

Effectiveness of self-instructional module on mothers' knowledge regarding zinc and ORS use in diarrhoea management among under-five children in rural Kanpur.

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ABSTRACT

Diarrhoeal diseases remain one of the major public health problems affecting children under five years of age worldwide. It is the second leading cause of death among under-five children, accounting for nearly one in every five child deaths, approximately 1.6 million deaths annually. Childhood diarrhoea continues to contribute significantly to morbidity and mortality. Poor hygiene practices, unsafe drinking water, are the major factors responsible for the occurrence and spread of diarrhoeal diseases. Therefore, improving access to safe water, sanitation, and hygiene practices is essential to reduce the burden of diarrhoea among under-five children. Oral Rehydration Solution (ORS) is considered a simple and effective method to prevent and treat dehydration caused by diarrhoea. ORS packets are widely available at primary health centres and chemist shops and form the cornerstone of the National Diarrhoea Disease Control Programme. ORS helps replace lost fluids and essential electrolytes, thereby reducing complications and preventing death. Along with ORS, zinc supplementation is recommended as it reduces the severity and duration of diarrhoeal episodes, supports immune function, and helps restore intestinal health in children. The combined use of zinc supplementation with ORS is proven to be highly effective in the management of diarrhoea among under-five children. However, the correct preparation and proper use of ORS along with zinc supplementation depends largely on the awareness and knowledge of mothers. Hence, health workers must emphasize the benefits of zinc supplementation, correct preparation of ORS, and its importance in managing diarrhoea. This study highlights the importance of educating mothers of under-five regarding the effective use of zinc supplementation with ORS to improve child health outcomes and reduce diarrhoeal-related morbidity and mortality among under-five children.

Objectives

1. To measure the existing level of knowledge among mothers regarding the use of zinc supplementation along with ORS for the management of diarrhoea in under-five children using a structured knowledge assessment tool.
2. To assess the impact of the self-instructional module by comparing the mothers' knowledge scores before and after the intervention.
3. To identify whether the pre-intervention knowledge scores of mothers are significantly related to selected demographic factors such as age, number of children, educational status, occupation, monthly income, and religion.

METHODS:-

Evaluative research approach was used. The tool was structured questionnaire was developed to collect the data at selected mandhana, Kanpur, Uttar Pradesh, among 60 mother took for the study that is purposive sampling technique.

RESULT; -

In the pre-test, the mothers had a mean knowledge score of 17.17 (42.92%), which indicated an inadequate level of knowledge regarding the use of zinc supplementation with ORS in managing diarrhoea. After providing the self-instructional module, the post-test mean score increased to 26.25 (67.25%), showing a significant

improvement in knowledge among mothers of under-five children.

Keywords

Effectiveness; information booklet; knowledge; zinc supplementation andORS

INTRODUCTION

Diarrhoea remains one of the leading causes of illness and death among children under five years of age, particularly in developing countries. Despite being preventable and treatable, diarrhoeal diseases continue to pose a serious public health challenge, especially in rural areas where access to health education and proper sanitation facilities may be limited. Recurrent episodes of diarrhoea can lead to dehydration, malnutrition, weakened immunity, and in severe cases, death. Therefore, appropriate and timely management at home plays a crucial role in reducing complications and improving child survival.

HYPOTHESIS:-

There will be a statistically significant relationship between the mothers' mean pre-test knowledge scores and selected demographic variables such as age, education, occupation, income, religion, and number of children.

RESEARCH DESINGS:-

In the present study the Quasi-experimental design used

POPULATION:

The mothers of under five children in a selected at mandhana, up

SAMPLE ;-

In this study, the sample included mothers of under-five children from the selected rural community of Mandhana, Uttar Pradesh, to assess their knowledge regarding the use of zinc supplementation along with ORS in managing diarrhoea.

SAMPLE SIZE; -

In this study is 60 mothers among under five children in a selected at mandhana, up

SAMPLING TECHNIQUE:-

purposive sampling technique .

DATA COLLECTION

PROCEDURE:-

The techniques followed during the interview are

- Samples were made to feel comfortable and relaxed
- A rapport was established
- Consent was taken
- Structured questionnaires were given regarding the use of zinc supplementation with ORS in managing diarrhoea.
- Responses were recorded as per the schedule

At the end the questions asked by the subjects were clarified

TOOLS USED FOR THE STUDY:

Section A: A structural interview scheduled for collecting demographic variables.

Section B: This section consisted of knowledge questionnaires.

ected demographic variables and knowledge level of mother of under-five children.

RESULTS:- .

Section I : mothers of under five children in a selected atmandhana, up

Section II : Knowledge level of mothers of under five children in a selected rural community .

Section III: This section deals with the comparison of the pre-test and post-test knowledge scores of mothers of under-five children in the selected rural community of Kanpur.

SECTION – I: DEMOGRAPHIC CHARACTERISTICS OF MOTHERS OF UNDER FIVE CHILDREN IN A SELECTED RURAL COMMUNITY AT KANPUR

Table 1: Frequency Distribution of mother of under-five children according to age

1. Age	Frequency	Percentage
a. 20-25years	16	26.7
b. 26-30 years	24	40.0
c. 31-35 years	12	20.0
d. 36 years and above	8	13.3
Total	60	100

Table 2: Frequency distribution mother of under-five children according to marital status

2. Marital status	Frequency	Percentage
a. Unmarried	0	00.0
b. Married	54	90.0
c. Divorce	4	6.67
d. Separated	2	3.33
Total	60	100

Table 3: Frequency distribution mother of under-five children by Religion

3. Religion	Frequency	Percentage
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a. Hindu	30	50.0
b. Christian	18	30.0
c. Muslim	12	20.0
Total	60	100

Table 4: Frequency distribution mother of educational status

4. Educational status	Frequency	Percentage
a. Primary education	5	8.3
b. Secondary education	21	35.0
c. Pre university education	31	51.7
d. Degree and above	3	5.0
Total	60	100

Table 5: Frequency distribution mother of under-five children according to occupation

5. Occupation	Frequency	Percentage
a. Primary sector	12	20.0
b. Government sector	5	8.3
c. House wife	40	66.7
d. Daily wages/coolie	3	5.0
Total	60	100

Table 6: Frequency distribution mother of under-five children by Type of family

6. Type of family	Frequency	Percentage
a. Joint family	10	16.7
b. Nuclear family	44	73.3
c. Extended family	6	10.0
Total	60	100

Table 7: Frequency distribution of mother of under-five children by total number of family members

7. Total number of family members	Frequency	Percentage
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a. 2-4	38	63.3
b. 4-6	15	25.0
c. More than 6	7	11.7
Total	60	100

Table 8: Frequency distribution of mother of under-five children according to monthly family income

8. Monthly family income	Frequency	Percentage
a. less than Rs. 10000	15	25.0
b. Rs. 10001-15000	17	28.3
c. Rs. 15001-20000	14	23.3
d. Rs. 20001 and above	14	23.3
Total	60	100

Table 9: Frequency distribution of mother of under-five children according to dietary pattern

9. Dietary pattern	Frequency	Percentage
a. Vegetarians	33	55.0
b. Non vegetarians	27	45.0
Total	60	100

Table 10: Frequency distribution of mother of under-five children by source of information

10. Source of information	Frequency	Percentage
a. Mass Media	29	48.3
b. Friends/relatives	7	11.7
c. Health professionals	15	25.0
d. Others	9	15.0
Total	60	100

Table 11: Frequency distribution of mother of under-five children by health problem related to diarrhoea

11. Health problem related to diarrhoea	Frequency	Percentage
a. Yes	15	25.0
b. No	45	75.0
Total	60	100

SECTION II:

knowledge level of mothers regarding the use of zinc supplementation with ORS in the management of diarrhoea among under-five children in a selected rural community

The overall level of knowledge of mothers during the pre-test and post-test assessment. In the pre-test, 43 mothers (71.7%) had inadequate knowledge, while 17 mothers (28.3%) had moderate knowledge. None of the

mothers showed adequate knowledge before the intervention. After administering the self-instructional module, the post-test results revealed a marked improvement. Only 5 mothers (8.3%) remained in the inadequate knowledge category, whereas 39 mothers (65.0%) demonstrated moderate knowledge. Additionally, 16 mothers (26.7%) achieved an adequate level of knowledge in the post-test.

Pre-test Knowledge score

Content aspect	Items	Mean	Median	SD
a. Zinc supplementation and Ors	14	6.18	6	1.927
b. Effect of diarrhoea	11	4.28	4	1.627
c. Management of Zinc supplementation and Ors	15	6.7	6	2.438
Overall	40	17.17	18	5.378

Post-test Knowledge score

Content aspects	Items	Mean	Median	SD
a. Zinc supplementation and Ors	14	9.70	9.0	2.003
b. Effect of diarrhoea	11	7.28	7.0	1.627
c. Management of Zinc supplementation and Ors	15	9.92	10.0	2.142
Overall	40	26.90	26.5	4.718

SECTION III

Section III: This section deals with the comparison of the pre-test and post-test knowledge scores of mothers of under-five children in the selected rural community of Kanpur.

SI No	Knowledge aspects	Pre test		Post Test		Mean difference	t value	Inference
		Mean	SD	Mean	SD			
1	Zinc supplementation and Ors	6.18	1.927	9.70	2.003	3.517	14.759	S
2	Effect of diarrhoea	4.28	1.627	7.28	1.627	3.000	17.849	S
3	Management of Zinc supplementation and Ors	6.7	2.438	9.92	2.142	3.217	13.460	S
Overall knowledge		17.17	5.378	26.90	4.718	9.733	22.311	S

Discussion:

The findings of the present study revealed that mothers of under-five children in the selected mandhana community areas showed improved and more adequate knowledge regarding the use of zinc supplementation along with ORS in the management of diarrhoea among under-five children in mandhana, UP

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