

Determinants of Mother's Preventive Practices against Children's Acute Gastroenteritis: Basis for a Health Education Program

Kananura Viateur

MSN, University of Gitwe, Adventist University of the Philippines

ABSTRACT

This study aimed to find out the determinants of mother's preventive practices against children's acute gastroenteritis. Acute gastroenteritis is the fourth most common cause of consultation and admission in year 2011 and fifth in year 2012 with a total amount of 972 for the children under five years old.

Utilizing a descriptive-correlational design. The descriptive method was used to describe the determinants of mother's preventive practices against children's acute gastroenteritis: Basis for a health education program in terms of knowledge, attitude, and beliefs, biological and socio-cultural factors. Data from 150 mothers ages 18-45 years old, who have children ages five years and below were selected through purposive sampling technique from selected Barangays of Santa Rosa City and Silang Cavite (Philippines) were analyzed using descriptive and inferential statistics.

The respondents were *highly* knowledgeable on acute gastroenteritis and its preventive practices, have *positive* attitude toward preventive practices against children acute gastroenteritis and *strongly* believe that different preventive practices protect their children against acute gastroenteritis. They practice *excellently* the different preventive measures against acute gastroenteritis.

Knowledge and attitude significantly determine one's preventive practices against children acute gastroenteritis. A health education program based on the result of the study was developed for health promotion and prevention. Majority of the respondents have children who had acute gastroenteritis. Knowledge, attitude and belief had *positive significant* relationship to mother's preventive practices against children acute gastroenteritis.

Key words: Acute Gastroenteritis, Knowledge, Attitudes, Beliefs, Preventive Practices

INTRODUCTION

The Problem and Its Background

The problem of acute gastroenteritis especially among children is considered one of the most common causes of morbidity and mortality in the world. Millennium Development Goal mentioned that decreasing childhood mortality due to acute gastroenteritis can be achieved. UNICEF in cooperation with WHO came up with preventive measures to prevent acute gastroenteritis. These include drinking safe water, adequate sanitation and good hygiene. According to World Health Organization (WHO, 2010) as cited in Yala (2010), the mortality rate among zero to four years old ranked third and fourth respectively in 2001.

Worldwide, acute diarrhea which is also called acute gastroenteritis causes the death of about two million children less than five years of age each year. Of these, seven per 1000 children under five years of age are admitted in hospitals each year in the United Kingdom while one per 23 to one per 27 children are admitted in the hospitals in the United States of America (Tate et al., 2011).

In the developing countries, acute gastroenteritis is one of the most common causes of consultation in the emergency room and admission among the pediatric age group. In a study done by Kundu, Prateepchaikul and Sen-Ngam (2010) showed that acute gastroenteritis is still a major health problem in Bangladesh.

In the Philippines, the World Health Organization (WHO, 2010) noted that acute gastroenteritis is the most common cause of morbidity and it ranks among the top 20 causes of mortality. Local studies among

infants as reported by the Department of Health (DOH) revealed that diarrhea ranked second in morbidity and fourth in mortality (Yala, 2010). Similarly, Department of Pediatrics, Baguio General Hospital and Medical Center reported that acute gastroenteritis is the second most common cause of consultation and admission, approximately 18.4% of the total consultations (Yala, 2010).

The *field Health Service Information System (FHSIS, 2013)* of Silang Cavite reported that acute gastroenteritis is the fourth most common cause of consultation and admission in year 2011 and fifth in year 2012 with a total amount of 972 for the children under five years old. Similarly, City hall office (CHO, 2013) of Santa Rosa Laguna reported that acute gastroenteritis is ranked among 20 most common causes of consultation and admission in year 2011 and fifth in year 2012 with a total amount of 1,926 for the children under five years old.

The Problem

This study sought to find out the determinants of preventive practices against acute gastroenteritis among the selected respondents. Specifically, the study answered the following questions:

1. What is the profile of the respondents in terms of:
 - a) Knowledge on children's acute gastroenteritis and preventive practices?
 - b) Attitude on children's acute gastroenteritis and preventive practices?
 - c) Beliefs on children's acute gastroenteritis and preventive practices?
 - d) Biological factor in terms of age
 - e) Socio-cultural factors in terms of educational attainment and socio-economic status
2. What is the extent of respondents' preventive practices about children's acute gastroenteritis?
3. Are the respondents' knowledge, attitude, beliefs, socio-cultural and biological factors significantly related to the respondent's preventive practices against children's acute gastroenteritis?

4. Which among the independent variables significantly determines preventive practices against children's acute gastroenteritis of the respondents?
5. What health education program can be developed based on the result of this study?

Hypotheses

The hypotheses of this study are:

1. The level of knowledge, degrees of attitude, beliefs, socio-cultural and biological factors are not significantly related to preventive practices against children's acute gastroenteritis.
2. The following do not determine the respondents' preventive practices against children's acute gastroenteritis.
 - a. Knowledge
 - b. Attitude
 - c. Beliefs
 - d. Socio-cultural factors and biological factor

Significance of the Study

The findings of the study are significant to the following

Nursing Education

Health education is the main responsibility of caregivers especially nurses. The result of the study will guide the nursing educators how to enrich the curriculum especially in community nursing. The findings will also help the faculty members identify learning needs of the community residents especially the mothers, thus students block in the different communities will be guided how to develop appropriate teaching plan as they conduct health teachings to the residents.

Nursing Practice

The result through thorough assessment of the determinants of preventive practices against acute gastroenteritis could help the health care providers both in the hospital and community. The results will serve as documented evidences about the

knowledge, beliefs, attitudes, and different preventive practices utilize by most of the mothers. With the results, the nurses will be able to encourage not only the mothers but each members of the families the importance of adhering to the identified methods of preventing acute gastroenteritis.

Nursing Research

The result of this study will broaden and deepen one's knowledge toward the determinants of mother's preventive practices against children's acute gastroenteritis. Moreover, this will help other researchers in conducting related studies on the same problem. It will help in the awareness of related problems in the community; thus, the needs are appropriately addressed. The findings of this study will also contribute to the researchers to make them aware of searching for other factors which will determine other preventive practices against acute gastroenteritis. The findings of this study, in addition, may serve as a reference and source of information for other future nurse researchers.

METHODOLOGY

In order to seek answers to the problem of this study, the following were used: the research design, population and sampling techniques, and the statistical treatment of the data.

Research Design

The descriptive-correlational design was employed in this study. This is a type of non-experimental design through which the researcher observes the phenomena as they occur naturally and do not intervene in anyway (Mitchell & Jolley, 2010). The descriptive method was used to describe the determinants of mother's preventive practices against children's acute gastroenteritis: Basis for a health education program in terms of knowledge, attitude, and beliefs, biological and socio-cultural factors. On the other hand the correlational design was utilized in this study to determine whether the knowledge, attitude,

beliefs, biological and socio-cultural factors are related mother's preventive practices against children's acute gastroenteritis.

Population and Sampling Technique

A total of 150 respondents who were 18-45 years old mothers who can read and write, who have children ages 5 years old and below were included in the study.

The study was conducted in Santa Rosa city and Silang Cavite. Convenience sampling technique was utilized to select the Barangays. However, in selecting respondents the researcher utilized purposive sampling method.

Statistical Treatment

The gathered data were tabulated in statistical package Predictive Analytical Soft Ware (PASW) version 18 to obtain the necessary statistical treatment for interpretation.

Mean and standard deviation were used to find the level of knowledge, attitude and beliefs of the respondents on acute gastroenteritis and the extent of mother's preventive practices.

Frequency distribution was applied to get the biological and socio-cultural factors of the respondents including age, gender, educational attainment and social-economic status. Pearson-Product moment correlation was used to find the significant relationship among knowledge, attitude, and beliefs, biological and socio-cultural factors to mother's preventive practices against children's acute gastroenteritis. Multiple regression analysis was applied to determine factors that significantly predict mother's preventive practices against acute gastroenteritis.

RESULTS

The respondents answered a total of 22 questions about knowledge. The level of knowledge was based on correct responses. Among the questions asked, 100% of the respondents answered item *to prevent acute gastroenteritis, Proper hygiene is necessary and Drinking water should be safe and*

clean correctly. The mean knowledge average of 18.20, standard deviation of 2.0267, interpreted as high knowledge on acute gastroenteritis

Table 1: Knowledge on Children's Acute Gastroenteritis and Preventive Practices

Items	%Correct Responses	Verbal Interpretation
Acute gastroenteritis is a infection/infestation caused by:	90.00	High
a. virus		
b. parasite	64.00	Average
c. bacteria	74.00	High
d. eating too much	55.33	Average
House flies are carriers of acute gastroenteritis	93.33	High
Most of the deaths and severe illnesses caused by acute Gastroenteritis occur before five years old	90.67	High
Vomiting is one of the signs of acute gastroenteritis	94.00	High
Poor sanitation is a risk factor of acute gastroenteritis	98.00	Very High
Children can die from acute gastroenteritis	94.67	High
It is possible to prevent children from getting acute gastroenteritis	96.00	Very High
Acute gastroenteritis can be easily transferred to another person through coughing	39.33	Low
Acute gastroenteritis can be treated by drinking lots of water	22.00	Very Low
Hand washing is the cheapest way to prevent acute gastroenteritis	95.33	High
Washing hands can kill germs that cause acute gastroenteritis	89.33	High
Washing the hand with running water is better than merely dipping one's hand inside the bucket	92.00	High
Water from the river can cause acute gastroenteritis	85.33	High
To prevent acute gastroenteritis,		
a. Proper hygiene is necessary	100.00	Very High
b. Drinking water should be safe and clean	100.00	Very High
c. Washing hands should be done for 15- 20 second while singing "Happy Birthday To You" for two times	80.00	High
Fruits and vegetables eaten unpeeled and raw can be safely eaten without washing them	84.67	High
If I wash my hands many times using soap and water acute gastroenteritis will be prevented	88.00	High
Acute gastroenteritis is a public health concern	97.33	Very High

*Note: Very Low = 1-5 Low = 6-10 Average =11-15 High = 16-20 Very High = 21-22

Table 2: Attitude on Acute Gastroenteritis and Preventive Practices

Items	M(SD)	Scaled Response	VI*
Acute gastroenteritis is not a serious illness	2.68(1.01)	Agree	Positive
I find it difficult to encourage other members of my household to wash hands with soap before and after food handling and preparation	2.72(.97)	Agree	Positive
If I wash my hands many times with water I do not need to use soap	3.07(.86)	Agree	Positive
I am willing to:			
a. encourage mothers to stock safe drinking water	3.52(.65)	Strongly Agree	Highly Positive
b. keep food preparation areas, utensils, and equipment clean	3.62(.57)	Strongly Agree	Highly Positive
c. encourage mothers to participate in the prevention program of the government towards acute gastroenteritis	3.56(.65)	Strongly Agree	Highly Positive
d. encourage mothers to cook raw foods and leftovers until steaming hot	3.66(.52)	Strongly Agree	Highly Positive
e. cover all foods in the fridge, cupboard, and outdoors	3.56(.56)	Strongly Agree	Highly Positive
f. clean my immediate environment area	3.70(.52)	Strongly Agree	Highly Positive
g. dispose my child's feces or dirty diaper properly	3.70(.50)	Strongly Agree	Highly Positive
h. teach my children to use soap and water after defecation	3.74(.44)	Strongly Agree	Highly Positive
i. prepare food in a clean place	3.71(.48)	Strongly Agree	Highly Positive
I encourage mothers to clean and cover the water container	3.68(.46)	Strongly Agree	Highly Positive
I prefer to use spoon when feeding my children	3.64(.50)	Strongly Agree	Highly Positive
I feel I am adequately equipped with the necessary knowledge to prevent acute gastroenteritis	3.19(.74)	Agree	Positive
I can motivate other:			
a. people to read newspaper, and watch television about acute gastroenteritis	3.59(.55)	Strongly Agree	Highly Positive
b. mothers to participate in various campaigns on acute gastroenteritis in my area	3.58(.52)	Strongly Agree	Highly Positive

*Note: 3.5-4= Highly Positive; 2.5 – 3.49= Positive; 1.5 – 2.49= Negative; 1.0 – 1.49 = Highly Negative

As revealed in Table 2 item "I am willing to teach my children to use soap and water after defecation" this reflects the

result of the previous studies and literature on attitude which got the highest mean of 3.74.

Table 3: Beliefs on Acute Gastroenteritis and Preventive Practices

Items	M(SD)	Scaled Response	VI*
I believe that:	3.52(.85)	Agree	Strong
a. drinking unsafe water causes acute gastroenteritis			
b. cleaning of environment will help lessen the risk of contracting acute gastroenteritis	3.55(.56)	Strongly Agree	Very Strong
c. washing the hands is one way of preventing acute gastroenteritis	3.68(.46)	Strongly Agree	Very Strong
d. children are more prone to acute gastroenteritis than adult	3.42(.62)	Agree	Strong
e. only poor people are affected with acute gastroenteritis	2.13(.98)	Disagree	Strong
f. washing my hands with soap is important after defecation	3.59(.53)	Strongly Agree	Very Strong
g. washing children's hands with soap combats acute gastroenteritis	3.48(.51)	Agree	Strong
h. using soap in cleaning baby makes good luck run away	3.52(.52)	Strongly Agree	Very Weak
i. retreating leftover food could reduce incidence of acute gastroenteritis	3.44(.59)	Agree	Strong
Fruits and vegetables should be washed before:	3.61(.50)	Strongly Agree	Very Strong
a. eating			
b. cooking	3.58(.54)	Strongly Agree	Very Strong

*Note: 3.5-4= Very Strong; 2.5 – 3.49= Strong; 1.5 – 2.49=Weak; 1.0 – 1.49 = Very Weak

The result reveals that the grand mean for belief was 3.39 and standard deviation of.40. This result implies that the respondents 'beliefs toward acute gastroenteritis and preventive practices against children's acute gastroenteritis was strong since the respondents agree as presented in Table 3

Table 4: Mother's Preventive Practices against Children's Acute Gastroenteritis

Items	M(SD)	Scaled Response	VI*
I wash my hands using soap and water:	4.79(.48)	Always practiced	Excellent
a. before feeding a child			
b. before eating	4.79(.48)	Always practiced	Excellent
c. after feeding a child	4.66(.83)	Always practiced	Excellent
d. after eating	4.84(.45)	Always practiced	Excellent
e. before food preparation	4.82(.50)	Always practiced	Excellent
f. after food preparation	4.74(.70)	Always practiced	Excellent
g. after handling garbage	4.84(.51)	Always practiced	Excellent
h. after handling dirty laundry	4.68(.73)	Always practiced	Excellent
i. after cleaning child's bottom	4.89(.45)	Always practiced	Excellent
j. after blowing my nose or children's nose	4.74(.68)	Always practiced	Excellent
k. after wiping my nose or children's nose	4.72(.71)	Always practiced	Excellent
l. after playing with pets	4.80(.54)	Always practiced	Excellent
m. after changing diapers of my child	4.74(.68)	Always practiced	Excellent
n. after using the toilet	4.86(.41)	Always practiced	Excellent
I provide a towel for each family member	4.52(.91)	Always practiced	Excellent
I use alcohol-based rubs if sink is not available	4.43(.90)	Often practiced	Very good
I dry my hands:	4.63(.70)	Always practiced	Excellent
a. with a clean towel			
b. using my clothes and in the air	2.74(1.63)	Sometimes practiced	Good
I avoid using water from:	3.78(1.50)	Often practiced	Very good
a. the traditional wells			
b. water pits	3.63(1.75)	Often practiced	Very good
I keep water containers covered and clean	4.86(.39)	Always practiced	Excellent
I boil our drinking water	4.47(.84)	Often practiced	Very good
I use bottled drinking water	4.20(1.06)	Often practiced	Very good
I get drinking water from the faucet	3.39(1.45)	Sometimes practiced	Good
I provide safe drinking water for my family	4.85(.49)	Always practiced	Excellent
I keep the house clean by:	4.90(.36)	Always practiced	Excellent
a. throwing the garbage in garbage can			
b. cleaning the house everyday	4.88(.42)	Always practiced	Excellent
c. throwing children's feces and soiled diapers in covered garbage can	4.82(.50)	Always practiced	Excellent
d. covering the garbage can	4.86(.41)	Always practiced	Excellent
I prepare food in clean:	4.85(.49)	Always practiced	Excellent
a. areas			
b. utensils	4.87(.32)	Always practiced	Excellent
c. equipment	4.89(.30)	Always practiced	Excellent
I keep my immediate environment clean	4.84(.45)	Always practiced	Excellent
I properly dispose:	4.91(.28)	Always practiced	Excellent
a. children's faeces			
b. soiled diapers	4.85(.49)	Always practiced	Excellent

My custom is to dispose of in toilet my children's feces	4.46(1.09)	Often practiced	Very good
I cover all leftover food in the:	4.76(.65)	Always practiced	Excellent
a. refrigerator			
b. cupboard	4.77(.62)	Always practiced	Excellent
c. outdoors	2.34(1.58)	Rarely practiced	Fair
I cook raw foods and leftover until steaming hot	4.68(.85)	Always practiced	Excellent
I cover any leftover cooked food	4.71(.69)	Always practiced	Excellent
I chill leftover food within two hours	3.80(1.46)	Often practiced	Very good
I protect food from insect and animal by covering it	4.76(.65)	Always practiced	Excellent
I feed the baby with a clean spoon	4.85(.49)	Always practiced	Excellent
I cook or boil the food well when preparing it	4.88(.36)	Always practiced	Excellent
I prepare the food immediately before it's eaten	4.78(.57)	Always practiced	Excellent

*Note: 4.5 – 5.00=Excellent; 3.5 – 4.49=Very Good; 2.5 – 3.49=Good 1.5 – 2.49= Fair; 1.0 –1.49= Poor

The results in Table 4 show that the respondents *always* practiced preventive practices against children's acute gastroenteritis with a grand mean of 4.54 and standard deviation of .31.

Table 5: Relationship of Knowledge, Attitude and Beliefs to Preventive Practices

Interpretation	Correlation Coefficient	Significance	Descriptive
Knowledge	.184	.024	Significant [#]
Attitude	.220	.007	Significant*
Beliefs	.205	.012	Significant [#]

[#]Correlation is significant at 0.05 (2-tailed).

*Correlation is significant at 0.01 (2-tailed).

The findings in Table 5 reveal that knowledge, attitude and beliefs are significantly related to preventive practices against children's acute gastroenteritis. The relationship is positive with a correlation

coefficient of .184, .220 and .205, respectively for knowledge, attitude and beliefs. The probabilities associated knowledge and beliefs are .024 and .012 significant at .05 levels whereas the probability associated of attitude is .007, significant at .01 level.

Table 6: Relationship of Biological and Socio-Cultural Factors to Preventive Practices

	Correlation Coefficient	Significance	Descriptive Interpretation
Age	-.047	.570	Not significant
Educational Attainment	.114	.164	Not significant
Income	.118	.150	Not significant

Correlation is significant at 0.05(2-tailed)

This finding implies that irrespective of age, educational attainment and income, their preventive practices are the same.

Table 7: Determinants of Mother's Preventive Practices against Children's Acute Gastroenteritis

Constant	Unstd. Coefficients		Std. Coefficients	R	R ²	R ² Change	T	Sig
	B	Std. Error	Beta					
Attitude	.193	.071	.214	.220	.048	.048	2.700	.008
Knowledge	.030	.013	.177	.282	.080	.031	2.237	.027

The table 7 showed the regression analysis of knowledge and attitude to preventive practices against children's acute gastroenteritis. Table 7 presents the significant predictors of preventive practices against children's acute gastroenteritis. It shows that among the several variables that were considered in this study, attitude and knowledge entered into the regression model with unstandardized Beta coefficients of .193 and .030, respectively.

DISCUSSION

Concerning the findings of knowledge on Children's Acute

Gastroenteritis and Preventive Practices, this should be attributed to the fact that nursing students as well as public health students do their community training at Lumil Health Center, Puting Kahoy health center, Santa Domingo health center, and at Pulong Santa Cruz where the study was done. During the students' training, health education programs are held to compliment the government health promotion programs.

However item 9, *Acute gastroenteritis can be treated by drinking lots of water*, was only answered correctly by 22% of the respondents. Moreover, only 39.33% of the respondents answered

correctly item 8, *Acute gastroenteritis can be easily transferred to another person through coughing*. This shows that they lacked knowledge on these items.

The study conducted in Dhaka (Bangladesh) by Unicomb (2009) showed that 47 mothers (23.5 %) and 31 mothers (15.5 %) in the case group had poor knowledge on how acute gastroenteritis spread and its prevention. In the control group, 16 mothers (4%) had poor knowledge on how acute gastroenteritis spread and only three mothers (0.75%) had no knowledge of prevention.

According to the findings of attitude on Children's Acute Gastroenteritis and Preventive Practices, these findings show that respondents strongly agreed which implies possessing high positive attitude on these items in relation to preventive practices that would assure them that their children will not have acute gastroenteritis. Moreover, it is supported by a survey which revealed that the increased risk of acute gastroenteritis with inadequate hand washing, in particular after defecation or cleaning a child, has been documented by Hirwa as cited in Bern, Martinez, de Zoysa, & Glass (2009).

Related to the findings of beliefs on Children's Acute Gastroenteritis and Preventive Practices, the respondent strongly agreed on item 1c, *I believe that washing the hands is one way of preventing acute gastroenteritis* (mean =3.68). This means that they believed that acute gastroenteritis can be prevented through washing their hands. According to Ahs, Tao, Löfgren and Forsberg (2010), hand washing after defecation and after cleaning up a child's feces is a particularly important measure at the individual level to reduce the spread of pathogens. Hand washing with soap is most effective, reducing acute gastroenteritis by 42-47%. Likewise, the study conducted by Zwane and Kremer (2007) supported these findings and stated that hand washing with soap after defecation, after cleaning children, and before and after food handling can interrupt

acute gastroenteritis transmission path. Further, hand washing with soap has been shown to reduce the incidence of acute gastroenteritis by over 40 percent, making it one of the most cost-effective interventions for reducing child deaths caused by this neglected killer (Karki, Srivanichakorn & Chompikul, 2010). However, in his study, Kogi-Makau, (2007) revealed that when a mother notices that the child is ill, the first thing is to pray, after which, depending on nature and severity of illness, the next step can be at any of the following areas: Traditional home health practice, traditional healer, buying medicine, getting the Sheikh to pray or seeking modern health care at a health facility.

The findings on *Mother's Preventive Practices against Children's Acute Gastroenteritis* mean that the respondents had *excellent* preventive practices against children's acute gastroenteritis since they were always practiced. This is supported by a survey conducted in Zambia found that the results were rather pleasing since 80% responded that there were no toilets near their water sources. It did not mean though that the water sources were necessarily clean and safe to drink (Juusela, 2009). Bartram (2008) stated that access to a toilet alone can reduce child acute gastroenteritis deaths by over 30 percent and hand washing by more than 40 percent, further acute gastroenteritis are often described as water related, but more accurately should be known as excreta related since the pathogens derive from fecal matter. Further, the study conducted in Arba-Minch district, Southern Ethiopia, 2012 by Mohammed, Tilahun and Tamiru (2012) indicated that mother's poor hand washing practice was associated with acute gastroenteritis morbidity. Study revealed that the risk of developing acute gastroenteritis was high (AOR= 2.33, 95%CI =1.80, 4.15) among children whose mothers had poor hand washing practice before child fed.

According to the findings of Relationship of Knowledge, Attitude and Beliefs to Preventive Practices, the null

hypothesis that says "*Level of knowledge, degree of attitude and beliefs are not significantly related to preventive practices against children's acute gastroenteritis*" was rejected. This implies that the more are respondents with a positive attitude, with a strong beliefs the excellent is their preventive practices against children's acute gastroenteritis.

Likewise, the study of Ansari et al. (2011) supported this findings and showed a statistical significance between mothers' knowledge about the prevention of acute gastroenteritis and education ($\chi^2 = 6.325$, $p < 0.05$). This also support the previous finding of Manalili (2012) study where it was found out that knowledge, attitude and health beliefs are significantly related to infection control practices on Malaria.

Related to the findings on Relationship of Biological and Socio-Cultural Factors to Preventive Practices, the null hypothesis which states "*The level of socio-cultural and biological factors is not significantly related to preventive practices against children's acute gastroenteritis in terms of hand washing technique, water utilization, environmental sanitation and food handling and preparation*" was retained. The study of Onyango and Angienda (2010) supported the study and revealed that the findings tend to support the idea that maternal age is an important determinant of healthcare-seeking for childhood illness. Further, they continue older caregivers (mothers) were more likely to seek appropriate care than younger ones. About two-thirds (64.4%) of the caregivers were between ages 20-29, followed by 30-39 at 22.9%, and 10.2% of them were adolescent. Only 3.3% of the caregivers (mothers) were above 40 years (Mukiira and Ibisomi 2010).

This also support the previous finding of Mansaguiton (2012) study where it was found out that age, educational attainment and socio-economic status were not significantly related to the respondents preventive practices against dengue fever. However, this does not support the study

conducted by Liu (2009) which found that there is a positive correlation between maternal education and child health outcomes.

The findings on Determinants of Mother's Preventive Practices against Children's Acute Gastroenteritis, show that the null hypothesis stating that "*the following do not determine the respondents' preventive practices against children's acute gastroenteritis: knowledge, attitude and beliefs*" was rejected. This also support the previous finding of Mansaguiton (2012) study where it was found out that respondents with a high knowledge level and with positive attitude towards preventive practices against dengue fever were more likely those with better preventive practices against dengue fever. In contrast, Osumanu (2007) revealed that exposure to acute gastroenteritis pathogens in developing countries is conditioned by factors such as quality and quantity of water, availability of toilet facilities, housing conditions, level of education, economic status of households, place of residence and general sanitary conditions (personal or domestic hygiene) surrounding homes.

Further, Karki et al. (2010) showed that access to clean water and good hygiene practices are extremely effective in preventing childhood acute gastroenteritis.

CONCLUSION

Interpretation of the data gathered in determinants of mother's preventive practices against children's acute gastroenteritis as basis for a health education program is presented according to the research questions. Based on the findings of the study, it could be concluded that the respondents were highly knowledgeable, had a *positive* attitude and *strongly* believed on preventive measures against children's acute gastroenteritis. The more the respondents are knowledgeable and have a positive attitude toward acute gastroenteritis, the more they practice the different preventive measures. Thus, attitude

and knowledge predict ones preventive practices against children's acute gastroenteritis, and the following recommendations were been drown

Nursing Practices

To formulate activities that will enhance higher level of positive attitude on preventive practices against children's acute gastroenteritis in the community

Nursing Research

To conduct another study in other communities especially those with high incidence of acute gastroenteritis.

Nursing Education

Nursing educators should emphasize to their students that when giving health education to the mothers in the community, they should emphasize what causes acute gastroenteritis, its mode of transmission and that taking a lot of fluids is one of the best ways to recover from this health problem.

ACKNOWLEDGEMENTS

It is wonderful to give praise and honor to God from whom all blessings flow for the provisions toward the outcome of my graduate study.

My graduate professors who have taught and trained me, for their innate love for teaching and sharing their knowledge which has motivated me to teach others; The family of Gerard Urayeneza for his prayers and financial assistance

To my beloved extended African family: my wife Marie Madeleine Nibakwe, for the love, the encouragement, prayers and the sacrifices and my lovely children, Roméo Niyo and Rania Niwe for their love.

REFERENCES

- Ansari et al. (2011): A survey of mothers' knowledge about childhood diarrhoea and its management among a marginalized community of Morang, Nepal. *The Australasian Medical Journal* [30 Sep 2011, 4(9):474-479]
- Hirwa, S. Diarrhea prevention program (2012): Its effects on the knowledge, practices and incidence of diarrhea. Unpublished Thesis. Adventist University of the Philippines

- Juusela, V. (2009). A sanitation development project in rural Zambia: Management, recommendations and instructions. Retrieved on July 12, 2013 from <http://publications.theseus.fi/bitstream/handle/10024/8415/Juusela.Ville.pdf?sequence=2>
- Karki T, Srivanichakorn S, & Chompikul J. (2010). Factors related to the occurrence of acute gastroenteritis among under-five children in Lalitpur district of Nepal. *Journal of Public Health and Development*. 8 (3): 237-51.
- Kundu, T. R & Sen-Ngam, k. (2010). Relationship between Maternal Perceptions and Preventive Behaviors Regarding Acute Diarrhea of Children in Bangladesh. Retrieved on Dec 18, 2012 from <http://sv.libarts.psu.ac.th/conference5/proceedings/Proceedings2/article/7pdf/009.pdf>
- Manalili, L.M (2012). Determinant of infection control practices on malaria. Unpublished Thesis. Adventist University of the Philippines.
- Mansaguiton, P.L (2012). Determinants of preventive practices against dengue fever in Valencia city. Unpublished Thesis. Adventist University of the Philippines.
- Mitchell, M. L and Jolley, M. J. (2010). *Research Design Explained*. Retrieved on January 29, 2013 from http://books.google.com.ph/books/about/Research_Design_Explained.html?id=wIWYPwAACAAJ&redir_esc=y
- Mohammed S, Tilahun M, and Tamiru D (2012). Morbidity and associated factors of diarrheal diseases among under five children in Arba-Minch district, Southern Ethiopia, 2012. *Science Journal of Public Health* 2013; 1(2): 102-106
- Mukiira, C & Ibisomi L (2010). Health care-seeking practices of caregivers of under-five children with diarrheal diseases in two informal settlements in Nairobi, Kenya. Retrieved on February 04, 2013 from <http://paa2013.princeton.edu/papers/131311>
- Onyango, D.M & Angienda, P.O (2010). Epidemiology of Waterborne Diarrhoeal Diseases among Children Aged 6-36 Months. *International Journal of Biological and Life Sciences* 6:2
- Osumanu, I.K (2007). Household environmental and behavioural determinants

- of childhood diarrhoea morbidity in the Tamale Metropolitan Area. *Geografisk Tidsskrift Danish Journal of Geography* 107(1):59 - 68, 2007.
- Tate et al., (2011). East Los Angeles College : economics101 : actual case study AGE. Retrieved on July 21, 2012 from <http://www.coursehero.com> › California
 - Unicomb, E. L. (2009). Food Safety: Pathogen Transmission Routes, Hygiene Practices and Prevention. *J Health Popul Nutr* 27(5):599-601
 - Yala, E.T. (2010). The clinical efficacy of multi-strain probiotics (protexin) in the management of acute gastroenteritis in children two months to two years old, Philippines. *Online journal pidspjournal* Vol.11 No.2 : 86-91
 - Zwane, A.P and Kremer, M (2007). What Works in Fighting Diarrheal Diseases in Developing Countries? A Critical Review. Retrieved on June 8, 2013 from http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/pdfs/centers-programs/centers/cid/publications/faculty/wp/140.pdf
- How to cite this article: Viateur K. Determinants of mother's preventive practices against children's acute gastroenteritis: basis for a health education program. *Galore International Journal of Health Sciences & Research*. 2018; 3(2): 13-22.
