

## Original Research Article

**Knowledge, Attitude, and Practice of Mothers of Under-Five Children Regarding Diarrheal Illness: A Cross Sectional Study; Hyderabad**Narahai Bapanpally<sup>1</sup>, Gummadi Vandana Usha Shree<sup>2</sup>, Malava Ranjeet<sup>3</sup>, Syam SundarJunapudi<sup>4\*</sup><sup>1</sup>Associate Professor, Department of Pediatrics, Niloufer Hospital, Osmania medical college, Hyderabad, India<sup>2</sup>Associate Professor, Department of Pediatrics, Government Medical College, Suryapet, Telangana, India<sup>3</sup>Assistant Professor, Department of Pediatrics, Niloufer Hospital, Osmania medical college, Hyderabad<sup>4</sup>Associate Professor, Department of Community Medicine, Government Medical College, Suryapet Telangana, India

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**Abstract**

**Introduction:** Globally, there are nearly 1.7 billion cases of diarrheal disease and 760,000 deaths in children under 5 every year. In India, diarrhea accounts for nearly 212,000 under five deaths annually. On an average, children below 3 years of age in India, experience about 3–5 episodes of diarrhea every year. **Materials and methods:** The Present study was a hospital-based cross-sectional study conducted at Niloufer Hospital attached to Osmania Medical College, Hyderabad, Telangana. Study period was 6 months (July 2019–December 2019). Mothers of children below the age of 5 years who were admitted inpatient department of Paediatrics at Niloufer Hospital were included. **Results:** In this study, out of 100 mothers, 43% of mothers were in the age group of 21–25 years and 32% of them were in the age group of 26–30 years. All of them were literates. Majority of mothers (37%) belonged to Class III socioeconomic status and 30% belonged to Class IV socioeconomic status. Mothers who belonged to more than 25 years of age group were 52%, 54% of mothers who had college education, and 58% of mothers who belonged to higher socioeconomic status had good knowledge. Mothers who had serious attitude toward diarrheal illness were 82%. Mothers who had serious attitude toward Management measures diarrheal illness were 52%. **Conclusion:** Mothers education in particular health education should be used as an effective tool to promote knowledge and good practice regarding diarrheal illness in children under 5 years of age.

**Keywords:** knowledge, Attitude, Practice, Diarrhea, Mothers, Under-five children

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**Introduction**

Globally, there are nearly 1.7 billion cases of diarrheal disease and 760,000 deaths in children under 5 every year. In India, diarrhea accounts for nearly 212,000 under five deaths annually. On an average, children below 3 years of age in India, experience about 3–5 episodes of diarrhea every year.[1]The majority of such cases occur in the developing world, with over half of the recorded cases of childhood diarrhea occurring in Africa and Asia, with 696 million and 1.2 billion cases, respectively, compared to only 480 million in the rest of the world.[2]Infectious diarrhea resulted in about 0.7 million deaths in children under five years old in 2011 and 250 million lost school days.[3]In the Americas, diarrheal disease accounts for a total of 10% of deaths among children aged 1–59 months while in South East Asia, it accounts for 31.3% of deaths.[4]It is estimated that around 21% of child mortalities in developing countries are due to diarrheal disease.[5]Most of the mortalities and morbidities due to diarrhea can be prevented by practicing primary preventive measures such as the use of clean water, handwashing, exclusive breastfeeding, immunization, sanitary disposal of excreta, use of latrines, and good

sanitary and hygienic practices.[6]Timely and appropriate management at household and in health services remains an important intervention for reducing mortality and morbidity due to childhood diarrhea.[7]However, poor socioeconomic status, lack of knowledge among caregivers, and failure to provide therapy when needed are hindering factors in preventing diarrheal deaths.

Hyderabad is fast developing city with high literacy rate, better health indices, and health-care facilities. In this context, the present study was taken up to determine the knowledge, attitude, and practice of mothers of under-five children regarding the diarrheal illness.

**Materials and methods**

The Present study was a hospital-based cross-sectional study conducted at Niloufer Hospital attached to Osmania Medical College, Hyderabad, Telangana. Study period was 6 months (July 2019–December 2019). Mothers of children below the age of 5 years who were admitted inpatient department of Paediatrics at Niloufer Hospital were included. A total 100 mothers were included in this study who is admitted in the department of pediatrics in the 6 months interval from July 2019 to December 2019 after informed consent. Institutional Ethics committee approval was taken. Informed consent was taken from study participants, Confidentially of the participants was protected throughout the study. A pre tested questionnaire was administered to gather information about the sociodemographic details, knowledge of the mothers regarding the cause, identification, assessment of diarrhoeal severity and the attitude and practices followed for its prevention and management. The questionnaire was completed by an interview. The data collected was tabulated and analyzed using frequency, percentage, and Chi-square test.

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## Results

**Table 1: Baseline demographic characteristics of mothers of under-five children**

| Category   | Frequency (%) |
|--|---------------|
| Age (years)  |               |
| Up to 20   | 8             |
| 21-25  | 43            |
| 26-30  | 32            |
| >31  | 17            |
| Education of mothers   |               |
| Primary (1-7)  | 11            |
| High-school (8-10)   | 45            |
| PUC (11-12)  | 39            |
| Graduate   | 5             |
| Socioeconomic status<br>(modified Kuppaswamy classification) |               |
| Class I  | 6             |
| Class II   | 21            |
| Class III  | 37            |
| Class IV   | 30            |
| Class V  | 6             |

In this study, out of 100 mothers, 43% of mothers were in the age group of 21–25 years and 32% of them were in the age group of 26–30 years. All of them were literate with 45% of mothers completed high-school education

and 39% of mothers completed PUC education. Majority of mothers (37%) belonged to Class III socioeconomic status and 30% belonged to Class IV socioeconomic status.

**Table 2: Answering pattern for the ten questions by the participants regarding knowledge about diarrheal illness**

| Responses                          | Correctly answered (%) |
|------------------------------------|------------------------|
| 1.What is diarrhea                 | 82                     |
| 2.Causes of diarrhea               | 68                     |
| 3.Consequences of diarrhea         | 58                     |
| 4.Signs of dehydration             | 42                     |
| 5.Treatment modalities             | 41                     |
| 6.Oral rehydration solution (ORS ) | 78                     |
| 7.Danger signs                     | 43                     |
| 8.When to seek medical advice      | 72                     |
| 9.Preventive measures              | 66                     |
| 10.Rotavirus vaccination           | 32                     |

There were ten questions in the questionnaire to assess knowledge. Each correct response was given a point of 1 and wrong response was given 0 point.

A score of  $\leq 5$  and  $> 5$  was considered as having poor and good knowledge, respectively. The answering pattern showed above

table that no single question was consistently found difficult. Difficulty was analyzed on the basis of their ability to understand and answer a particular question without any problem. Question No 1, 2, 3, 6, 8, and 9 were rightly answered by more than 50% of participants.

**Table 3: Distribution of participants according to the knowledge scores**

| Category             | Poor knowledge | Good knowledge |
|----------------------|----------------|----------------|
| Age group (years)    |                |                |
| <25                  | 15             | 32             |
| >25                  | 1              | 52             |
| Education status     |                |                |
| School education     | 18             | 28             |
| College education    | 0              | 54             |
| Socioeconomic status |                |                |
| Lower                | 12             | 24             |
| Higher               | 6              | 58             |

Mothers who belonged to more than 25 years of age group were 52%, 54% of mothers who had college education, and 58% of mothers who belonged to higher socioeconomic status had good knowledge.

**Table 4: Patterns of attitude about diarrheal illness among the participants**

| Attitude                           | Fully agree (%) | Partially agree (%) | Disagree (%) |
|------------------------------------|-----------------|---------------------|--------------|
| Diarrhea as serious health problem | 82              | 13                  | 5            |
| Management measures                | 52              | 42                  | 6            |
| Preventive measures                | 32              | 64                  | 4            |

Mothers who had serious attitude toward diarrheal illness were 82%. Mothers who had serious attitude toward Management measures diarrheal illness were 52%, Mothers who had serious attitude toward Preventive measures were 32%.

**Table 5: Type of practices regarding diarrhea in mothers**

| Practices                                 | Percentage |
|---|------------|
| Fluids and feeds during diarrheal illness |            |
| a. Home-made fluids                       | 82         |
| b. ORS                                    | 78         |
| c. Continue breastfeeding                 | 64         |
| d. No oral fluids                         | 11         |
| e. Others like medications                | 52         |
| f. Given bottle feeds                     | 36         |
| Preventive measures                       |            |
| a. Safe drinking water                    | 84         |
| b. Hygienic practices                     | 61         |
| c. Vaccination                            | 35         |
| d. Nil                                    | 2          |
| Why no rotavirus vaccination (n=65)       |            |
| a. No government supply                   | 75         |
| b. Costly                                 | 25         |
| c. No need                                | 5          |
| d. Don't know                             | 24         |

Majority of mothers practiced exclusive breastfeeding for the first 6 months. More than half (64%) of mothers continued breast feeding during diarrheal episodes. However, 36% of mothers had bottle-fed their babies without realizing that bottle-feeding practice is one of the main causes of diarrhea [Table 5]. [7] Mothers who vaccinated their children with rotavirus vaccine (35%), most of them belonged to higher socio economic status with completed college education.

### Discussion

In this study, out of 100 mothers, 43% of mothers were in the age group of 21–25 years and 32% of them were in the age group of 26–30 years.

All of them were literate with 45% of mothers completed high-school education and 39% of mothers completed PUC education.

Majority of mothers (37%) belonged to Class III socioeconomic status and 30% belonged to Class IV socioeconomic status. In this study showed that majority of mothers (82%) had good knowledge about symptoms of diarrheal illness. In other studies by Rokkappanavar K, Nigudgi SR, Ghooli S *et al.* [8] conducted at Kalburgi, Karnataka, and Chaudhary P, Basu S, Dzeyie KA, Gulla S, Khade S, Patel A, *et al* [9] conducted at urban slum of Delhi similar results were observed with 80% and 93% of mothers had a fair understanding of diarrheal disease, respectively. Most of the mothers (68%) had good knowledge regarding the causes of diarrhea in our study. Similar results were observed in other studies by Khalili M, Mirshahi M, Zarghami A, Rajabania MC, Farahamand F *et al.* [10] and Cabatabat AM *et al* with 81% and 77% mothers, respectively, having fair knowledge about the causes of diarrhea. In studies by Rokkappanavar K, Nigudgi SR, Ghooli S *et al* [8] and Kapoor P, Rajput VJ *et al.* most of the mothers were ignorant about the causes of diarrhea. This difference may probably because their studies were conducted in urban slum areas with low literacy rate whereas our study was conducted in a city with high literacy rate. In our study, most of the mothers (42%) had limited knowledge regarding signs of dehydration and danger signs. These results were similar to other studies by Jain SK, Khan JA and Saunders N. Knowledge regarding

the type of diet to be followed at home during diarrheal episodes was good in our study and also knowledge about oral rehydration solution (ORS) was good. In a study done by Saurabh S, Shidam UG, Sinnakirouchenan M, Subair M, Hou LG, Roy G *et al.* the knowledge regarding diet and ORS was poor. The difference in results may probably because their study was done in area with low literacy rate whereas our study was done in a city with high literacy rate. Our study also found a healthy attitude and practice of exclusive breastfeeding for the first 6 months and continued breastfeeding during diarrheal illness by majority of mothers (64%). Similar observations were by Ranjan R, Paswan B *et al* in their study. Our study showed that majority of mothers regarded diarrhea as serious illness. Many of the mothers in our study were able to take care of the episodes of diarrhea by the following household remedies along with ORS. Medical advice was sought immediately, if no improvement was observed after initiating home oral rehydration therapy. In a study by Chaudhary P, Basu S, Dzeyie KA, Gulla S, Khade S, Patel A, *et al* in urban slum of Delhi, where medical advice was not sought immediately. The difference in results may be due to our study was conducted in Mangaluru, which has high literacy rate, better health indices, and health-care facilities. However, in our study, it was observed that majority (34%) of the mothers practiced bottle feeding with less knowledge regarding their cleaning techniques. Mothers have not vaccinated their children with rotavirus vaccine (65%) because of poor knowledge, higher cost, and no government supply of vaccine. However, those mothers (35%) with higher education and socioeconomic status had vaccinated their children with rotavirus vaccine [11-13].

### Conclusion

In this study, out of 100 mothers, 43% of mothers were in the age group of 21–25 years and 32% of them were in the age group of 26–30 years. All of them were literate with 45% of mothers completed high-school education and 39% of mothers completed PUC education. Majority of mothers (37%) belonged to Class III socioeconomic status and 30% belonged to Class IV socioeconomic status. Mothers who

belonged to more than 25 years of age group were 52%, 54% of mothers who had college education, and 58% of mothers who belonged to higher socioeconomic status had good knowledge. Mothers who had serious attitude toward diarrheal illness were 82%. Mothers who had serious attitude toward Management measures diarrheal illness were 52%, Mothers who had serious attitude toward Preventive measures were 32%. Mothers education in particular health education should be used as an effective tool to promote knowledge and good practice regarding diarrheal illness in children under 5 years of age.

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