

PRACTICE OF THE USE OF ORAL REHYDRATION THERAPY IN DIARRHEAL DISEASE AMONG MOTHERS OF UNDER FIVE IN EKPO ABASI HEALTH CENTRE CROSS RIVER STATE

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ABSTRACT

Introduction: Oral rehydration therapy (ORT) is used all round the world, nevertheless diarrhoea remains a leading cause of childhood death in middle and low income countries. **Purpose:** The study sought to determine the practice of the use of oral rehydration therapy in diarrheal disease among mothers of under five in Ekpo Abasi, Calabar south local government area of Cross River State. **Objectives:** Two research objectives and one hypothesis was formulated to guide the study. **Literature** was reviewed. **Method:** A descriptive research design was used for the study and a simple random sampling was used to select 180 participants used. A structural questionnaire was used to collect data from participants. **Result:** The result of the data was analyzed using frequency table and the hypothesis was tested using Pearson product moment correlation. The results shows that out of 180 respondents that was used for the study, those that use ORT in diarrhea diseases treatment always were 57 (31.7%), those that used occasionally were 74 (41.1%) those that never used were 49 (27.2%). in another question asked I use herbs in diarrhoea diseases treatment 41 (22.8%) said always while 100 (55.6%) said occasionally and 39 (21.8%) said never. **Conclusion:** Based on the above result, it was concluded that majority of the women had good knowledge of ORT but show poor practice of ORT. **Recommendation:** It was recommended that nurses and others health personnel should encourage mothers to practice the use of ORT as first aid measures when their children have diarrhoeal

Keywords: Practice, Oral Rehydration Therapy (ORT), Diarrheal Disease, Mother of Under Five

INTRODUCTION

Diarrhoea remains a leading cause of childhood death in middle and low income countries. Oral rehydration therapy is a unique discovery of the 20th century. The effectiveness of this therapy in the treatment of diarrhea has been looked at in many ways by different people. It is a simple, cheap and effective form of treatment for diarrhoea and diarrhoeal related diseases. Diarrhea is define as the passage of three or more loose or watery stools in a day (24 hours) [1].

The main complication of diarrhoea is dehydration, which was treated with intravenous fluid infusion until the early 1960s [2]. When oral rehydration therapy (ORT) was introduced in 1979 and rapidly became the cornerstone of programme for the control of diarrhea disease. Oral rehydration therapy was potentially the most significant medical advancement of the 20th century; other important interventions likely to have had an impact on mortality caused by diarrhoea include the promotion of breastfeeding improved supplementary feedings education on the use of ORT and immunization against measles.

Oral rehydration therapy (ORT) is used all round the world, but is most popular in the developing world, where it is used to save millions of children from death due to diarrhoea, which is the second leading cause of death in children under five, it consists of solution of salts and sugar which is administered orally [3]. The discovery of oral

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rehydration therapy led to knowledge that sodium and glucose transport are facilities in the small intestine so that glucose accelerates absorption of solute and water.

Evidence from several clinical trials have established zinc deficiency as a public health problems. Zinc supplementation has been shown to be effective for preventing diarrhoeal and pneumonia in children [4]. When used as therapy for acute or persistent diarrhoeal, zinc reduce the duration of the episode as well as its severity and complications. The recommended formula for the preparation of salt-sugar solution (SSS) in Nigeria is one level teaspoon of table salt and 8 level teaspoon of sugar mixed in one coke bottle of boiled/cooled water. Salt sugar solution is given to a child at home with the first diarrhoeal stools so as to prevent the development of dehydration [5]. According to [6] oral rehydration therapy has decreased the number of under five children dying of diarrhea from 4.6 million worldwide to 1.8 million – a 60% reduction. This reduction came about as a result of worldwide campaign on oral rehydration in the management of diarrhoeal launched by world health organization in 1978.

In Nigeria, oral rehydration therapy was adopted in 1985 as a main strategy in the treatment of diarrhoeal diseases. The effectiveness was been through surveys that were carried out in most health facilities, in these survey case fatality rate dropped drastically to 60%. It is this continuous influx of the cases of diarrhoeal that motivated the researchers to undertake this study aiming at assessing the level of practice of the use of oral rehydration therapy in diarrhea diseases among mothers of under five in Ekpo Abasi Health Centre, Calabar South Local Government Area

Statement of the problem

WORLD Health Organization has estimated that about 4.2 million children die every year worldwide of dehydration caused by diarrhea (1). In Nigeria, about 120,000 to 180,000 children die annually from dehydration due to diarrhoeal (1).

It is estimated that about hundred children, most of who are below the age of five years, die every day from dehydration due to diarrhoeal. Owing to this high mortality and morbidity rate the national diarrhoeal disease control program made a significant contribution in averting deaths among children under five years of age by introducing oral rehydration therapy in the management of diarrhoeal disease as a cause of heavy economic burden on health facilities. It is against this background that the researcher seeks to find out the practice of the use of oral rehydration therapy in diarrhoeal disease among mothers of under five in Ekpo Abasi Health Center in Calabar south local government area of cross river state.

Importance

The study will be of great benefit to:

- Mothers will acquire more knowledge and skill in the preparation of ORT (in correct proportion) and also have significant knowledge in the use of ORT in diarrhoeal diseases.
- Health workers will identify the gaps in mothers on the preparation of ORT and also the gap in their health talk
- The finding will add to the current knowledge in the education of mothers and management of diarrhoeal diseases.

LITERATURE REVIEW

The level of knowledge of the use of oral rehydration therapy in diarrhoeal disease among mothers of under five in Ekpo Abasi Health centre in Calabar south local government area of cross river state.

Oral rehydration is the home made fluid which sodium chloride (common salt) and sugar are dissolved in clean water given orally to replace the lost fluid in diarrhoeal diseases. It is cheap, simple and effective in the treatment of dehydration associated with diarrhea and is used around the world [7] and because it saves millions of children from death due to diarrhoeal and also decrease the number of children under five between 1980 and 2007 dying of diarrhoeal diseases.

[2] Explained that educational attainment had an influence on the knowledge of the use of oral rehydration therapy by mothers in diarrhoeal diseases. [8] In a study conducted to assess the knowledge of mothers on the use of ORT. The population of the study was 390 of which she used a sample size of 204, ninety eight (98) (48.0%) showing a proportion of poor knowledge. Mothers do not give their children ORT when the child make watery stool five (5) times a day showing a level of poor knowledge on the subject.

[9] Opined that in a similar study carried out on knowledge of mothers about oral rehydration therapy, over 75% of the mothers had poor knowledge. He linked this to lack of awareness about oral rehydration therapy.

[9] also observed that the level of knowledge was quite low and supported the need to further strengthen health talks, seminars and health education to nursing mothers. He therefore attributed the poor practice of oral rehydration therapy to inadequate enlightenment about oral rehydration therapy.

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The practice oral rehydration therapy in diarrhoeal disease among mothers of under five in Ekpo Abasi Health centre in Calabar south local government area of cross river state.

According to the UCTH study carried out by [12] on the practice of oral rehydration therapy by mothers in University of Calabar teaching hospital UCTH using a sample size of 450 mothers out of the total population of 500, was for the study 204 (45%) were able to prepare oral rehydration therapy in correct proportion. The problem was the preparation of oral rehydration fluid which several of them describe a preparation method that would yielded a solution much too diluted or much concentrated to be effective.

[8] Explained that a huge proportion of nursing mothers do not practice oral rehydration therapy in diarrhoeal diseases. This was because they lacked understanding about the usefulness of oral rehydration therapy. He therefore suggested that enlightenment programs should be intensified in all hospitals and health centers so as to improve the practice of these mothers on rehydration therapy. Large proportion of nursing mothers shows negative practice in oral rehydration therapy, as being correlated with ignorance about the use of oral rehydration therapy [13].

In a study on the practice of oral rehydration therapy by [14] using a total population of 318 respondents, 210 (66%) used only oral rehydration therapy when a child has diarrhoeal disease, showing good practice. Some mothers also show a sense of effectiveness on oral rehydration therapy as a method to prevent dehydration in a child with diarrhoea, [15]. Proper health education in all level of health care bring about good practice of oral rehydration therapy which further reduces the increasing level of infant mortality rate. [16] Stated that despite all the efforts by government towards the use of oral rehydration therapy, some mothers still prefer these cultural methods of treating diarrhoeal diseases. This was supported by a study conducted by [17] on the factors that hinder the practice of oral rehydration therapy with a total population of 522. Using a sample size of 314 mothers, 118 (37%) respondents still prefers using cultural methods in diarrhoeal diseases he therefore suggested that more awareness should be created through campaigns, advertisement on television, jingles, radio etc.

[18] Explained that low socio- economic status can also hinder the practice of oral rehydration therapy in diarrhoeal diseases.

RESEARCH METHODS

This study uses descriptive design in order to determine the knowledge and practice of mothers of under five on the use of oral rehydration therapy in diarrhoeal disease in Ekpo Abasi Health centre in Calabar south local government area of cross river state. The setting consist of care center is a primary facilities namely Ekpo Abasi Health Center and General Hospital Calabar. Ekpo Abasi Health Care Center is a primary health centre offering primary health care services with a staff strength of 27 headed by a public health nurse. General Hospital, Calabar is a secondary based health care facility offering health care services headed by a medical superintendent with a staff strength of 240.

Simple balloting with replacement was done to collect the data from 180 respondents. A total of 9 questionnaire were administered in a day using simple balloting with replacement to select those to participate for 5 days a week for four weeks. Assistance was used to help in administering the questionnaire.

Using Taro Yamane's formular $n = \frac{N}{1 + N(e^2)}$ to obtained my sample size of 180 from a total population of 326.

$n =$ N

$1 + N(e^2)$

$n =$ Sample size

$N =$ Total population

$e^2 = 0.05$

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The instrument was self-administered questionnaire. The questionnaire has (3) sections:

- Socio-demographic data
- Mother's level of knowledge of the use of oral rehydration therapy in management of diarrhoeal diseases.
- Mother's practice of oral rehydration therapy

Validity of the instrument

In order to validate the instrument the researcher gave the developed tool to the project supervisor for modification of items, assessment and approval of the instrument.

Test-retest method was used, 20 questionnaires were given to 20 respondents twice at two weekly intervals to mothers in Family Health Clinic-Moore Road, and Lawrence Ene Hospital, Calabar. The two sets of questionnaires were then analyzed using Pearson moment correlation coefficient result presented was 0.75.

Face to face administration of questionnaire was used for data collection.

Ethical issues

A letter of permission was obtained from the Cross River State Ethical Committee Boards and submitted to the Chief Medical Director in charge of the clinic and confidentiality of data collected was maintained, respondents were finally informed about the benefit to be derived from the study.

Method of data analysis

Data was analyzed using simple percentage, frequency table and Pearson Product Moment Correlation.

Limitation of the study

- Non-compliance in filling questionnaire by some mothers.
- The researchers were also limited on the assessing the setting of the study
- The researchers were also limited by the inability of some mothers to understand the questions and as such difficulty in interpreting the question in their dialect.

RESULT

Majority 72 (40%) respondents were between the age range of 31-35 years, 58 (32.2%) respondents were between the age range 20-25 years, 40 (22.2%) were between the age range of 26-30, 10 (5.6%) were between the age range of 36 and above.

Majority 105 (58.3%) respondents were married, 58 (32.2%) were single, 10

(5.6%) were widow and 7 (3.9%) were divorce. Majority 162 (90%) were Christian, 16 (8.9%) were Muslim, 2 (1.1%) were traditional worshippers. Majority 68 (37.8%) attended educational level up to secondary level, 64 (35.6%) attended up to higher institution, 26 (14.4%) did not have any form of formal education while 22 (12.2%) attended up to primary school level. Majority 68 (37.8%) respondents were traders, 45 (35%) respondents were civil servant, 28 (21.1%) respondent were farmers while 29 (16.1%) respondents were housewife. From majority 78 (42.3%) respondents have three-four children, 59 (32.8%) respondents have five and above, while 43 (23.9%) have one –two children, 62 (34.4%) were between the income of 8,000-20,000, 58 (32.2%) respondents were between the income of 20,000-40,000 37 (20.6%) were between the income of 40,000-60,000 while 23 (12.8%) were between the income of 60,000 and above..

(See table in appendix)

Results for research question

Research question I: *What is the level of knowledge of mothers in the use of oral rehydration therapy in the prevention of dehydration?*

Result in table 2 shows that 139 (77.2%) of the respondents answered "yes" to the Question; have you ever heard of ORT in diarrhoeal disease, and 41 (22.8%) Answered "No". 107 (59.4%) of respondents answered "yes" to the question: Do you know how to prepare salt sugar solution while 73 (40.6%) answered "No". in a question ORT should be used only when a child has diarrhoea, 104 (57.8%) answered "yes" and 76 (42.2%) answered "No". 92 (51.1%) of respondents answered "Yes" for ORT is an effective method of preventing dehydration in a child with diarrhea

while 88 (48.9%) answered “No”. finally 63 (35%) of respondents answered “yes” for the question; A child with diarrhoea should be given ORT as much as the child can take and 117 (65%) answered “No”.

In summary, 559 (62.1%) shows good knowledge in the use of ORT in diarrhoeal disease while 341 (37.99%) shows poor knowledge ORT in diarrhoeal disease while 341 (37.99%) shows poor knowledge.

(See table in appendix)

Research question II: *How is ORT practiced among mothers of under five in Ekpo Abasi Health Facility, Calabar South, Cross River State?*

Result from table 4.3 shows that out of 180 respondents that was used for the study, those that use ORT in diarrhea diseases treatment always were 57 (31.7%), those that used occasionally were 74 (41.1%) those that never used were 49 (27.2%). in another question asked I use herbs in diarrhoea diseases treatment 41 (22.8%) said always while 100 (55.6%) said occasionally and 39 (21.8%) said never. 27 (15%) of the respondents says they always give their child ORT when the child have diarrhoea 42 (23.3%) says they occasionally and 111 (61.7%) says never. In another question out of 180 respondent 51 (28.3%) washes their hands before and after administration of ORT while 86 (47.8%) wash occasionally and 43 (23.9%) says never. Finally, 37 (20.6%) says ORT preparation is more time consuming whereas 71 (39.4%) says occasionally and 72 (40%) says never.

(See table in appendix)

Analysis –hypothesis testing

This research has only one hypothesis which states that there is no significant relationship between the knowledge of the use of ORT and the practice of ORT among mothers of under-five in selected facilities in Calabar south local government area, cross river state. The hypothesis was tested using Pearson Product Moment Correlation Coefficient (r). A summary of the result was presented on table 4 below.

The result in table 4 shows that the calculated r-value of 0.54 is greater than the critical r-value of .138 at .05 level of significant. With 178 degree of freedom the result of this analysis the null hypothesis that was there is no significant relationship between the level of knowledge of ORT among mothers of under –five in selected facilities was rejected. This implies that the level of knowledge in the use of ORT in diarrhoea disease among mothers of under –five in selected facilities has a significant relationship with practice of ORT among mothers of under –five in selected facilities in Calabar South Local Government Area, Cross River State.

(See table in appendix)

DISCUSSION

The purpose of this study was to assess the practice of ORT among mothers of under –five in Ekpo Abasi Health centre in Calabar south local government area, Calabar. The knowledge level in practice of ORT was generally good, this might be as a result of most mothers practicing ORT when a child has diarrhoea following their believe on the effectiveness of ORT as a secondary to good health education/demonstration that mothers obtained to clinics and health centres.

This showed major characteristics heard about the use of ORT in diarrhoea disease, some commence ORT as soon as the child had, passed 3 or more watery stools in a day this is due to good although some mothers practiced other cultural remedies like herbs.

This study was similar to [14] in Enugu-Nigeria who said that a higher percentage of mothers practiced ORT in diarrhoeal diseases and according to [11] in a similar study discovered that practiced was high and cultural belief did not discourage the use of ORT.

The finding was similar to [12] who said that the practice of ORT is interdependent on the knowledge. [11] discovered that higher number of young mothers could practice ORT effectively in diarrhoea diseases.

Implication to nursing

This study has helped in re-emphasizing the importance of oral rehydration therapy in diarrhoea diseases as the first line of treatment in diarrhoeal diseases. The study will serve as a guide to health practitioners and government in the formulation of health policies and health education programmes on oral rehydration therapy. Results obtained from this study will serve as a baseline information for similar studies in other locations.

CONCLUSION

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Based on the result of the study, it was concluded that despite the universally accepted importance of the use of Oral Rehydration Therapy in diarrhoeal diseases, these strategies known to be effective were not fully complied with. There was a significant relationship between the knowledge of the use of Oral Rehydration Therapy and the practice of Oral Rehydration Therapy among mothers of under-five in Ekpo Abasi in Local Government Area, Calabar.

Based on this premise, socio-economic status of client in terms of income and family size influenced a consistency practice of ORT. Rehydration of children with diarrhoeal related dehydration can be properly averted using the home made ORT and this will in-turn further reduce the rate of infant morbidity and mortality rate.

RECOMMENDATION

Based on the findings of the study, the following recommendation were made:

- Government and non-governmental organization should embark on enlightenment programs using various media such as radio, television etc, so as to create awareness about the continuous use of Oral Rehydration Therapy.
- Cultural practices that hinder the use of ORT in diarrhoeal diseases should be abolished.
- Mothers should be given health education as regards the importance of ORT in diarrhoeal diseases.

What is known about the study:

- Many people have good knowledge on Oral Rehydration Therapy but the problem is the application and practice which herbs is more preferable to ORT by the women
- Because they are so rooted to their culture and tradition that is why the study is necessary to sensitize them on the importance of ORT.

What the study adds

- This study will enlighten mothers on how to take care of sudden diarrhea which ORT is the first line of treatment before going to the hospital
- It also gives women confidence as been part of their children's treatment.
- It will go a long way to prevent or curb sudden death among children.

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Conflicts of interest

There are no conflicts of interest.

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APPENDIX

LIST OF TABLES

Table 1: socio- demographic characteristics of respondents (N= 180)

Variable	Frequency	Percentage
Age		
20-25 years	58	32.2
26-30 years	40	22.2
31-35 years	72	40
36-45 years	10	5.6
46-50 years	0	0
Total	180	100
Marital status		
Single	58	32.2
Married	105	56.3
Divorced	7	3.9
Widow	10	5.6
Total	180	100
Religion		
Christianity	162	90
Islamic	16	8.9
Traditionalist	2	11
Others please specify	0	0
Total	180	100
Educational level		
Non- formal	26	14.4
Primary level	22	12.2
Secondary level	68	37.8
Higher institution	64	35.6
Total	180	100
Occupation		
Farming	38	21.1
Trading	68	37.8
Civil servant	45	25
House wife	29	16.1
Total	180	100
Number of children		

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One-two	43	23.9
Three-four	78	43.3
Five and above	59	32.8
Total	180	100
Income		
8,000-20,000	62	32.2
20,000-40,000	58	20.6
40,000-60,000	37	12.8
69,000 and above	23	12.8
Total	180	100

Table 2: level of knowledge of mothers in the use of ORT in diarrhoeal diseases

Variable	Yes	No	Total
Have you ever heard about the use of ORT in diarrhoeal diseases?	139 77.2	41 22.8	180 100
Do you know how to prepare salt sugar solution?	107 59.8	72 40.6	180 100
ORT should be used only when a child has diarrhea	104 57.8	76 42.2	180 100
ORT is an effective method of preventing dehydration in a child with diarrhoea	92 51.1	88 48.9	180 100
A child with diarrhoea should be given ORT as much as the child can take	63 35	117 65	180 100

Table 3: Practice of ORT

Item	Always	Occasionally	Never	Total
I use ORT in diarrhea	57 31.7	74 41.1	49 27.2	180 100
I use herbs in diarrhoea diseases treatment	41 22.8	100 55.6	39 21.7	180 100
I give my child ORT when my child have diarrhoea	27 15	42 23.3	111 61.7	180 100
I wash my hands before and after administration of ORT	51 28.3	86 47.8	43 23.9	180 100
ORT preparation is more time consuming	37 20.6	71 39.4	72 40	180 100

Table 4 Pearson product moment correlation analysis of the relationship between mother's knowledge of the use of ORT and the practice of ORT in diarrhoea disease among mothers of under-five in Ekpo Abasi Health Center. (n=180).

Variable	N	$\sum x$ $\sum y$	$\sum x^2$ $\sum y^2$	$\sum xy$	r-value
Knowledge of the use of ORT in diarrhoea disease	180	3682	6089	9078	0.54
Practice of ORT in diarrhoea diseases	180	3316	5486		

Significant at 0.5 level; critical -r=138,df=178