

CHILDHOOD DIARRHOEA MANAGEMENT PRACTICES OF MOTHERS IN EZEAGU LOCAL GOVERNMENT AREA OF ENUGU STATE, NIGERIA

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Abstract

This paper was directed at finding out the management practices of childhood diarrhoea by mothers in Ezeagu Local Government Area (LGA) of Enugu State. Survey Research design was employed. The sample for the study consisted of 300 women, selected through multistage sampling techniques. The instrument for data collection was the researcher designed questionnaire. Direct approach was used to administer the questionnaire by the help of the research assistants. Percentages and chi-square statistic were used for answering the research questions and testing the null hypothesis respectively. The finding showed that majority of the mothers adopted most of the management practices of childhood diarrhoea. Level of education was not a significant factor in the management of diarrhea by mothers. Based on the findings, recommendations were made, among which include; The complications of diarrhoea particularly dehydration and malnutrition should be explained to the mothers so that they understand and take standard home management practices of diarrhoea, that is use of ORS, and also continuation of normal feeding more serious and the mass media should fashion out jingles to enlighten the public on the causes and prevention of diarrhoea.

Keywords: Diarrhoea, Childhood diarrhoea, Management, Management practice, Mothers.

Introduction

High mortality rates for infants and children under the age of five continue to plague developing countries, despite worldwide efforts to improve overall child health levels. In particular, diarrhoeal disease accounts for nearly 20 per cent of all deaths and is also a significant cause of childhood morbidity (Gracey, 2009). Each year in the developing countries of Latin America and Africa, approximately five million children under five years of age die from acute diarrhea. Of the annual three million infant births in Nigeria, approximately 170,000 result in deaths that are mainly due to poor management of childhood diarrhoea (Lucas & Gilles, 2009).

Diarrhoea is the disturbance of the gastrointestinal tract comprising of changes in the intestinal motility and absorption, leading to the increase in the volume of stools and in their consistency. (Ballabriga, Hilpert & Isliker, 2000). An episode of diarrhoea is defined as a change in the consistency of the stool to being abnormally loose and increase in frequency of stool to more than normal for the age of the child. It is generally accepted that the passage of one watery stool or explosive stool or three to more loose stools in 24 hours after infancy is abnormal. Diarrhoea is a symptom of infection caused by a host bacterial, viral and parasitic organisms most of which can be spread through contaminated water. Most of these pathogens are transmitted by faeco-oral route. Spradley and Allender (1998) stated that the most common modes of transmission of diarrhoea are contaminated food and water, dirty feeding utensils (especially feeding bottles and teats) and the faecally contaminated fingers of the infants or the mother. Any diarrhoea that is associated with child is called childhood diarrhoea. Childhood diarrhoea, therefore, refers to any type of loose, watery stool that occurs more frequently than usual in a child. Adequate or high level knowledge of the concepts, signs and symptoms, modes of transmission of diarrhoea is capable of guaranteeing proper management practices of diarrhoea among children.

Management according to Osinem (2008) is the co-ordination of all the resources of an organization through the process of planning, organizing, directing and controlling in order to attain organizational objectives. Management as described by the Free Encyclopedia (2007) is the art and science of getting things done through others. Ekenedo (1994) noted that there was a relationship between knowledge and management practice of childhood diarrhoea adopted by mothers. She concluded that better life will not come from mere acquisition of knowledge but from its practice. Practice according to Sally (2004) is an established way of doing things, especially one that developed

through experience and knowledge. When management relates to practice, it becomes management practice.

Management practice according to Bucher (1994) is the application of good health actions to ones daily living such as proper personal hygiene and nutrition. Management practice, therefore, refers to all the actions that are undertaken by mothers to avert childhood diarrhoea. World Health Organization (WHO) (1993) identified a number of management practices like breastfeeding, Oral Rehydration Therapy (ORT), weaning practices, use of plenty of water for hygiene, and use of clean water for drinking, hand washing, use of latrines, safe disposal of stools of young children and measles immunization. The adoption of these practices becomes necessary for the mothers in the issue of childhood diarrhoea.

Mothers according to Landy (1992) are the key persons and managers of the home. She asserted that people, especially mothers should possess adequate knowledge about their baby's health and disease prevention. Mothers are recognized as very important persons for the smooth running of the family including supervision of their health. The management practice of adequate and quality childhood care could lead to healthiness of the child in terms of prevention of early childhood disease like diarrhoea.

The levels to which mothers adopt their management practice of childhood diarrhoea do not appear to have received adequate research attention. Since diarrhoea is found among children all over the country, it is therefore, worthwhile to study childhood diarrhoea management practices of mothers. The study, therefore, was an attempt to find out the childhood diarrhoea management practices of mothers in Ezeagu LGA of Enugu State. In order to accomplish this task, two research questions were posed.

- (1) What are the management practices of mothers regarding childhood diarrhoea in Ezeagu LGA of Enugu-State?
- (2) What are the differences in the diarrhoea management practices of mothers regarding childhood diarrhoea according to level of education?

Hypothesis

One null hypothesis was postulated and tested as .05 level of significance.

- (1) There is no significant difference in the management practices of childhood diarrhoea by mothers according to level of education.

Methods

The study adopted descriptive survey design. The population for the study comprised of 3000 registered mothers who attended Maternal and Child Health (MCH) clinics in Ezeagu Health centres. The sample size for the study was 300 mothers representing ten percent of the population.

In the first stage, stratified random sampling was used to stratify communities into three quarters that make up the Local Government Area. The second stage involved the use of simple random sampling technique of balloting without replacement to select two health districts. The two health districts have 25 existing MCH clinics. In the third stage, purposive random sampling technique of balloting without replacement was employed to select 12 mothers from each of the 25 MCH clinics. The decision to select 12 respondents from each selected MCH is to ensure equal representation of the mothers for the study. At the end of the sampling procedure 300 respondents were selected and utilized for the study.

The instrument used for data collection was the researcher – designed questionnaire whose face and content validity were validated through the criticism of three experts from the Department of Health and Physical education, University of Nigeria, Nsukka. The copies of the questionnaire were distributed to the respondents through the co-operation of two research assistants who were briefed on how to complete the instrument. The distributed copies of the questionnaire were collected on the spot. However 284 copies were returned. The completed copies were analyzed using mean and percentages. Chi-square statistic was used to test the null hypothesis at alpha level of 0.05.

Results

The findings of the study are hereby presented in the Tables below according to the research questions and hypothesis.

Table 1
Management Practices of Mothers Regarding Childhood Diarrhoea (N = 284)

S/N	Mothers practices	Yes		No	
		f	%	f	%
1.	Do you give your baby only breast milk when he/she has diarrhoea?	120	42.3	164	57.7
2.	Do you continue breast feeding especially when your baby has diarrhoea?	252	88.7	32	11.3
3.	Do you prepare weaning food hygienically during diarrhoea episode?	236	83.1	48	16.9
4.	Do you boil water used for making drinks for your children during diarrhoea?	243	85.6	41	14.4
5.	Do you use boiled water in preparing oral rehydration solution (ORS)?	215	75.7	69	24.3
6.	Do you allow a child who has diarrhoea to defecate in bushes or open spaces?	101	35.6	183	64.4
7.	Do you promptly clean your baby who has defecated, washing the baby's hands and also your hands especially during diarrhoea?	257	90.5	27	9.5
8.	Do you mix oral rehydration solution (ORS) in the right proportion?	209	73.6	75	26.4
9.	Do you wash your hands with soap and water before preparing ORS?	216	76.1	68	23.9
10.	Do you give ORS as soon as diarrhoea starts	205	72.2	79	27.8

Table 1 shows that majority of the mothers adopted prompt cleaning of baby who had defecated (90.5%), continuing breastfeeding especially when the baby had diarrhoea (88.7%), boiling water used in making drinks for their children during diarrhoea (85.6%) and preparing food hygienically during diarrhoea episode (83.1%). The table further shows that majority of the mothers washed hands with soap and water before preparing ORS (76.1%), used boiled water in preparing ORS (75.7%), mixed ORS in the right proportion (73.6%), and gave ORS as soon as diarrhoea starts (72.2%) whereas lower proportion of the mothers gave their babies only breast milk during diarrhoea episode (42.3%) and allowed their children who had diarrhoea to defecate in bushes or open spaces (35.6%).

Table 2
Management Practices of Mothers' Regarding Childhood Diarrhoea Based on Level of Education

S/N	Childhood Diarrhoea practices	Level of education							
		No N=66		Formal Primary N=36		Secondary N=62		Tertiary N=120	
		Yes %	No %	Yes %	No %	Yes %	No %	Yes %	No %
1	Do you give your baby only breast milk when he/she has diarrhoea?	10.6	12.7	6.0	6.7	9.9	12.0	15.8	26.4
2	Do you continue breast feeding especially when your baby has diarrhoea?	21.1	2.1	10.6	2.1	17.6	4.2	39.4	2.8
3	Do you prepare weaning food hygienically during diarrhoea episode?	20.8	2.5	10.9	1.8	16.2	5.6	35.2	7.0

4	Do you boil water used for making drinks for your children during diarrhoea?	21.1	2.1	10.6	2.1	17.3	4.6	36.6	5.6
5	Do you use boiled water in preparing oral rehydration solution (ORS)?	14.4	8.8	6.7	6.0	16.9	4.9	37.7	4.6
6	Do you allow a child who has diarrhoea to defecate in bushes or open spaces?	12.0	11.3	6.7	6.0	7.4	14.4	9.5	32.7
7	Do you promptly clean your baby who has defecated, washing the baby's hands and also your hands especially during diarrhoea?	21.1	2.1	10.9	1.8	19.7	2.1	38.7	3.5
8	Do you mix oral rehydration solution (ORS) in the right proportion?	11.6	11.6	6.7	6.0	17.3	4.6	38.0	4.2
9	Do you wash your hands with soap and water before preparing ORS?	13.0	10.2	7.0	5.6	17.6	4.2	38.4	3.9
10	Do you give ORS as soon as diarrhoea starts	12.0	11.3	7.0	5.6	15.8	6.0	37.3	4.9
Overall %		15.77	7.47	8.31	4.37	15.57	6.26	32.66	9.56

Table 2 indicates that a slightly higher proportion of mothers' with tertiary education practised giving their babies only breast milk during diarrhoea (15.8%) than mothers with no formal education (10.6%), secondary education (9.9%) and primary education (6.0%). The table further shows that a higher proportion of mothers with tertiary education (39.4%) than mothers with no formal education (21.1%), secondary education (17.6%) and primary education (10.9%) continued breast feeding their babies especially during diarrhoea while higher proportion of the mothers with tertiary education (35.2%) than those with no formal education (20.8%), secondary education (16.2%) and primary education (10.6%) prepared weaning food hygienically during diarrhoea episode.

The Table also indicates that a slightly higher proportion of mothers with tertiary education (36.6%) than those with no formal education (21.1%), secondary education (17.3%) and primary education (10.6%) boiled water used in making drinks for their children during diarrhoea. Similarly, a slightly higher proportion of mothers' with tertiary education (37.7%) than those with secondary education (16.9%), no formal education (14.4%) and primary education (6.7%) practised using boiled water in preparing ORS.

The Table further reveals that slightly higher proportion of the mothers with no formal education (12.0%) than mothers with tertiary education (9.5%), secondary education (7.4%) and primary education (6.7%) allowed their children who had diarrhoea to defecate in bushes or open spaces. The Table also shows that a higher proportion of mothers' with tertiary education (38.7%) than mothers with no formal education (21.1%), secondary education (19.7%) and primary education (10.9%) promptly cleaned their babies who had defecated during diarrhoea.

The Table again indicates that a slightly higher proportion of mothers with tertiary education (38%) than mothers with secondary education (17.3%), no formal education (11.6%) and primary education (6.7) mixed ORS in the right proportion. The table also reveals that a slightly higher proportion of mothers with tertiary education (38.4%) than mothers with secondary education (17.6%), no formal education (13%) and primary education (7%) washed their hands with soap and water before preparing ORS. The table further reveals that a slightly higher proportion of mothers with tertiary education (37.3%) than mothers with secondary education (15.8%), no formal education (12%) and primary education (7%) gave their babies ORS as soon as diarrhoea starts.

Table 3
Summary of Chi-square (χ^2) Analysis Testing the Null Hypothesis of no Significant Difference in the Management Practices of Mothers Regarding Childhood Diarrhoea According to Level of Education.

S/ N	Management practices Of Childbearing Mothers	Level of education								χ^2 – Cal Value	df	p. value
		No formal N=66		Primary N=36		secondary N=62		Tertiary N= 120				
		Yes	No	Yes	No	Yes	No	Yes	No			
1	Do you give your baby only breast milk when he/she has diarrhoea?	27.9	38.1	15.2	20.8	26.2	35.8	50.7	69.3	1.968**	3	.579
2	Do you continue breast feeding especially when your baby has diarrhoea?	58.6	7.4	31.9	4.1	55.0	7.0	106.5	13.5	7.959*	3	.047
3	Do you prepare weaning food hygienically during diarrhoea episode?	54.8	11.2	27.9	6.1	51.5	10.5	99.7	20.3	5.600**	3	.133
4	Do you boil water used for making drinks for your children during diarrhoea?	56.5	9.5	30.8	5.2	53.0	9.0	102.7	17.3	3.931**	3	.269
5	Do you boiled water used in preparing oral rehydration solution (ORS)?	50.0	16.0	27.3	8.7	46.9	15.1	90.8	29.2	28.832*	3	.000
6	Do you allow a child who has diarrhoea to defecate in bushes or open spaces?	23.5	42.5	12.8	23.2	22.0	40.0	42.7	77.3	20.998*	3	.000
7	Do you promptly clean your baby who has defecated, washing the baby's hands and also your hands especially during diarrhoea?	59.7	6.3	32.6	3.4	56.1	5.9	108.6	11.4	1.011**	3	.799
8	Do you mix oral rehydration solution (ORS) in the right proportion?	48.6	17.4	26.5	9.5	45.6	16.4	88.3	31.7	44.495*	3	.000
9	Do you wash your hands with soap and water before preparing ORS?	50.2	15.8	27.4	8.6	47.2	14.8	91.3	28.7	37.905*	3	.000
10	Do you give ORS as soon as diarrhoea starts	47.6	18.4	26.0	10.0	44.8	17.2	86.6	33.4	34.591*	3	.000
Overall χ^2		47.74	18.26	26.04	9.96	44.83	17.17	86.70	33.21	18.729	3	1827

*Significant

** Not significant

Data in Table 3 shows the χ^2 calculated value with their corresponding P-values which are greater than .05 level of significance in the following dimensions of management practices of diarrhoea at 3 degrees of freedom: Promptly cleaning a child who has defecated ($\chi^2 = 1.011$, $P = .799 > .05$), giving baby only breast milk during diarrhoea episode ($\chi^2 = 1.968$, $P = .579 > .05$), boiling water used in making drinks for children during diarrhoea ($\chi^2 = 3.931$, $P = .269 > .05$) and preparing weaning food hygienically during diarrhoea episode ($\chi^2 = 5.600$, $P = .133 > .05$). The null hypothesis of no significant difference was therefore accepted. This implies that level of education did not make any difference in the management practices of mothers regarding childhood diarrhoea.

The table further indicates that the χ^2 calculated values with their corresponding P-values which were greater than .05 level of significance in the following management practices of diarrhoea

at 3 degrees of freedom: Continuing breastfeeding during diarrhoea ($\chi^2 = 7.959$, $P = .047$), boiling water used in preparing ORS ($\chi^2 = 28.832$, $P = .000$), allowing a child who has diarrhoea to defecate in the bushes or open spaces ($\chi^2 = 20.998$, $P = .000$), mixing of ORS in the right proportion ($\chi^2 = 44.495$, $P = .000$), washing of hands with soap and water before preparing ORS ($\chi^2 = 37.905$, $P = .000$), and giving of ORS as soon as diarrhoea starts ($\chi^2 = 34.591$, $P = .000$). The null hypothesis of no significant difference was therefore rejected. This implies that mothers differed in the adoption of these practices according to level of education.

Discussion

The findings in Table 1 revealed that majority of the mothers practised giving their babies other fluids apart from breast milk. This finding was expected because Hijleh (2003) found out in his study that average number of women used fluids like rice water, herbs, yoghurt, lemon and sugar solution, weak tea, starch with water and ORS. Martins et al (2006) also reported that majority of the mothers used tea and rice based beverages which include rice water and rice gruel to manage diarrhoea in their children. The table further showed that majority of the mothers adopted most of the individual management practices. The findings were anticipated and therefore not surprising because mothers including those who delivered of their babies at the maternity homes and several unregistered clinics sought post-natal care services which are rendered in the MCH clinics. This is in consonance with the findings of Ejima (2010) who reported that post-natal care services provided by MCH health workers at the ante-natal clinics were utilized by mothers. This is a welcome positive practice that should be encouraged to prevent children from dying of diarrhoea.

The result further showed that lower proportion of the mothers (35.6%) allowed their children to defecate in bushes and open spaces during diarrhoea. This finding was anticipated because some of the mothers do not have toilets and they defecate in bushes. This is an unwholesome practice and should be discouraged to prevent the spread of diarrhoea and other diseases.

The result in Table 2 revealed that there was no difference in the management practices of mothers regarding childhood diarrhoea according to level of education. This finding was a surprise, because educational level of any given group of individual is expected to positively influence knowledge and practice of a given health-related behaviour. This finding did not agree with that of Strivasta and Ramsel (1996) which revealed that women who were educated did better in the management of childhood ailments (childhood diarrhoea inclusive) than their uneducated counterparts. The implication of this finding is that mothers who possess these levels of knowledge regarding all the dimensions of the management of childhood diarrhoea are most likely to have their children suffer or even die from childhood diarrhoea.

Table 3 reveals that level of education has no significant difference in the management practices of mothers with respect to giving baby only breast milk when he was diarrhoea, continuing breast feeding especially when the baby has diarrhoea, preparing weaning food hygienically during diarrhoea, using boiled water in preparing ORS and promptly cleaning a baby who has defecated especially during diarrhoea. This finding was not anticipated and therefore a surprise. This is because mothers with high educational attainments are expected to exhibit adequate knowledge and practice of childhood ailments (childhood diarrhoea inclusive). It is believed that education stimulates and empowers an individual's intellectual capacity to put into practice concepts more especially when such concepts are concretized or practicable. While there was significant difference in the management practices of mothers with respect to continuing breast feeding especially when baby has diarrhoea, using boiled water in preparing ORS, allowing a child who has diarrhoea to defecate in bushes or open spaces, mixing ORS in the right proportion, washing hands with soap and water before preparing ORS and giving baby ORS as soon as diarrhoea starts according to level of education. The finding was expected because it agrees with the finding of Odusanya and Tayo (2001) who reported that education significantly influence the knowledge of childhood ailments. It also agrees with the finding of Burker (2006) who found out in their study that mothers with higher level of education were significantly more knowledgeable about the management of childhood diarrhoea. This is because education enables mothers to assess information about childhood diarrhoea.

Conclusions

Based on the findings, the following conclusions were drawn.

1. Higher proportion of the mothers adopted various childhood diarrhoea management practices such as cleaning baby who defected, continuing breastfeeding during diarrhoea, boil water for drinking and preparing ORS, preparing food hygienically, wash hands, mix ORS very well and give ORS as soon as diarrhoea starts. Whereas lower proportion of mothers gave their babies only breast milk, and allowed their children who has diarrhoea to defecate in bushes and open spaces.
2. Level of education had no difference in the management practices of mothers regarding childhood diarrhoea.
3. There was no significant difference in the management practices of mothers regarding childhood diarrhoea with respect to promptly cleaning a baby after defecation especially during diarrhoea, giving baby only breast milk during diarrhoea, boiling water used in making drinks for children and preparing weaning food hygienically especially during diarrhoea according to level of education. There was significant difference in the management practices of mothers with respect to continuing breast feeding during diarrhoea episode, boiling water used in making ORS for their children during diarrhoea, allowing a child who has diarrhoea to defecate in bushes or open spaces, mixing ORS in the right proportion, washing hands with soap and water before preparing ORS and giving ORS as soon as diarrhoea starts according to level of education. This tests hypothesis eight.

Recommendations

Based on the findings of the study, the following recommendations were made.

1. The complications of diarrhoea particularly dehydration and malnutrition should be explained to the mothers so that they understand and take standard home management practice of diarrhoea, that is use of ORS, and also continuation of normal feeding more serious.
2. There should be sanitary inspectors for all rural communities; such a measure will help to improve the sanitary conditions of our rural communities.
3. The mass media should fashion out jingles to enlighten the public on the causes and prevention of diarrhoea.

References

- Ballabriga, A, Hilpet H., & Ishiker H, (2000). Immunity of the infantile gastro-intestinal tract and implications of modern infant feeding. *Nestle Research News, Netherlands, Nestle Nutrition services*: 17-27.
- Burker, C.T. (2006). Childhood morbidity, treatment – seeking behaviour and mortality in a cohort of young children in Rural Burkina Faso. *Tropical International Health* 8:190 – 196.
- Ejima, S.U. (2010) *Correlates of utilization of maternal Health in Ankpa LGA of Kogi State*. Unpublished Doctoral Dissertation, University of Nigeria, Nsukka.
- Gracey, M. (2009) *Nutritional effects and management of diarrhoea in infancy*. *Acta Paediatr Suppl.* 88:110-26.
- Hijleh, S.M. (2003) *Mothers Knowledge, Attitude and Practices Regarding Diarrhoea Management in Al-Jib Village, Palestine*, 56pp.
- Hurst, K. and Jaco, J.A (1997) *Primary Child Care for Health Workers*. Oxford University Press.
- Landy, N.E. (1992). Approaches to treatment of childhood diarrhoea. *Dialogue on Diarrhoea issues*, 18, 2 March.
- Lucas, A.O. & Gilles, H.M. (2009). *A new short textbook of preventive medicine for the tropics*. Ibadan: Bounty Press Limited.
- Martins N.T. et al (2006) *Mortality in Severely Malnourished Children with diarrhea and use of a Standardized Management Protocol*. *Lancet* 353: 1919-22.
- Nworgu, B.G. (2003). *Educational Measurement and evaluation: Theory and practice*, Nsukka: University Trust Publishers.
- Oduanya P.S. & Tayo S. (2001) Management of Childhood diarrhoea at household level: a population based survey, Nigeria. *East African med. Journal* 71:561-565.

- Osinem, E.C. (2008), *Managing agricultural education and training*. Resources, principles and methods. Nsukka. Belong books.
- Sally, W. (2004). *Oxford advanced dictionary of current English* (6thed.) Oxford University Press.
- Spradley, B.W & Allender, T.A., (1998), *Community Health nursing concepts and practice*, Philadelphia, Lippincott.
- Strivasta, A.K & Ramsel, M.M (1996). Risk factors for gender differentials for death among children hospitalized with diarrhea in Bangladesh. *Journal of Health Popul. Nutr.* 18:51-56.
- WHO (1993). *The management and prevention of diarrhoea*. Practical guidelines (3rded.) Geneva: WHO.