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Rheajane A Rosales
College of Nursing & Health
Sciences, Samar State
University, Philippines

Gastroenteritis And Home Care Management Of Mothers Among Marginalized Communities In Catbalogan City, Philippines

Rheajane A Rosales

Abstract

Gastroenteritis is a serious problem existing globally and continues to be an important cause of morbidity and mortality. In fact, there is new shift of numbers of deaths from 7,000 to 17,000 per year according to WHO (2011). Hence incur great attention from all health sector should be set to prevent direct consequences. This study assessed the maternal knowledge on gastroenteritis, and home care management among marginalized communities in Catbalogan City province of Samar, Philippines. This investigation utilized a descriptive correlational design. The study revealed an alarming result that out of 342 mothers who participated in the study, 52.33% demonstrated “poor knowledge” and 11.40% only have “very good knowledge” on gastroenteritis. Moreover, the result of this study suggest that there is a significant relationship between the respondents educational attainment and number of children to their knowledge on gastroenteritis. Coordinating with DOH and WHO must be set for intensifying their programs to be more effective in increasing mothers’ knowledge and home care management on gastroenteritis. Hence, will lessen the number of mortality and morbidity rates of children. Furthermore, extension services focusing on health education regarding prevention and management on gastroenteritis is also recommended.

Keywords: Gastroenteritis, Diarrhea, Oral rehydration solution, Dehydration

1. Introduction

Gastroenteritis also called “stomach flu” results from an inflammation of the gastrointestinal tract commonly caused by viral pathogens and less frequently by bacterial or parasitic organisms [1]. Until a study that examined data on the deaths attributed to gastroenteritis, the disease was considered to be relatively benign (in most developed countries), but deaths have more than doubled since 1999 through 2007 [2]. In fact, there is new shift of numbers of deaths from 7000 to 17,000 per year [3]. Despite the fact that gastroenteritis can be prevented, the disease still affects children, predominantly under the age of five who are not yet capable of managing their own health. Annually about two billion cases of diarrheal diseases occur among children under the age of five globally [4]. Though often considered a benign disease, gastroenteritis represents a major cause of pediatric morbidity and mortality worldwide. Every year about 1.5 million children die from diarrheal diseases, mostly in developing countries [5]. In fact, according to WHO survey, Gastroenteritis is the second cause of mortality worldwide comprising 18% out of 73% of the 10.6 million yearly deaths in children [6].

In the Philippines, Gastroenteritis continues to be an important cause of illness and death, having consistently ranked fourth- and second-leading cause of death for all age groups and for children, respectively [7]. At present time, it is the third leading cause of regional morbidity in region 8 according to the 2009 Philippine Health Statistics. While in Samar Provincial Hospital, Gastroenteritis remains to be the number one reason for children’s admission for 3 consecutive years. In just a span of 19 months (May- November, 2015), Emergency Room records 2,378 cases already of gastroenteritis with signs of dehydration.

Although the burden of gastroenteritis among children under the age of five is heavy, improved prevention is achievable. Personal and food hygiene, including the use of clean water sources, are key measures to prevent transmission of these diseases. Breastfeeding, especially under 6 months of age, also effectively protects infants, [8] and Rotavirus vaccination has been widely available for children since 2006 [9] and is now recommended

Correspondence
Rheajane A Rosales
College of Nursing & Health
Sciences, Samar State
University, Philippines

Worldwide [1, 4]. Moreover, the use of Oral Rehydration Salt to prevent dehydration is encouraged by the UNICEF, DOH, and WHO. However, Studies show that though most of the mothers were familiar with the term oral rehydration salt (ORS), there were knowledge gaps as regards its correct preparation and administration [10].

While improved medical treatment combined with the programs of DOH to prevent and manage Gastroenteritis at home, many of these children continuously die endlessly. Many of these children were never seen at a health facility because services don't exist, because their families lack access to these services or mothers do not recognize the warning signs of this life threatening complication like dehydration [11]. Reflecting on this record, the researchers were then motivated to undertake a study on the existence of such a record. Saving the lives of millions of children at risk of death from gastroenteritis is possible with a comprehensive strategy that ensures all children in need to receive critical prevention and treatment measures even at home. Hence, this study was conducted.

2. Research Objective

This investigation assessed the maternal knowledge on gastroenteritis and home care management among marginalized communities in Catbalogan City, Philippines.

3. Methodology

3.1 Design

A Descriptive research design was adopted for this investigation. This design was used to determine the knowledge of mothers on gastroenteritis and home care management in marginalized communities in Catbalogan City, Philippines. Furthermore, relationships between respondents profile and their knowledge on gastroenteritis, home care management, manifestations of dehydration and oral rehydration therapy were also identified.

3.2 Participants

This study utilized convenience sampling to mothers living in marginalized communities in Catbalogan City, Philippines. A total of 342 mothers consented to fully participate in the investigation.

3.3 Instrumentation

The investigators utilized a questionnaire composed of 4 parts. Part I is a checklist that described the profile of mother respondents. Part II of the questionnaire were questions based on causes, signs and symptom, prevention and transmission modes. Part III assessed the knowledge of the respondents about the Home Care Management for Gastroenteritis, Part IV were questions assessing the knowledge of the mother respondents on manifestations of dehydration secondary to gastroenteritis while the last part of the questionnaire were questions about Oral Rehydration Solution. Part II- IV has possible responses of "yes" and "no". 'Yes' is given a value of 1 point, and 'no' with 0 points; the maximum possible score is 15. The higher the score, the greater the assumed knowledge about gastroenteritis. Result of test was interpreted as follows; 11 – 15 as "Very good knowledge", 6 – 10 as "Fair Knowledge", and 0 – 5 as "Poor Knowledge". The questionnaire was validated for its reliability resulting in statistical value of 0.89 (Cronbach's alpha). Meanwhile, The last part of the questionnaire utilized a filtering question in assessing the knowledge of the respondents on ORS.

3.4 Ethical Considerations

The study protocol was approved and reviewed by the Health Ethics Committee of Samar State University, Philippines. The investigators made sure that the respondents included are willing to fully participate the study by signing the consent. Furthermore, Confidentiality and anonymity of the respondents were maintained by only a code number on the questionnaire.

3.5 Data Analysis

The data collected were coded and entered into a computerized data base and was analyzed using the Statistical Package of the Social Science Program (SPSS, version 19). Descriptive statistics such as the, frequency, percentage, and standard deviation was used to quantify the profile of the patients. To test for the significance of the coefficient of correlation between a set of paired variables, Fisher's T-test and Pearson r were used.

4. Results

Table I: Demographic Profile of Respondents

Variables		n (342)	Percentage
Age	78-85	2	0.59
	70-77	9	2.64
	62-69	16	4.67
	54-61	35	10.23
	46-53	59	17.25
	38-45	74	21.63
	30-37	67	19.59
	22-29	68	19.88
Marital Status	14-21	12	3.51
	Single	134	39.18
	Married	147	42.98
	Widow/er	56	16.37
Educational Attainment	Separated	5	1.46
	Post-graduate level	15	4.39
	College level	77	22.51
	High school level	120	35.09
Monthly Income	Elementary level	130	38.01
	More than php 20,000	22	6.4
	Php 16,000-20,000	17	5.0
	Php 11,000-15,000	41	12.1
	Php 5,000-10,000	85	24.9

	Less than php 5,000	177	51.4
Number of Children	More than 5	70	18.4
	5	39	11.4
	4	49	14.3
	3	69	19.9
	2	62	20.2
	1	53	15.6

As shown in the table, majority of the mother respondents are within the age bracket of 38-45 year old or 74 (21.63%) and Married 147 (42.98), but it is worth noting that 134 mothers or 39.18% are still single. Findings also suggest that

majority of the respondents 130 (38.01%) were not able to reach high school level. When it comes to monthly income, 51.4% of the mothers are earning less than 5,000 php only and most of them 70(18.4%) have more than 5 children.

Table II: Responses to Questions on Gastroenteritis

Indicators	Statement	Correct Answer	Yes n (%)	No n (%)
A. Causes of Gastroenteritis	1. Viral pathogens can cause gastroenteritis	Yes	139 (40.6)	203 (59.4)
	2. Bacterial or parasitic organisms	Yes	234 (68.4)	108 (31.6)
B. Signs and Symptoms of Gastroenteritis	3. Diarrhea is a sign gastroenteritis	Yes	215 (62.9)	127 (37.1)
	4. Abdominal pain and cramping are signs gastroenteritis	Yes	206 (60.2)	136 (39.8)
	5. Nausea is a sign gastroenteritis	Yes	145 (42.8)	197 (57.6)
	6. Vomiting is a sign gastroenteritis	Yes	197(57.6)	145 (42.4)
	7. Fever is a sign gastroenteritis	Yes	168 (49.1)	174 (50.9)
	8. Anorexia is a sign gastroenteritis	Yes	161 (47.1)	181 (52.9)
	9. Distention is a sign gastroenteritis	Yes	153 (44.7)	189 (55.3)
	10. Hyperactive bowel sounds is a sign gastroenteritis	Yes	132 (38.6)	210 (61.4)
D. Prevention of Gastroenteritis	11. Proper hand washing techniques after defecation and before handling food	Yes	243 (71.1)	99 (28.9)
	12. Obtaining available vaccinations against bacterial and viral gastroenteritis	Yes	143(41.8)	199(58.2)
	13. Cleanliness and sanitation as well as proper handling, preparation and storage techniques	Yes	217 (63.5)	125 (36.5)
	14. Not to eat food containing raw eggs and to refrain from buying cans or boxes or jars that are damaged	Yes	154 (45)	188 (55)
D. Mode of Transmission of Gastroenteritis	15. Gastroenteritis can be transmitted through Fecal-Oral route	Yes	157 (45.9)	185 (54.1)

Table 2 presents the mother respondents answers on the questions about the causes, signs and symptoms, prevention, and mode of transmission of gastroenteritis. It can be seen in the table that majority of the participants (n= 203, 59.4%) do not know that viral pathogens can also cause gastroenteritis but majority of them (n=234, 68.4%) got the correct answer that bacteria or parasitic organisms is a one cause of gastroenteritis. Meanwhile, majority of the respondents agreed that diarrhea (26.9%), abdominal pain and cramping (60.2%), and vomiting (57.6%) are manifestations of gastroenteritis. However, it is alarming that out of 8 enumerated manifestations, majority of the mothers are not knowledgeable of the 5 signs and symptoms. Moreover, 243 (71.1%) of the mothers agreed that proper hand washing techniques after defecation and before handling food, and cleanliness and sanitation as well as proper handling, preparation and storage techniques (n=217 (63.5%) are measures to prevent gastroenteritis. On the other hand, they need to be corrected that obtaining vaccinations and not to eat food containing raw eggs and refraining from buying

cans or boxes that are damaged can also help in preventing such medical condition. Finally, it is disturbing that majority of these mothers (n=185, 54.1%) are unaware that gastroenteritis can be transmitted through Fecal-Oral route.

Table III: Knowledge of Mothers on Gastroenteritis

Score Range	Frequency (n=342)	Percentage (%)	Interpretation
11-15	47	13.74	Very good knowledge
6-10	117	34.21	Fair Knowledge
0-5	148	43.27	Poor Knowledge

Table 3 Illustrates the distressing result of this study, that majority of the mothers (n=148 05 43.27%) got answers within the score range of 0-5 which is interpreted to have “poor knowledge” on gastroenteritis. This is followed by mothers with “fair knowledge” (n=117 or 34.21%), while only 47 respondents or 13.74% were considered to have “very good knowledge on gastroenteritis”.

Table IV: Knowledge of Mothers on the Home Care Management of Gastroenteritis

Indicators	Correct Answer	Yes n (%)	No n (%)
ORS is one of the management of gastroenteritis at home	Yes	201 (58.8)	141 (41.2)
Increase fluid intake	Yes	211(61.69)	131 (38.30)
Increase Banana intake	Yes	157 (45.9)	185 (54.1)
Increase vegetable intake	Yes	157 (45.9)	185 (54.1)
Zinc can be given to a patient with gastroenteritis	Yes	135 (39.5)	206 (60.2)
Vitamin A every 6 months	Yes	97 (28.36)	215(62.86)

It can be gleaned in the table the information obtained from the respondents regarding their knowledge on home care management of gastroenteritis. As reflected on the table, most of the respondents are aware that ORS is one of the management of gastroenteritis at home (n=201, 58.8%) and

to increase fluid intake (n=211, 61.69%). However, more than half of the respondents are not aware that increasing banana (54.1%) and vegetable intake (54.1%), giving zinc (60.2%), and vitamin A (62.86%) every 6 months are home care management of gastroenteritis.

Table V: Knowledge on Manifestations of Dehydration

Indicators	Correct Answer	Yes n (%)	No n (%)
Sunken eyes is a manifestation of dehydration	Yes	194 (56.72)	148 (43.3)
Poor skin turgor is a manifestation of dehydration	Yes	142 (41.5)	200 (58.5)
Restless and irritable are manifestations of dehydration	Yes	124(36.26)	218(37.43)
Drinks eagerly or thirsty is a manifestation of dehydration	Yes	122(35.67)	220(64.33)

Table 5 presents the cumulative scores of the respondents on the question about the manifestations of dehydration. Out of the four manifestations of dehydration, only one manifestation garnered the highest number of mothers who got the correct answer. While, most of the mothers did not know that poor skin turgor (n=200, 58.5%), restless and irritable (n=218, 37.43%) and drinks eagerly or thirsty (n=220, 64.33%) are manifestations of dehydration.

Table VI: Respondents who have heard about Oral Rehydration Solution (ORS)

Indicator	Yes n (%)	No n (%)
Have you heard about Oral Rehydrating Solution?	201 (58.8%)	141 (41.2%)

Table 5 shows the number of respondents who have heard about oral rehydration solution. Out of 342 respondents 201 or 58.8% have heard about oral rehydration solution. While, 141 or 41.2% hasn't heard ORS yet.

Table VII: Respondents' answer on the correct ingredients of Oral Rehydrating Solution

Indicator	Correct answer	A n (%)	B n (%)	C n (%)	D n (%)
Which among the following is the correct ingredients for ORS?	C (Water, Salt & Sugar)	13 (6.47)	100 (49.75)	88 (43.78)	0 (0%)

Table 8 illustrates the respondents' answer on the correct ingredients of oral rehydrating solution. Out of 201 respondents who claimed that they have heard oral rehydrating solution, only 88 mothers or (43.78%) got the correct answer. Majority of the respondents (n=100, 49.75%) answered the option letter B which is water and salt only.

5. Discussions

This study highlights the result that mothers from marginalized communities have "poor knowledge" on gastroenteritis. This result is consistent to the findings of Bachrach & Gardner on their study in Nepal that mothers demonstrated limited knowledge on gastroenteritis [12]. Though most of them are aware that bacteria and other parasitic organisms can cause gastroenteritis, educating them that viral pathogens can also cause gastroenteritis is necessary. In fact, Rotavirus is the leading cause of severe gastroenteritis in children and it can also infect adults who are exposed to children with the virus [13]. Meanwhile, aside from diarrhea, abdominal pain and cramping, and vomiting, it is vital that mothers should be aware of other manifestations of gastroenteritis such as fever, nausea, anorexia, distention and hyperactive bowel signs. The researchers believe that if only the mothers are aware of these manifestations, early management will then be taken, thus, lessen the chances of increasing the mortality rate of children. Furthermore, prevention of gastroenteritis is necessary to lessen the number of morbidity rate of children that will be affected by gastroenteritis. The findings of this study may prove that the programs of World Health organization and Department of Health have been effective in increasing awareness that proper hand washing techniques after defecation and before handling food, and cleanliness and sanitation as well as proper handling, preparation, and

storage techniques are important measures to prevent gastroenteritis. However, these mothers should be aware that presently, available vaccines are already existing to prevent children from acquiring such condition. This vaccine is called the "rotavirus vaccine". There are two brands of the rotavirus vaccine, the Rota Teq (RV5) and Rotarix (RV1). Both vaccines are given orally, not as a shot. The only difference is the number of doses that need to be given [14]. In addition, not to eat food containing raw eggs and to refrain from buying cans or boxes or jars that are damaged is also an important measure to the prevention. Lastly, it is very alarming that these mothers do not know that gastroenteritis can be transmitted through Fecal-Oral-Route. This result suggests that better education on the mode of transmission of gastroenteritis should also be emphasized.

Mothers and other caregivers play a critical role in the effective management of gastroenteritis by correctly recognizing its manifestations, and taking appropriate action. The result of this study depicts that mothers are aware that ORS and increasing the fluid intake are appropriate actions for managing gastroenteritis at home. These two home care management are helpful in flushing the toxins and in replacing the fluid and electrolyte lost. On the other hand, mothers should be adequately educated that increasing banana which contain little fiber but are high in potassium, an electrolyte that helps with mineral and fluid balance in the body. Furthermore, increasing vegetable intake, giving of zinc and vitamin A every 6 months can also help in managing this illness [15].

Caregivers or mothers are the ones who decide if a child's episode of gastroenteritis warrants a visit to a health facility or if they can manage the episode themselves at home. In this study, is worrisome that majority of the mothers cannot recognize the signs of dehydration. When adequately

educated, caregivers can start fluid replacement early in the course of a child's illness in order to prevent dehydration. Therefore, manifestations of dehydration must also be stressed out by health educators to all caregivers and mothers.

The findings of this study is quite confusing that although most mothers had heard of ORS, the vast majority of them did not get the correct ingredients of ORS ^[16]. Also of concern was that majority of the mothers who claimed to have heard ORS reported giving their children a mixture of table salt and water, presumably intending to substitute for oral rehydration salts. This substitution is dangerous because it can lead to hypernatremic dehydration. There has been much debate about the relative merits of teaching caregivers to make sugar-salt solution for ORT versus using prepackaged ORS ^[17, 18].

6. Conclusion

It could be inferred from this investigation that the level of knowledge on gastroenteritis, home care management, and manifestations of dehydration among the study population is "poor". The finding also concludes that mothers do not know the correct ingredients and proportion of ORS that should be given. Therefore, the researchers suggest that the World Health Organization and Department of Health should strengthen their programs on the proper education of the causes, manifestations, prevention and mode of transmission of gastroenteritis. Furthermore, extension activities to these marginalized communities in Catbagan City, Philippines should be conducted, specifically seminar-workshop and return demonstration of the correct preparation of Oral rehydrating Solution.

7. Acknowledgement

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8. Conflict of Interest

The author declare no conflicting interests.

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