International Journal of Sciences: Basic and Applied Research (IJSBAR)

ISSN 2307-4531
(Print & Online)

http://gssrr.org/index.php?journal=JournalOfBasicAndApplied

Determinants Associated With Incidence of Acute Gastroenteritis (GEA) on Childhood in Abepura Hospital

Eka Wiwin Revelation [a*], Buraerah A. Hakim [b], Bernard Sandjaja [c]

[a] *Master Program, Faculty of Public Health, Cendrawasih University*

[b] *Postgraduate Study Program, Biostatics Department, Faculty of public Health Hasanuddin University, Makassar*

[c] *Postgraduate Program of Faculty of Public Health, Cendrawasih University*

[a] *Email: nurse_s@rocketmail.com*

Abstract

The incidence of gastrointestinal disease is high enough in Hospital general of Abepura. There is an increasing number of cases of acute gastroenteritis concern. This study aims to determine the relationship determinants that cause acute gastroenteritis in Abepura hospitals. Method this research is analytic survey research using Cross Sectional Study approach. The sample in this study toddlers aged 0-5 years who experienced of acute gastroenteritis while respondents are parents of children with 75 respondents. The sampling technique used purposive sampling technique. Statistical analysis using chi square test. The results showed no correlation between age (p = 0.01), educational level (p = 0.00), knowledge (p = 0.00), personal hygiene (p = 0.03), food processing (p = 0, 00), with the incidence of acute gastroenteritis and there is no employment relationship status (p = 0.336) and the incidence of acute gastroenteritis in Abepura hospitals. Variable most effect on the incidence of acute gastroenteritis are knowledge (p = 0.001) and food processing (p = 0.002). Parents need to increase knowledge about the causes of acute gastroenteritis disease to be alert and able to do the prevention and treatment of acute gastroenteritis illness.

Keywords: Acute gastroenteritis; Knowledge; Personal Hygiene; Food Processing.

---

* Corresponding author. *nurse_s@rocketmail.com*

1. Introduction

Gastroenteritis is a public health problem that happened very closely with the state of the environment. The main cause of death due to gastroenteritis is governance that is not right either at home or health facility. To decrease deaths due to gastroenteritis need governance that is fast and precise [1]. According to data from the World Health Organization (WHO) in 2013, diarrheal disease is the second cause of death in children who are malnourished or deficient immune system. Gastroenteritis or diarrhea already killing 760,000 children each year, mostly due to the occurrence of gastroenteritis who died of dehydration in large quantities. In the world, there are 1.7 billion cases of gastroenteritis occur each year. According to the prevalence obtained from various sources, one of them from the Basic Health Research Agency (RISKESDAS) in 2013 [2], with diarrhea in Indonesia come from all ages but Prevalence highest suffered by children, especially at age <1 year (7%) and 1 - 4 years (6.7%). Child mortality rate in Indonesia reached 152,000 people and two-thirds due to gastroenteritis. This figure is quite high means that 17 children under five die every hour and the biggest cause is due to gastroenteritis or diarrhea.

Cases of gastroenteritis or diarrhea in Papua Province are found and dealt with by 26.6% after 28.6% of malaria. [3]. According to the Strategic Plan 2012-2016 Jayapura City Health Office of the environment is one of the major factors that influence the degree of public health, especially the availability of clean water. Households that have a source of clean water that meets the requirements in urban areas is increasing which is 80.2% of target 80% but inadequate basic sanitation as a result of urbanization, influence the spread of communicable diseases. Toddler body is still very vulnerable to foreign elements because toddlers do not yet have an adequate immune system. At this age children are still vulnerable to various health problems. So if parents are not careful with personal hygiene, indirectly giving the media the disease in the body of a toddler. For example, after a day's work mother forgot to wash his hands and immediately cradling a toddler. Indirectly germs or anything attached to the hands will move to the toddler's body. If the mother's hands contain germs or bacteria, the child will be easily infected with a disease. Toddlers are very vulnerable health condition requires supervision and care as possible [4, 5].

Cases of gastroenteritis or diarrhea in Papua Province are found and dealt with by 26.6% after 28.6% of malaria [3]. According to the Strategic Plan 2012-2016 Jayapura City Health Office of the environment is one of the major factors that influence the degree of public health, especially the availability of clean water. Households that have a source of clean water that meets the requirements in urban areas is increasing which is 80.2% of target 80% but inadequate basic sanitation as a result of urbanization, influence the spread of communicable diseases. The incidence of gastrointestinal illness at this time is quite high in general Hospital Abepura. There is an increasing number of cases of acute gastroenteritis, according to data from the Medical Record of concern, which does not decrease the number of cases of acute gastroenteritis, but the number of cases increased from 2013 to 2014.

The number of patients with acute gastroenteritis disease in 2013 there were 666 cases, while in 2014 there were 713 cases so that an increase of 7.05%.

Based on the above background of researchers interested in conducting research entitled "Determinants Related to acute gastroenteritis in children under five in Abepura Hospital". The aim of this research was to determine the relationship of determinants that cause acute gastroenteritis in children under five in Abepura Hospital.

2. Material and Methods

This research is analytic survey research using Cross Sectional Study approach. This study was carried out in Abepura Hospital and houses patients suffering acute gastroenteritis illness. The collection of data carried out since August-September 2015. The population in this study were all patients who are in Abepura Hospital in August-September 2015. The sample in this study were young children aged 0-5 years who experienced acute gastroenteritis while respondents are people old child. The sample in this study are toddlers aged 0-5 years who experienced acute gastroenteritis while the respondent is the child's parent. The sampling technique used was purposive sampling with sample size amounted to 75 people. The dependent variable of the study was the incidence of acute gastroenteritis in children under five. As for the study independent variables were age, education level, employment status, knowledge, personal hygiene and food processing. Age of children under five are categorized into ≤ 2tahun and> 2 years, the education level categorized into low (no school, elementary, middle) and high (high school and college), employment status categorized into work and does not work, knowledge categorized into low (if the correct answer <60%), moderate (if the answer is correct 60-80%) and high (if the correct answer <80%), personal hygiene categorized into less (if score <3) and good (if score of ≥ 3), food processing categorized into less (if score <60%) and good (if a score of ≥ 60%). The instrument used in this study was a questionnaire for knowledge and observation sheets for personal hygiene and food processing with a total of 28 questions. Data processing was performed with SPSS with the process of editing, coding, Entry and then data analysis consisted of univariate, bivariate and multivariate analysis using Chi-Square test and Multiple Logistic Regression with significance level ≤ 0.05.

3. Results

1. Univariate Analysis Sociodemographics

a. Age

Distribution of respondents by age can be seen in the table below. Based on the table below 5 respondents were divided into two age categories, age ≤ 24 months of 68 respondents (90.7%) and aged> 24 months by 7 respondents (9.3%).

Table 5: Distribution of Respondents by Age

Age	n	%
≤ 24 month	68	90,7
> 24 month	7	9,3
Total	75	100,0

b. Level of education

Distribution of respondents by level of education can be seen in the table below:

Table 6: Distribution of Respondents by Education Level

Education level	n	%
High	33	44,0
Low	42	56,0
Total	75	100,0

The education level of respondents are divided into categories: high (high schools and universities) and low (no school, elementary and junior high school), most respondents are poorly educated by 42 respondents (56%).

c. Job Status

Distribution of respondents by employment status can be seen in the table below:

Table 7: Distribution of Respondents by Job Status

Occupation	n	%
Jobless	43	57,3
Work	32	42,7
Total	75	100,0

Employment status of the respondents were divided into two categories: working and not working. Most job status is the respondents who do not work as many as 43 respondents (57.3%) while working only a total of 32 respondents (26.7%).

2. Clean and healthy behaviours

a. Knowledge

Distribution of respondents based knowledge can be seen in the table below:

Table 8: Distribution of Respondents by Knowledge

Knowledge	n	%
Low	36	48,0
Moderate	34	45,3
High	5	6,7
Total	75	100,0

Based on the table above, it can be seen that most of the respondents with low knowledge as much as 36 respondents (48.0%), knowledge was as much as 34 respondents (45.3) and high knowledge as much as 5 respondents (6.7%).

b. Personal Hygiene

Distribution of respondents by personal hygiene can be seen in the table below:

Table 9: Distribution of Respondents by Personal Hygiene

Personal Hygiene	n	%
Good	22	29,3
Less	53	70,7
Total	75	100,0

Based on the table above, it can be seen that most respondents with less personal hygiene as much as 53 respondents (70.7%) and good by 22 respondents (2%).

c. Food processing

Distribution of respondents by the food processing can be seen in the table below. Based on the table below, it can be seen that most respondents with less food processing as many as 46 respondents (61.3%) and good by 29 respondents (38.7%).

Table 10: Distribution of respondents by Respondents Food Processing

Food Treatment	n	%
Good	29	38,7
Less	46	61,3
Total	75	100,0

d. The incidence of gastroenteritis

Results of research on the incidence of acute gastroenteritis obtained from the questionnaire given to respondents. Variable incidence of acute gastroenteritis in children under five are categorized into acute gastroenteritis and acute gastroenteritis that can be seen in the following table:

Based on the table below, it can be seen that the results of research on the incidence of acute gastroenteritis were obtained from the questionnaire, namely acute gastroenteritis by 27 respondents (36.0%) and acute gastroenteritis 48 respondents (64.0%).

Table 11: Distribution of Respondents Answers About Genesis Acute Gastroenteritis

Occurrence of acute Gastroenteritis	n	%
Acute Gastroenteritis	27	36,0
Not acute Gastroenteritis	48	64,0
Total	75	100

3. Analysis Bivariat

Social demographics

a. Age

The relationship between age and the incidence of acute gastroenteritis in children under five are presented in Table 12 below:

Based on the table below 12, children under five who have ≤ 24 months of age who experienced acute gastroenteritis by 26.7% (20 out of 75 children under five), while children under five who have aged> 24 months who did not experience acute gastroenteritis of 9.3% (7 out of 75 children under five). Results of statistical test Chi Square showed that p = 0.01 (p <0.05), meaning that there is a significant correlation between age and the incidence of acute gastroenteritis in children under five in Abepura Hospital.

Table 12: Relationship Between Age With Genesis of Acute Gastroenteritis in Children Toddlers

Age	Diarrheal occurrence			
	Acute Gastroenteritis		Not acute Gastroenteritis	
	n	%	n	%
≤ 24 month	20	26,7	48	64
> 24 month	7	9,3	0	0
Total	48	36	27	48

b. Level of education

The relationship between level of education and events Acute gastroenteritis is presented in Table 17 below:

Based on the table 13 below it can be seen that the low education level of respondents who experienced more acute gastroenteritis by 36.0% of the highly educated. Results of statistical test Chi Square showed that p = 0.00 (p <0.05), meaning that there is a significant correlation between level of education and the incidence of acute gastroenteritis in children under five in Abepura Hospital.

Table 13: Relationship Between Education Level With the incidence of Acute Gastroenteritis in Children Toddlers

Education level	Diarrheal occurrence			
	Acute Gastroenteritis		Not acute Gastroenteritis	
	n	%	N	%
High	0	0,0	42	56
Low	27	36	6	8
Total	27	36	48	64

c. Job Status

The relationship between employment status with the incidence of acute gastroenteritis in children under five are presented in Table 18 below:

Based on Table 14 above it can be seen that working more experienced acute gastroenteritis (18.7%) than those not working. Results of statistical test Chi Square showed that p = 0.336 (p <0.05), meaning there is no significant relationship between work and the incidence of acute gastroenteritis in children under five in Abepura Hospital.

Table 14: Relationship between Job Status with Genesis Acute Gastroenteritis in Children Toddlers

Job Type	Diarrheal occurrence			
	Acute Gastroenteritis		Not acute Gastroenteritis	
	N	%	n	%
Not working	13	17,3	30	40,0
Working	14	18,7	18	24,0
Total	27	36	48	44

4. Behavior Factors of Clean and Healthy

a. Knowledge

The relationship between knowledge of the incidence of acute gastroenteritis in children under five are presented in Table 15 below:

Table 15: Relationship Between Knowledge With the incidence of Acute Gastroenteritis in Children Toddlers

Knowledge	Diarrheal occurrence			
	Acute Gastroenteritis		Not acute Gastroenteritis	
	n	%	n	%
Low	0	0,0	34	45,3
Moderate	22	29,3	14	18,7
High	5	6,7	0	0,0
Total	27	36	48	64

Based on the table 15 above it can be seen that the low knowledge of more experienced acute gastroenteritis (29.3%) than in the high and medium knowledgeable. Results of statistical test Chi Square showed that p = 0.00 (p <0.05), meaning that there is a significant relationship between the knowledge of the incidence of acute gastroenteritis in children under five in Abepura Hospital.

b. Personal Hygiene

The relationship between personal hygiene with the incidence of acute gastroenteritis in children under five are presented in Table 16 below.

Table 16: Relationship Between Personal Hygiene With the incidence of Acute Gastroenteritis in Children Toddlers

Personal Hygiene	Diarrhea occurrence			
	Acute Gastroenteritis		Not acute Gastroenteritis	
	n	%	n	%
Less	15	20,0	38	50,7
Good	12	16,0	10	13,3
Total	27	36,0	48	64,0

Based on the table 16 above it can be seen that the lack of personal hygiene are more experienced acute gastroenteritis by 20.0% than good personal hygiene. Results of statistical test Chi Square showed that p = 0.031 (p <0.05), meaning that there is a significant relationship between personal hygiene with the incidence of acute gastroenteritis in children under five in Abepura Hospital.

c. Food processing

The relationship between food processing with the incidence of acute gastroenteritis in children under five are presented in Table 17 below:

Table 17: Relationship Between Food Processing With the incidence of Acute Gastroenteritis in Children Toddlers

Food treatment	Diarrhea occurrence			
	Acute Gastroenteritis		Not acute Gastroenteritis	
	N	%	n	%
Less	0	0,0	46	61,3
Good	27	36,0	2	2,7
Total	27	36,0	48	64,0

Based on Table 17 above it can be seen that the processing of the food was good more experienced acute gastroenteritis (36.0%) than in the processing of food. Results of statistical test Chi Square showed that p = 0.00 (p <0.05), meaning that there is a relationship of food processing with the incidence of acute gastroenteritis in children under five in Abepura Hospital.

5. Multivariate Analysis

Results of the multivariate analysis with multiple logistic regression test Variable Sig are presented in Table 18 below.

Table 18: Results of the multivariate analysis with multiple logistic regression test Variable Sig.

Variables	Sig.
Age	0,125
Education level	0,013
Job status	0,181
Knowledge	0,184
Personal Hygiene	0,106
Food treatment	0,463

Based on the table 18 above with regard to the value of p, it can be seen that the variables that most influence on the incidence of acute gastroenteritis in children under five is the level of education that is value p = 0.013 where the value of the variable p <0.05.

6. Discussion

6.1. social demographics

1. The relationship of age with the incidence of acute gastroenteritis in children under five Children under five years of age is one factor that can influence the incidence of diarrhea. Based on the table 5 is known that the majority of children under five who have studied age ≤ 24 months of 68 children under five.

Chi square results show that there is significant correlation between age and the incidence of acute gastroenteritis in children under five, with p = 0.01. This research is in line with Sinthamurniwaty there is a relationship of age infants with diarrheal or gastroenteritis with p = 0.00, but different from the results of research conducted [3], which showed no significant relationship between age children with the incidence of gastroenteritis or diarrheal (p = 0.44). Toddler body is still very vulnerable to foreign elements because toddlers do not yet have an adequate immune system. At this age children are still vulnerable to various health problems. So if parents are not careful with personal hygiene, indirectly giving the media the disease on the body of a toddler. According to [the younger infants more likely acute diarrhea or gastroenteritis because the younger toddlers integrity of the intestinal mucosa situation is still not good so that the immune system is still not perfect. After 24 months of age the child started to set up a body's own antibodies in sufficient quantities so that a virus attack is reduced.

2. The relationship of education level with the incidence of acute gastroenteritis in children under five Based on the table 6 is known that the majority of respondents' education level was lower by 42 respondents (56%). Results of statistical test Chi Square with p = 0.00 indicates significant relationship between level of education and the incidence of acute gastroenteritis in children in hospitals Abepura. This study is in line with the results of research conducted [6] showed no relationship between the level of education on the incidence of acute gastroenteritis.

   Low public education makes them difficult to be told about the importance of personal hygiene and environmental sanitation to prevent the outbreak of infectious diseases, one of which gastroenteritis or diarrhea. Educational level can affect a person's knowledge, the higher education possessed the knowledge increased. Mothers with low education have knowledge in how to nurture and care for children and prevent children from being exposed to gastroenteritis or diarrhea. But unlike the Rahmi study showed no significant relationship between the level of education and the incidence of gastroenteritis or diarrhea. According to chadijah, education of parents, especially mothers is one of the key socio-cultural changes. A relatively high education will have a better practice to family health care, especially children under five [7, 8].

3. Relations with the incidence of work status of acute gastroenteritis in children under five The characteristics of one's job can reflect income, social status, education, socioeconomic status, the risk of injury or health problems in a population group. Work generally associated with the level of education and income . Work also affects the ability to access the health care field. Someone with a job and a good income will be easy to meet the needs of food, clothing, housing and medical care than those with low income Results of research conducted by [9] stated there was an employment relationship with the incidence of gastroenteritis or diarrhea. In contrast to the results of this study showed no significant relationship between employment status with the incidence of acute gastroenteritis, with p = 0.336 (p <0.05). Employment status was not associated with gastroenteritis, likely caused by other factors and not a direct cause of the occurrence of acute gastroenteritis.

   Work generally relates to income and therefore contributes to the ability to access the health care field.

Someone with a job and a good income will be easy to meet the needs of food, clothing, housing and medical care than those with low income. Based on the table 7 is known that most of the employment status of the respondent is not working as much as 43 respondents (57.3%). Groups that do not work tend to have lower incomes so lacking in hygiene practices that can cause acute gastroenteritis [10].

6.2. Factors Behavior Clean and Healthy

1. Relationship with the knowledge of the incidence of acute gastroenteritis in children under five From the results, the majority of respondents knowledgeable lower by 36 respondents with a percentage of 48.0%. Based on the results of the bivariate analysis there was a significant relationship between the knowledge of the incidence of acute gastroenteritis in children under five with a value of $p = 0.00$ ($p < 0.05$). Low knowledge of gastroenteritis or diarrhea difficult for the mother to protect and prevent the toddler from the transmission of acute gastroenteritis. This leads to a low knowledge has its own views and different to acute gastroenteritis illness., With the knowledge will lead to awareness that will cause people to behave in accordance with knowledge. Low knowledge indicates the weakness of the respondents' knowledge about diarrhea caused by the respondent merely knows and yet to understand, apply, analyze and evaluate on a matter related to this gastroenteritis events [11]

Knowledge also related to the education level, the higher the education possessed the knowledge increased. Mothers with low education, lack of knowledge in how to nurture and care for children and prevent children from being exposed to gastroenteritis or diarrhea. Another study also mentions that suggest a link between the knowledge of the incidence of acute gastroenteritis. This is in line with research, which shows the relationship of knowledge with the incidence of acute gastroenteritis or diarrhea with $p = 0.02$ ($p < 0.05$). Research conducted [12] also shows the relationship of knowledge to the events of acute gastroenteritis or diarrhea with $p = 0.001$ where $p < 0.05$.

Although gastroenteritis or diarrhea so well known and often occur in people but parents usually do not respond to the disease seriously because of the nature of diarrhea are usually mild. Though the disease can be life threatening especially for infants. Diarrhea can cause dehydration which is very dangerous because if not treated properly can cause a decrease in blood volume. Dehydration will cause the body's metabolic balance. These disorders can lead to death in infants. Death is caused infant or child dehydration. This is because the fluid intake is not balanced with spending through CHAPTER although lasted little by little. Many people regard this discharge as common in gastroenteritis or diarrhea. But the result is very dangerous [11].

The personal hygiene Relations with the incidence of acute gastroenteritis in children under five, Based on the table 9 is known that the majority of respondents lacking personal hygiene as much as 53 respondents with a percentage of 70.7%. Results of statistical test Chi Square with $p = 0.031$ ($p < 0.05$) showed significant relationship between level of education and the incidence of acute gastroenteritis in children in hospitals Abepura.

This research is in line with research conducted by [10] which showed no association between poor personal

hygiene with the increasing incidence of gastroenteritis with indigo p = 0.00. Research conducted [10] also showed no association with the food processing gastoenteritis or diarrhea with indigo p = 0.016. Personal Hygiene is important because good personal hygiene will minimize the entrance of microorganisms that exist everywhere and eventually preventing a person affected by the disease. Personal hygiene is not good to be easier for the body to various diseases, such as gastrointestinal disease, scabies, dental or oral disease and can even eliminate certain functions of this part of the body [11]. Associated with low knowledge of the respondent, the habit of not washing hands with soap is a bad habit and can harm young children when the mother cooking or feeding toddler eating. In this study, the majority of respondents do not wash their hands with soap before eating**.**

3, The food processing relationship with the incidence of acute gastroenteritis in children under five, Based on the results, the lack of food processing of 61.3% with the number of respondents as many as 46 respondents. Results of statistical test Chi Square with p = 0.00 (p <0.05) means that there is a relationship between a food processing with the incidence of acute gastroenteritis in children under five in Abepura Hospital. This research is in line with research conducted [10] which shows the relationship of food processing with gastroenteritis. Healthy foods are foods that contain adequate nutrition, clean and not contaminated. After experiencing food processing, food will be served and may be stored for some time before serving, food can be contaminated in the process of storage or presentation. Improper food handling also causes gastroenteritis or diarrhea [1]. Lack of knowledge and ignorance lead to errors when serve food / drinks. Therefore, education about food handling brings great benefits for the prevention of gastroenteritis or diarrhea diseases [13].

Diseases transmitted through food may cause mild disease and severe even fatal results of which have not been good due to the application of food hygiene. Food contaminated by bacteria after ingestion usually causes symptoms that are not good for the body. Improper food processing ranging from personal hygiene of food handlers, food processing sites, as well as food storage can cause gastroenteritis so it must be considered [13].

7. Results Multivariate Analysis

Analysis of the data is statistically performed by multiple logistic regression test in getting a p-value of the variable age, namely p = 0.125, level of education and the value of p = 0, 0.013, employment status with p = 0, 0.181, knowledge of the value of p = 0.184, personal hygiene with p = 0.106 and food processing with p = 0463. From the results of these statistics with regard to the value p it can be seen that the variables that most influence on the incidence of acute gastroenteritis is the level of education.

In the univariate analysis results obtained mostly low education levels as much as 42 respondents (56%). Qualification holds an important role in public health. Low public education makes them difficult to be told about the importance of personal hygiene and environmental sanitation to prevent the outbreak of infectious diseases, including acute gastroenteritis.

With difficulty they receive counselling because they do not care about the prevention of infectious diseases.

Educational level can affect a person's knowledge, the higher education possessed the knowledge increased. Mothers with low education, lack of knowledge in how to nurture and care for children and prevent children from being exposed to gastroenteritis or diarrhea [11].

The level of education is one of the factors that can affect a person's knowledge so that it can affect one's mindset. Education basically gives us knowledge of how to behave or learn science, which in turn can be utilized or applied. It is realized that the change of behavior is not easy. Knowledge of the disease that is often experienced by young children is important to know as knowledge about the causes, prevention and handling of gastroenteritis. Respondents' lack of knowledge and awareness of the importance of health and still the assumption that the disease gastroenteritis is a disease that would impede trivial and can be bad.

8. Conclusion

Based on the results and discussion, we can conclude the following:

1. There is a relationship between age and the incidence of acute gastroenteritis in hospitals Abepura

2. There is a relationship between level of education and the incidence of acute gastroenteritis in hospitals Abepura

3. There is no relationship between the type of work with the incidence of acute gastroenteritis in hospitals Abepura

4. There is a relationship between knowledge of the incidence of acute gastroenteritis in hospitals Abepura

5. There is a relationship between personal hygiene with the incidence of acute gastroenteritis in hospitals Abepura

6. There is a relationship between a food processing with the incidence of acute gastroenteritis in hospitals Abepura.

7. Education level variables that most influence on the incidence of acute gastroenteritis

References

[1] Hiswani, 2003. Pencegahan dan Pemberantasan Rabies FKM USU. USU digital library, Medan

[2] Basic Health Research Agency (RISKESDAS), 2013 Indonesia.

[3] LAKIP, 2013), Papua, Indonesia

[4] Anonymous., Articles of Medicine. http://www.astaqauliyah.com. Accessed on May 5, 2015.

[5] Abdurrahman, Hadi., Askep gastroenteritis. http://subhan0455.blogspot.com. Accessed on May 7, 2015.

[6] Farida, Yayuk., 2004. Pengangantar Food & Nutrition. Jakarta: Diffuser self.

[7] Anonymous., Gastroenteritis. http://www.kerjanya.net/. Accessed on May 5, 2015.

[8] Anonymous., Knowledge. http: // find pengertian.blogspot.com. Accessed on May 7, 2015.

[9] Brahmin., 2013, Factors Associated With Diarrhea Genesis. http: //www.academia. Accessed on May 7, 2015.

[10] Febriana., 2012. Food and Beverage sanitation Relations with the incidence Diarrhea In Toddler in

[11] Sukoharjo. Journal, http //: eprints.undip.ac.id. Accessed on 20 September 2015.

[12] Furi Ainun Khikmah. J500090024. *2012*. Hubungan Pengetahuan Ibu Tentang. Diare Dengan Kejadian Diare Pada Balita Usia 2-5 Tahun di Wilayah Kerja.

[13] World Health Organization. The Treatment of Diarrhoea: a Manual for Physicians and Other Senior Health Workers. 4. Geneva: WHO; 2005.