of the study

Uttar Pradesh was chosen as locale of the study. This was done with the intension that U.P. is a major state of the country and diarrhoea is a major problem of the state as well as the country.

### II. District under study

District Kanpur was purposively selected for this study because Kanpur city is a big city and Population of this city is very high and there are more pollution and cases of diarrhoea occur more in this city.

### III. Selection of the slums

Kanpur city is divided in six zones and every zone have slums. Present investigation was carried out in 6 urban slums of Kanpur city.

### Selection of childrens

After having prepared a list of children from each slum out of 300, 50 children were randomly selected from each 6 zones in Kanpur city.

### Pilot study

Prior to finally deciding the title of the project a pilot survey of the area was conducted. This gave an idea about the place of the study and nature of the samples.

### Pre-testing of instruments

Before collecting the data from the finally selected sample of 300 children were identified other than those included in the final sample of respondents. These children's mother were interviewed with the help of schedules and questionnaires developed for collecting the data.

### Tools and data collection

The necessary evidence were collected in line with the objective of the study. All the 300 children respondents were inclusively approaches by the researcher. By personal contact, all the respondents mother were interviewed with the help of schedule for the study.

### Statistical analysis

Statistical analysis are procedures used in finding out the numerical value of the whole study. The statistical techniques used in the study are as follows:

1. Percentage
2. Arithmetic mean
3. Chi-square test
4. Correlation coefficient
5. Standard deviation

#### 1. Percentage

Single comparisons were made on the basic of the percentage, for drawing percentage, the frequency of a particular cell was multiplied by 100 and divided by total number of respondents in that particular category to which they belonged.

$$\text{Percentage} = \frac{\text{The sum of all the responses}}{\text{Total number of all the responses}}$$

### 2. Arithmetic mean

Arithmetic mean is the average used in the present study symbolically,

#### (i) For ungrouped data

$$\bar{X} = \frac{\sum X_i}{N}$$

#### (ii) For grouped data

$$\bar{X} = \frac{\sum f_i X_i}{\sum f_i},$$

where,

$X$  = Arithmetic mean

$X_i$  =  $i^{\text{th}}$  variable

$f_i$  =  $i^{\text{th}}$  frequency

$\sum f_i$  = Total frequency

### 3. Chi-square test

In order to test the independence of two attributes a Chi-square test was applied as

$$\chi^2 = \sum_{i=1}^n \frac{(o_i - E_i)^2}{E_i},$$

where

$o_i$  = Observed frequency of  $i^{\text{th}}$  cell

$E_i$  = Expected frequency of  $i^{\text{th}}$  cell

In  $r \times c$  contingency table,  $\chi^2$  value is compared at  $(r-1) \times (c-1)$  degree of freedom with theoretical value of  $\chi^2$  at 5 percent level of significance.

### 4. Correlation coefficient

Karl Pearson has given a coefficient of correlation for the measurement of linear relationship, which exist between two variables. If  $X$  and  $Y$  are two variables and if  $E(X, Y) \neq 0$  then correlation coefficient ( $r$ ) is

$$r = \frac{\text{Cov}(X, Y)}{\sqrt{\text{Var}(X)\text{Var}(Y)}}$$

or

$$= \frac{\sum xy}{\sqrt{\sum x^2 \cdot \sum y^2}},$$

where

$$\sum xy = \left[ \sum XY - \frac{\sum X \times \sum Y}{n} \right]$$

$$\sum x^2 = \left[ \sum X^2 - \frac{(\sum X)^2}{n} \right]$$

$$\sum y^2 = \left[ \sum Y^2 - \frac{(\sum Y)^2}{n} \right]$$

and  $n$  = Sample size

**5. Standard deviation (S. D)**

It is defined as the square root of the means of the squares of the deviations taken from arithmetic mean

**(i) For ungrouped data**

$$S.D. = \sqrt{1/n \sum (\sum X_i - \bar{X})^2}$$

**(ii) For grouped data**

$$S.D. = \sqrt{1/n \sum f_i (X_i - \bar{X})^2}$$

**Finding and Discussion**

The empirical results and its discussion have been presented

in this chapter. For the purpose of convenience, the finding of the study have been sub-divided under the following heads:-

To identify the causes of diarrhea.

To identify hygiene and sanitation in food habits and daily life.

**Table 1:** Distribution of families on the basis of food hygiene practices

Practices	N	Percent
Plate cover	192	64.5
Paper cover	18	6.0
Net cover	22	7.3
None cover	68	22.7
Total	300	100.0

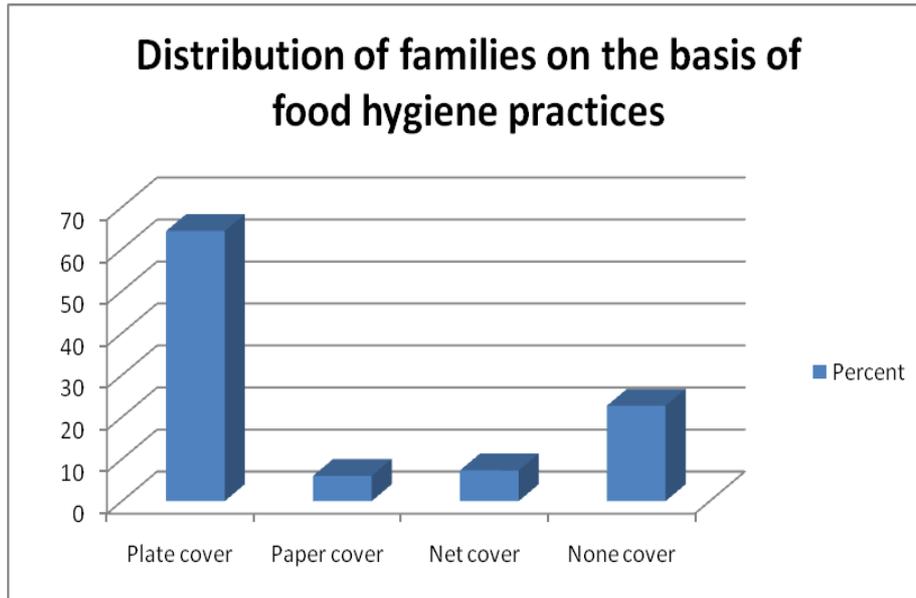


Table 1 shows that distribution of families on the basis of food hygiene practices, majority of the respondents have cover food from plate to prevent flies and insects whereas 22.7 percent respondents are not aware about cover to meals in proper way to prevent diarrhoea or other disease. 7.3

percent respondents have used net cover to safe the meals or breakfast. Only 6.0 percent have used paper cover to safe the food. Thus avoid the market food for children where those are kept open.

**Table 2:** Distribution of respondents on the basis of sanitation and hygiene practices

S. No	Sanitation and hygiene practices	Yes	No	Score
1	Washing utensils before storage of drinking water	290 (96.7)	10 (3.3)	1.97
2	Sterilized baby bottles before feeding	22 (7.3)	278 (92.7)	1.07
3	Presence of sunlight in home	100 (33.3)	200 (66.7)	1.33
4	Ventilation in home	90 (30.0)	210 (70.0)	1.30
5	Cleaning hands after toilet	300 (100.0)	-	2.00
6	Existence of toilet in home	200 (66.7)	100 (33.3)	1.67
7	Daily change of babies clothes	300 (100.0)	-	2.00

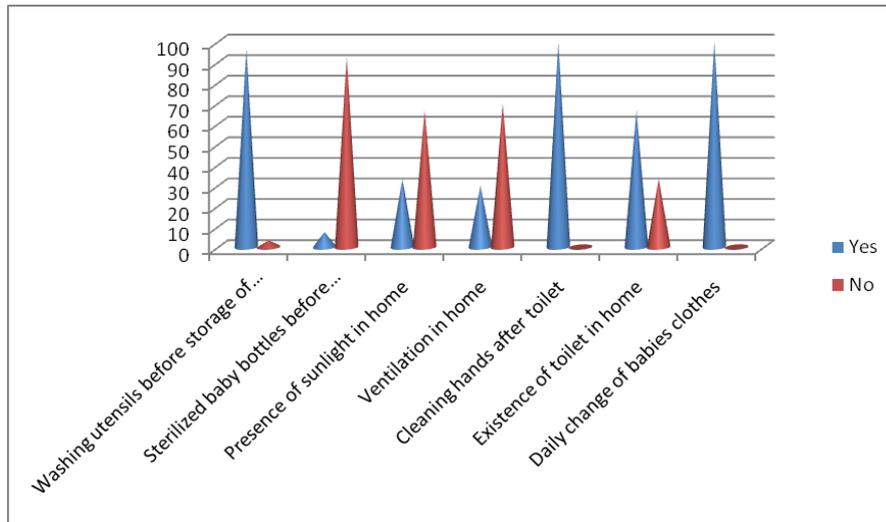


Table 2. Reveals that distribution of respondents on the basis of sanitation and hygienic practices, majority of the respondents were given maximum scores to cleaning hands after toilet and daily change of babys cloths respectively. Second highest rank (1.97) to washing of utensils before storage of drinking water. To prevent diarrhea there should be proper ventilation at home and presence of sunlight in home. As evident in table 5.32 that sanitation and hygiene practices

are not satisfactory. While hygiene concerns activities to stop germs from getting into the body. These activities involve village, household and each person. The health worker should discuss these point with all members of village. He should learn from them the local belives about diarrhea and encourage those that are harmful and explain why some local practices are harmful.

**Table 3:** Distribution of children according to causes of diarrhea

Causes	Frequency	Percent
Bacterial infection	158	52.7
Food poisoning	50	16.7
Malnutrition	34	11.3
Viral infection	15	5.0
Parasites	9	3.0
Bottle feeding	22	7.3
Reaction to medicine	12	4.0
Total	300	100.0

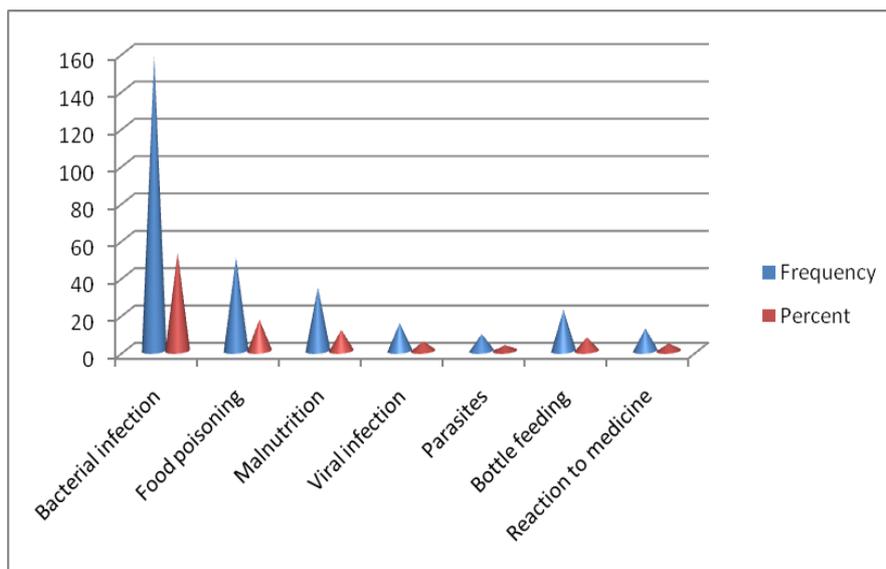


Table 3 shows that distribution of children according to diarrhoeal causes, 52.7 percent children were suffered Bacterial infection causes diarrhea, bacteria in food or protozoa in water are after the cause other causes 8.0 percent children were having viruses and parasites in food causes diarrhoea. Diarrhoea caused by intestinal parasites also. 16.7

percent children were suffering diarrhoea by food poisoning whereas 11.3 percent children by malnutrition. Diarrhoea is common problem that usually lasts a day or two and goes away on its without any special treatment. However, prolonged diarrhoea can be a sign of other problems. People with diarrhoea may pass more than a quart of stool a day.

Diarrhoea can cause dehydration. Dehydration is particularly dangerous in children and the elderly, and it must be treated promptly to avoid serious health problem. The main cause of diarrhoea are poor hygiene, lack of clean drinking water, overcrowding, and the trend towards bottle-feeding rather than breastfeeding. Infants who are fed only breast milk seldom get diarrhea.

### **Summery and Conclusion**

The study shows that majority of the respondents cover food from plate to prevent flies and insects whereas 22.7 percent respondents not aware about cover to meals in proper way to prevent the diarrhea or other disease, 7.3 percent respondents use net cover to safe the meals or breakfast, only 6.0 percent respondents used paper cover to safe the food.

Majority of the respondents were given maximum scores to cleaning hands after toilet and daily change of baby's cloths respectively. Second highest rank to washing of utensils before storage of drinking water. To prevent the diarrhea there should be proper ventilation at home and proper sunlight in home. Sterilized baby bottles before feeding to keep babies safe from diarrhea, extra and proper cleaning of feeding bottles. Improper sterilization of bottles and nipples can lead to various gastro-intestinal disorder in children.

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