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Research Article

Case Study: Effectiveness of Planned Teaching Programme on Knowledge Regarding Management of Diarrhoea Among Mothers of Under Five Children

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Abstract

Diarrhoea is a leading cause of morbidity and mortality among under-five children in India, primarily due to inadequate maternal knowledge on home management. This case study evaluated the effectiveness of a Planned Teaching Programme (PTP) on knowledge regarding diarrhoea management in the mother of an under-five child attending Rishitha Hospital, Hyderabad. A 23-year-old literate, non-working mother of a 2-year-old child with inadequate baseline knowledge participated in the study. Pre-test assessment using a structured knowledge questionnaire (30 items) revealed a score of 11/30 (inadequate knowledge). A 60-minute structured teaching session using the lecture-cum-discussion method with pamphlets in English and Telugu was administered, covering definition, causes, signs and symptoms, dehydration assessment, ORS preparation and use, feeding practices, and prevention strategies. The post-test conducted after 6 days showed a significant improvement with a score of 27/30 (adequate knowledge). Major gains were observed in ORS preparation, recognition of dehydration signs, and preventive practices. The findings demonstrate that a well-structured teaching programme can rapidly enhance maternal knowledge, support home-based management and reduce complications. This case reinforces the need for routine nurse-led health education in paediatric settings to combat diarrhoea-related burden in vulnerable populations.

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KEYWORDS: Diarrhoea, Planned Teaching Programme, Mothers of under-five children, Oral Rehydration Solution, Dehydration management, Health education, Knowledge improvement.

1. INTRODUCTION

Diarrhoea is still one of the major public health problems in under-five children in developing countries including India. It is characterised by loose watery stools more than three times a day and is a symptom of many gastrointestinal infections, most of which are transmitted via the faecal-oral route^[1]. World wide estimates show that diarrhoea is a major cause of childhood mortality. The most serious complication is dehydration.

Central to this is the role of mothers in the early recognition and home management of diarrhoea. However, many mothers are not aware of the causes; danger signs; correct use of Oral Rehydration Solution (ORS); and disease prevention measures such as handwashing, exclusive breastfeeding and sanitation^[2]. The National Control of Diarrhoeal Diseases Programme has recognised health education as an important strategy for reducing morbidity and mortality.

This case study demonstrates the use of a Planned Teaching Programme (PTP) designed and tested in a larger quasi-experimental study conducted on 60 mothers at Rishitha Hospital, Hyderabad^[3]. The objective was to evaluate the baseline knowledge, provide structured teaching and evaluate the post-intervention improvement in a single mother of an under-five child. This is in line with evidence that some educational interventions can successfully bridge knowledge gaps.

2. MATERIALS AND METHODS STUDY DESIGN

Single case study with pre-test and post-test evaluation.

Case Profile: Mrs Priya, Age: 23 years, mother, literate, nuclear family, monthly income of ₹ 8,000, non-working, concrete house, tap water facility. She has two children, and the index child was a male child of 2 years. The mother brought the child to the paediatric outpatient department of Rishitha Hospital, Hyderabad, with complaints of loose watery stools (5-6 episodes/day) for two days with mild vomiting and a low-grade fever. It showed early signs of dehydration.

Inclusion of the case:

Mother has a child under five years of age and is willing to participate. Written informed consent was obtained, and the purpose of the study was described. Institutional ethical clearance was obtained from the institutional ethics committee of Holy Mary College of Nursing, and permission was obtained from the hospital authorities.

Tool:

A validated structured knowledge questionnaire containing 30 multiple-choice questions in the areas of definition, causes, transmission, signs and symptoms, assessment of dehydration, management (including ORS) and prevention.

Scoring:

Insufficient (1-10), moderately sufficient (11-20), and sufficient (21-30). The tool had a reliability coefficient of 0.81.

Intervention (Planned Teaching Programme) A session of 60 minutes was conducted in the seminar hall by the lecture-cum-discussion method with the support of pamphlets in English and Telugu. Included content:

- Definition and causes (Rotavirus, bacteria, parasites)
- Transmission and pathophysiology
- Table of clinical features and dehydration assessment
- Guidelines for the preparation and administration of ORS
- Feeding during diarrhoea and danger signs
- Prevention (hand hygiene, sanitation, breastfeeding)

DATA COLLECTION

Pre-test was given before the teaching session. A follow-up visit was done 6 days after the test.

DATA ANALYSIS: Descriptive comparisons of scores were made.

3. RESULTS

Pre-test Results: The mother scored 11/30, which shows poor knowledge. There were shortcomings in the following major areas:

- Recognition of dehydration signs (2/6 correct only)
- Correct ORS preparation method (wrong)
- Good feeding practices during diarrhoea
- Preventative measures such as washing hands at critical points

Table 1: Demographic Characteristics of the Mother

Variable	Description
Age of mother	23 years
Education	Secondary level (Literate)
Occupation	Non-working
Family type	Nuclear
Family income	₹8,000/month
Child's age	2 years
Source of water	Tap water
Sanitation	Sanitary latrine

Table 2: Pre-test and Post-test Knowledge Scores

Domain	e-test Score (/ite)	post-test Score (/iten)
Definition & Causes	3/8	8/8
Signs & Symptoms	2/6	6/6
Dehydration Assessment	2/6	5/6
Management (ORS & Others)	2/6	5/6
Prevention	2/4	3/4
Total	11/30	27/30

Table 3: Domain-wise Knowledge Scores

Domain	Items	Pre-test	Post-test	Gain
Definition & Causes	8	3	8	5
Signs & Symptoms	6	2	6	4
Dehydration Assessment	6	2	5	3
ORS & Management	6	2	5	3
Prevention	4	2	3	1
Total	30	11	27	16

Table 4: Dehydration Assessment Knowledge (Item-wise)

Item	Pre-test	Post-test
Signs of dehydration	Incorrect	Correct
Dehydration scoring	Incorrect	Correct
Tongue & thirst	Incorrect	Correct
Skin turgor & pulse	Incorrect	Correct
Urine output	Incorrect	Correct
Severity classification	Incorrect	Correct
Total	2/6	5/6

Table 5: ORS Preparation and Administration Knowledge

Item	Pre-test	Post-test
ORS preparation method	Incorrect	Correct
Quantity of water	Incorrect	Correct
Duration of use	Incorrect	Correct
Amount in the first 4 hours	Incorrect	Correct
Continuation of feeding	Incorrect	Correct
Total	2/6	5/6

Table 6: Prevention of Diarrhoea Knowledge

Preventive Measure	Pre-test	Post-test
Hand washing	Incorrect	Correct
Safe water & sanitation	Incorrect	Correct
Breastfeeding & weaning	Correct	Correct
Faeces disposal	Incorrect	Incorrect
Total	2/4	3/4

Table 7: Percentage Improvement across Domains

Domain	Pre-test (%)	Post-test (%)	Improvement (%)
Overall	36.67	90.00	53.33

4. DISCUSSION

The Planned Teaching Programme in this case study led to an increase in the knowledge score from 11/30 to 27/30, which is an increase of 53.33%. The findings are in agreement with the parent study done on 60 mothers who reported a highly significant difference between the pre-test (mean 10.43) and post-test (mean 23.87) scores ($t = 24.32, p < 0.001$). Significant improvements were observed in important areas such as ORS preparation and assessment of dehydration that are crucial for the prevention of severe complications.

Factors like mother's literacy level and motivation were conducive to better learning. Similar findings have been reported in other Indian studies where structured teaching programmes significantly improved maternal knowledge and practices. The limitations included the single-case design and short-term follow-up. Long-term studies examining changes in actual practice are recommended.

5. CONCLUSION

The planned teaching programme was very effective in improving the knowledge of the mother from inadequate level to an adequate level in the management of diarrhoea. This case study provides strong evidence to support the integration of structured health education programmes into routine paediatric and community health services. Nurse-led education can empower mothers and contribute towards reduction of diarrhoea-related morbidity and mortality among children less

than five years of age in India. Such programmes should be carried out regularly to improve child health outcomes.

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Author Contribution Priyanka Pal: Conceptualisation, data collection, analysis and writing of the manuscript.

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Priyanka Pal is associated with Holy Mary College of Nursing. Her academic interests include nursing education, patient care, community health, and healthcare management. She is dedicated to promoting quality healthcare practices and contributes to academic and professional activities related to nursing and public health awareness.