

# PREVALENCE OF DIARRHOEA AND USE OF ORAL REHYDRATION SALT IN CHILDREN OF RURAL AND URBAN AREAS OF PESHAWAR

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## ABSTRACT

**Objective:** To find out the prevalence of diarrhoea and use of oral rehydration salt (ORS) for the management of diarrhoea in rural and urban areas of Peshawar.

**Methodology:** Two areas from Peshawar districts, one rural (Palosi) and one urban (academy- town) were selected. Hundred parents from each area were interviewed based on a specially designed questionnaire. The data regarding prevalence of diarrhoea and type and mode of delivery of ORS was collected in addition to educational and socioeconomic background.

**Results:** Prevalence of diarrhoea was found to be more in rural area (27%) as compared to urban area (16%). Use of ORS was more in urban area (99%) as compared to rural area (40%). Similarly awareness regarding use of ORS was found to be more in urban area (93%) than rural are (32%).

**Conclusion:** Diarrhoea was more common in the rural area while the use of ORS and the awareness regarding use of ORS was more in the urban area.

**KEY WORDS:** Diarrhoea, Oral Rehydration Salt (ORS), Children.

## INTRODUCTION

Diarrhoea is a fatal disease. Childhood diarrhoea is the major cause of morbidity and mortality in developing countries and it causes 3.3 millions deaths worldwide<sup>1</sup>. Rota virus has been reported to be the most common cause of severe childhood diarrhoea both in developed and developing countries<sup>2</sup>. It is estimated that by the age of 3 years almost every child in the world has been infected by the Rota virus<sup>3</sup>. Despite the recognized efficacy of oral rehydration therapy, diarrhoea is still the major cause of death in children under five years of age in Pakistan<sup>4</sup>. Most of these deaths, both in infants and under five years of age occur in rural areas where majority of the population (70 %) lives<sup>5</sup>. Oral rehydration therapy (ORT) is a well established form of therapy for the treatment of dehydration attributable to diarrhoea. The principles of ORT are early and adequate rehydration therapy using an appropriate ORS.

The effective use of ORT has saved millions of lives in developing countries like Pakistan.

Different studies have been undertaken in different parts of the world concerning use of oral rehydration salt (ORS). They have reflected results that can not be generalized to all area of the world. The basic reason for the lack of generalization is the difference in social, cultural, economic and geographical factors.

This study is an attempt to compare the prevalence of diarrhoea among children of both rural and urban areas. In addition, it aims at determining the knowledge and attitude of parents towards the use of ORS as well as its conventional practices in rural and urban areas.

## METHODOLOGY

To carry out this study, data was collected from parents. However, before reflecting upon the procedure adopted it is important to explain that for the sake of comparison purpose two areas with vast differences in socio economical and educational factors were selected from the district Peshawar. One area (Academy Town) was of urban setup with improved socio economical and educational background. The other area (Palosi) was of rural / semi rural setup with comparatively

low educational and economical levels. A well designed questionnaire was used to collect data from parents. The logic behind its employment was to ensure objectivity which could not be made in case of using interview or participant observation. The researcher randomly selected hundred parents (Mostly Mothers) from Palosi and hundred from Academy town, Peshawar. In Palosi five mohallas (Mohalla refer to a town quarter) were selected and among them 20 parents (Mothers) from each of the mohalla were taken. Likewise, in academy town Peshawar, five streets were selected and among them, 20 parents were randomly taken from each street making total of hundred. Selected mothers were interviewed according to the questionnaire. The questions were asked about frequency of diarrhoea of the child for the last six months, educational status of mother, monthly income, availability of toilets, and use of soap as hand wash after using the toilet and awareness and use of ORS for the management of diarrhoea. The reason of selecting mothers was due to their close attachment with children and also their involvement in the use of ORS and other medications.

As researcher was male and faced problems in accessing females, the services of a female research assistant were hired. She was trained with respect to the use of questionnaire and

was also guided in questions requiring explanations. Her presence also provided the triangulations of investigators that helped in cross checking the data and in ensuring validity<sup>8</sup>.

Final data was collected, tabulated, analyzed and interpreted for results. The results were shown in the form of percentages.

## RESULTS

The study found the following results given below. They are presented in tabular form for the purpose of easy understanding and analysis.

Prevalence of diarrhoea was more in rural area (Palosi) as compared to urban (academy town) (table-1). Percentage of educated people was 91 and 33 in urban and rural areas respectively (table 2). The number of people having more than 10,000 rupees monthly income were four times more in urban areas than people of rural area (table-3). Number of mothers' awareness regarding proper preparation and use of ORS in urban area was more than 90 percent while that of rural area was above 30 percent (table 4 and 6). Availability of toilets and use of soap as hand wash was found to be 100 percent in urban area while slightly more than 50 percent in rural areas (table 5).

**Table 1: Prevalence of Diarrhoea**

| Area           | No. of house visited | No. of cases detected | Prevalence |
|----------------|----------------------|-----------------------|------------|
| Academy Town   | 100                  | 16                    | 16%        |
| Palosi Village | 100                  | 27                    | 27%        |

**Table 2: Educational Status of the Respondents**

| Area           | Educated          |               |              | Uneducated | Total |
|----------------|-------------------|---------------|--------------|------------|-------|
|                | Primary to Matric | Undergraduate | Postgraduate |            |       |
| Academy Town   | 48                | 29            | 14           | 9          | 100   |
| Palosi Village | 27                | 4             | 2            | 67         | 100   |

**Table 3: Monthly Income of the Respondents**

| Monthly Income | Less than 5000 | 5000 to 10000 | More than 10000 | Total |
|----------------|----------------|---------------|-----------------|-------|
| Academy Town   | 14             | 34            | 52              | 100   |
| Palosi         | 20             | 67            | 13              | 100   |
| Total          | 34             | 101           | 65              | 200   |

**Table 4: Comparative use of ORS**

| Use of ORS   | Families using ORS | Families not using ORS | Total |
|--------------|--------------------|------------------------|-------|
| Academy Town | 99                 | 01                     | 100   |
| Palosi       | 40                 | 60                     | 100   |
| Total        | 139                | 61                     | 200   |

**Table 5: Availability of Toilets and use of Soap/ Anti-Septic Measures**

| Sanitation Status         | Academy town | Palosi |
|---------------------------|--------------|--------|
| Toilets Availability      | 100          | 53     |
| Use of Soaps/ Anti-septic | 100          | 59     |

**Table 6: Mother's Awareness Regarding Proper ORS Preparation and use**

| Area         | Mother's Awareness |         | Total |
|--------------|--------------------|---------|-------|
|              | Aware              | Unaware |       |
| Academy town | 93                 | 07      | 100   |
| Palosi       | 32                 | 68      | 100   |

## DISCUSSION

The above mentioned results reflect quite a different picture with regard to the prevalence of diarrhoea and the use of ORS in the sampled areas. The prevalence of diarrhoea was identified to be greater (27%) in rural area than that of urban area (16%). This disparity was found to be associated with different factors such as educational status, their economical status, personal hygiene, sanitation and dietary habits in sampled areas.

The literacy level was observed to be closely associated with the respective phenomena. The literate people understand the merits of personal hygiene and their family members. Furthermore, they used ORS for the management of dehydration caused by diarrhoea because of their awareness with regard to its utility. The same finding is also supported in different research studies that support the assumption of the close association between literacy level and health diseases such as diarrhoea<sup>9</sup>. In a comparative study conducted in urban and rural areas of Pakistan found that the prevalence of health diseases like diarrhoea exist mainly due to the lack of education. It further explains that illiterate people are primarily unaware of the reasons of such diseases and also the precautions to be taken care of<sup>9</sup>.

This study also provides a positive correlation between the economic status of the respondents and diarrhoea. The data reflects quite a different picture of the economic structure in the rural and urban areas. Among the sample of the urban area, majority {52 %} had their income more than Rs 10,000 a month while in rural area it was only 13 percent. This correlation describes the importance of improved economic status in minimizing the disease requiring the availability of precautionary health tips and the affordability of management expenditure. This kind of association has got enough of supportive literature<sup>10</sup>. In Pakistan, the results pointed out that poor

economic condition always debar people from understanding the health principles, affording the health management expenses and using ORS.

Besides the above mentioned correlation, the data also clearly delineates the relationship between the personal hygiene and diarrhoea. In rural areas the mothers were neither aware of the health principles, ORS preparation and its proper use, nor had the knowledge of proper care of their children. This also highlights the issue that the lesser number of diarrhoea cases and the increase use of ORS in urban areas were mainly due to mother's awareness and improved socioeconomic status that help them in the proper care of children. The same findings are also supported by previous studies<sup>11</sup>. The data clearly demonstrate that mother's unawareness regarding to child health and proper rehydration methods were mainly responsible for its high mortality rates in rural areas. Even the same has been reflected in another study conducted in Pakistan<sup>12</sup>. This was a descriptive study with small sample size so it is recommended to conduct further research with comparative study design to establish the cause and effect association. In general, the patients of diarrhoea can be reduced by ensuring good personal hygiene, awareness and socioeconomic status.

## CONCLUSION

Within the limitation of this study, diarrhoea was found to be more common in the rural area while the use of ORS and the awareness regarding use of ORS was more in the urban area.

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