

The Risk Factors Environment and Behavior Influence Diarrhea Incidence to Child in Abepura Hospital Jayapura City

Irawati Magdalena¹, A.L. Rantetampang², Arry Pongtiku³, Anwar Mallongi⁴

¹Magister Program of Public Health, Faculty of Public Health, Cenderawasih University, Jayapura.

^{2,3}Lecturer of Master Program in Public Health. Faculty of Public Health, Cenderawasih University, Jayapura

⁴Environmental Health Department, Faculty of Public Health, Hasanuddin University, Makassar.

Corresponding Author: Anwar Mallongi

ABSTRACT

Background: The incidence of diarrhea in children under five is still high in the world, including in Indonesia, which if experiencing delays causes death. Risk factors associated with the incidence of diarrhea in children under five are caused by age, education, employment, source of drinking water, type of toilet, landfill, habit of washing children's hands and giving measles immunization.

Objective: To find out the environmental and behavioral factors associated with the incidence of diarrhea in infants in Abepura Hospital Jayapura City.

Research Method: Analytical with case control design. The population was all mothers of children under five year who experienced diarrhea as many as 774 toddlers with a total sample of 48 cases and 96 controls. Data were obtained using questionnaires and analyzed using chi square and logistic binary regression

Results: Environmental and behavioral factors associated with the incidence of diarrhea in toddlers in Abepura Hospital were maternal education (p-value = 0.032; OR = 2.548; CI95% (1.156 - 5.616), type of toilet (p-value = 0.013; OR = 2.686; CI95% (1,286 - 5,608) and hand washing habits (p-value = 0,016; OR = 2,556; CI95% (1,244 - 5,249). While factors not related to the incidence of diarrhea in infants in Abepura General Hospital are maternal age (p-value = 0,675; OR = 1,242; CI95% (0,610 - 2,529), mother's work (p-value = 0,943; OR = 1,130; CI95% (0,491 - 2,601), drinking water source (p-value = 1,000; OR = 0,935; CI95% (0,385 - 2,259), landfill (p-value = 0,443; OR = 1,400; CI95% (0,696 - 2,818), measles immunization (p-value = 0,117; OR = 3,605; CI95% (0,824 - 15,776) The dominant factors

related to the incidence of diarrhea in infants are the type of toilet and hand washing habits.

Keywords: Diarrhea Incidence, Toddlers, Abepura Hospital, Jayapura City

1. INTRODUCTION

2017 World Health Organization (WHO) reported 1.7 million diarrhea in children. Diarrhea causes a second death in children under five with a mortality rate of 525,000 children. The morbidity and mortality due to diarrheal disease is caused by 780 million people living in inadequate clean water facilities and 2.5 billion due to unhealthy basic sanitation. Data from the Indonesian Health Profile in 2017 reported the incidence of diarrhea in Indonesia in health facilities as many as 7,077,299 cases and treated diarrhea as many as 4,274,790 cases (60.4%). The striking mapping of infectious diseases is the decline in the rate of prevalence of diarrhea by 3.5% in 2016. The incidence and period prevalence of diarrhea for all age groups in Indonesia is 7.0%. Nationally the mortality rate (CFR) in outbreaks of diarrhea in 2017 was 1.14%. Whereas the CFR target for Diarrhea Outbreaks is expected to be <1%. Nationally, the CFR of diarrhea outbreaks did not reach the program target (RI Ministry of Health, 2015).

The incidence of diarrhea in the Papua Province over the past three years, namely 2015 was 21.5 per 1,000 population (60,895 cases), 2016 was 189.7 per 1,000 population (50,049 cases) and 2017 was 138.8 per 1,000 inhabitants (36,624 case)

(Papua Provincial Health Office, 2017). The incidence of diarrhea in infants in Jayapura City in 2014 was 1,685 (39.46%) of 4,270 cases of diarrhea and in 2015 there were 2,034 (43.18%) out of a total of 4,710 cases of diarrhea handled (Jayapura City Health Profile, 2015).

Diarrheal diseases are caused by bacterial infections, parasites from contaminated feces and contaminated water. In addition, the cause of diarrhea in children is caused by malnutrition and contaminated sources of clean water from a distance of septic tanks, animal waste and microorganism contamination. In addition, other causes are caused by a lack of personal hygiene which contributes to diarrheal diseases (WHO, 2017).

Several research factors that caused the incidence of diarrhea in toddlers conducted by Arimbawa (2014) revealed that factors related to and significantly influencing the incidence of diarrhea in children under five were the behavior of drinking water cooking habits, while factors not related to the incidence of toddler diarrhea included hand washing habits, use of traditional water filtration, ownership of family latrines, access to water sources and landfills. In addition, from the research conducted by Marissa (2015), mentioning that sanitation factors that caused the incidence of diarrhea in children under five who used a case control approach obtained variable toilet conditions, site conditions waste, sewerage conditions (SPAL), family income and maternal behavior are related to the incidence of dehydrated diarrhea, while drinking water sources and education levels are not related to the incidence of moderate dehydrated diarrhea.

Abepura Regional General Hospital is a hospital located in Jayapura City. Clean water services in the city of Jayapura through regional water companies, but in some locations some people use well water, both dug and closed wells. Use of latrines (Profile of RSUD Abepura, 2017). Data from the Jayapura City Health Office, access to family clean water based on the

results of the inspection was 0.99% using bottled water, 67.39% using plumbing, 17.8% using pump wells, 5.3% using dug wells, 7.42% using springs, 1.07% use Rainwater Shelter (PAH). Ownership of Basic Sanitation Facilities The number of family heads (KK) is 60,319 households. The ownership examination of basic sanitation was carried out on 43,732 households. Based on the results of the examination, there were 42,935 households (70.9%) and lately 59.4% of the data on toilet ownership. Ownership of trash cans is 1,647 households (63.7%) and declared healthy as much as 51.1%. Waste water management is 1,028 households (39.8%) and declared healthy (46.6%) (Profile of Jayapura City Health Office, 2018).

Medical record data of Abepura Hospital in 2017, cases of diarrhea in toddlers in the Children Room were 474 (47.16%) cases out of a total of 1,005 cases of diarrhea and in January - September 2018 there were 347 (44.83%) cases of a total of 774 children. Based on the description above, the researchers are interested in conducting research on "Environmental and behavioral factors that are associated with the incidence of diarrhea in infants in Abepura Hospital Jayapura City".

2. MATERIALS AND METHODS

2.1. Type of Research

This research is an observational study with a case control study design. An epidemiological study design is a relationship between exposures (risk factor) to a disease or health status by comparing case groups with a control group based on their exposure status. In case-control studies, effects (health status) were identified at this time, while risk factors were identified to occur in the past (retrospective) (Hasmi, 2016).

2.2. Place and Time of Research

1. Research Location

The location of the study will be carried out in Abepura Hospital Jayapura City.

2. Research Time

The study was conducted in October - November 2018.

3. Population and Samples

Population is the overall object of research or object under study (Saryono & Anggraeni, 2010). The sample is a portion of the population that is considered representative of the population (Notoatmodjo, 2012). The population and sample in this study were all mothers of children under five in January - September of 2018 as many as 347 (44.83%) cases of a total of 774 cases of diarrhea.

3. RESULTS

a. Relationship between mother's age and the incidence of diarrhea in infants

Table 1. Relationship between the age of the mother and the incidence of diarrhea in infants in Abepura Hospital in 2018

No	Mother age	Incidence diarrhea in infants				n	%
		Casus		Control			
		n	%	n	%		
1	< 25 year	30	62,5	55	57,3	85	59
2	≥ 25 year	18	37,5	41	42,7	59	41
Total		48	100	96	100	144	100
<i>p-value = 0,675; OR = 1,242; CI95% (0,610 - 2,529)</i>							

Based on Table 1, it shows that of 48 cases there were 30 (62.5%) aged <25 years and as many as 18 (37.5%) aged > 25 years. While from 96 controls there were 55 (57.3%) aged <25 years and as many as 41 (42.7%) aged > 25 years. The results of the chi square test obtained $p\text{-value} = 0.675 > 0.05$. This means that there is no relationship between the age of the mother and the incidence of diarrhea in infants in Abepura General Hospital. The odds ratio (OR) = 1,242; CI95% (0.610 - 2.529) which is interpreted that the age of the mother is not a risk factor for the incidence of diarrhea in infants.

b. Relationship between mother's education and the incidence of diarrhea in infants

Table 2. Relationship between mother's education and the incidence of diarrhea in infants in Abepura Hospital in 2018

No	Education	Incidence diarrhea in infants				n	%
		Casus		Control			
		n	%	n	%		
1	Low	17	35,4	17	17,7	34	23,6
2	High	31	64,6	79	82,3	110	76,4
Total		48	100	96	100	144	100
<i>p-value = 0,032; OR = 2,548; CI95% (1,156 - 5,616)</i>							

Based on Table 2, it shows that out of 48 cases there were 17 (35.4%) with low education and 31 (64.6%) highly educated. Whereas from 96 controls there were 17 (17.7%) with low education and 79 (82.3%) were highly educated. The results of the chi square test obtained $p\text{-value} = 0.032 < 0.05$. This means that there is a relationship between the education of mothers and the incidence of diarrhea in children under five in Abepura General Hospital. Test results for odds ratio (OR) = 2,548; CI95% (1,156 - 5,616) which was interpreted that mothers with low education risk having their children affected by diarrhea 2,548 times higher than mothers who are highly educated.

c. Relationship between the work of mothers and the incidence of diarrhea in infants

Table 3. Relationship between the work of mothers and the incidence of diarrhea in infants in Abepura Hospital in 2018

No	Occupation	Incidence diarrhea in infants				n	%
		Casus		Control			
		n	%	n	%		
1	Work	11	22,9	20	20,8	31	21,5
2	Not work	37	77,1	76	79,2	113	78,5
Total		48	100	96	100	144	100
<i>p-value = 0,943; OR = 1,130; CI95% (0,491 - 2,601)</i>							

Based on Table 3, it shows that out of 48 cases there were 11 (22.9%) working mothers and as many as 37 (77.1%) mothers did not work. While from 96 controls there were 20 (20.8%) working mothers and 76 (79.2%) mothers did not work. The results of the chi square test obtained $p\text{-value} = 0.943 > 0.05$. This means that there is no relationship between the work of mothers and the incidence of diarrhea in children under five in Abepura General Hospital. The odds ratio test results (OR) = 1,130; CI95% (0.491 - 2.601) interpreted that work is not a risk factor with the incidence of diarrhea in infants.

d. Relationship between drinking water sources and the incidence of diarrhea in infants

Table 4 Relationship between drinking water sources and the incidence of diarrhea in infants in Abepura Hospital in 2018

No	Water source	Incidence diarrhea in infants				n	%
		Casus		Control			
		n	%	n	%		
1	Less	9	18,8	19	19,8	28	19,4
2	Good	39	81,3	77	80,2	116	80,6
Total		48	100	96	100	144	100

p-value = 1,000; OR = 0,935; CI95% (0,385 – 2,259)

Based on Table 4, it shows that from 48 cases there were 9 (18.8%) sources of drinking water were lacking and as many as 39 (81.3%) sources of drinking water were good. While from 96 controls there were 19 (19.8%) sources of drinking water were lacking and as many as 77 (80.2%) sources of drinking water were good. The results of the chi square test obtained $p\text{-value} = 1,000 > 0.05$. This means that there is no relationship between drinking water sources and the incidence of diarrhea in infants in Abepura Hospital. The odds ratio (OR) test = 0.935; CI95% (0.385 - 2.259) interpreted that the source of drinking water is not a risk factor with the incidence of diarrhea in infants.

e. Relationship between type of toilet and the incidence of diarrhea in infants

Table 5. The relationship between the type of toilet and the incidence of diarrhea in infants in Abepura Hospital in 2018

No	Toilet Type	Incidence diarrhea in infants				n	%
		Casus		Control			
		n	%	n	%		
1	Not health	22	45,8	23	24	45	31,3
2	Health	26	54,2	73	76	99	68,7
Total		48	100	96	100	144	100

p-value = 0,013; OR = 2,686; CI95% (1,286 – 5,608)

Based on Table 5, it shows that out of 48 cases there were 22 (45.8%) types of unhealthy latrines and 26 (54.2%) types of latrines were healthy. While from 96 controls there were 23 (24%) types of unhealthy latrines and 73 (76%) types of latrines were healthy. The results of the chi square test obtained $p\text{-value} = 0.013 < 0.05$. This means that there is a relationship between the type of toilet and the incidence of diarrhea in infants in Abepura Hospital. The results of the odds ratio (OR) = 2.686; CI95% (1,286 - 5,608) interpreted that the type of latrine that is not healthy at risk for children under five is affected by diarrhea

2,686 times compared to the types of healthy toilets.

f. Relationship between Garbage disposal and the incidence of diarrhea in infants

Table 6. Relationship between Garbage disposal and the incidence of diarrhea in infants in Abepura Hospital in 2018

No	Garbage disposal	Incidence diarrhea in infants				n	%
		Casus		Control			
		n	%	n	%		
1	Less	28	58,3	48	50	76	52,8
2	Good	20	41,7	48	50	68	47,2
Total		48	100	96	100	144	100

p-value = 0,443; OR = 1,400; CI95% (0,696 – 2,818)

Based on Table 6, it shows that out of 48 cases there are 28 (58.3%) less garbage disposal sites and as many as 20 (41.7%) good landfills. Whereas from 96 controls there were 48 (50%) less garbage disposal sites and as many as 48 (50%) good landfills. The results of the chi square test obtained $p\text{-value} = 0.443 > 0.05$. This means that there is no relationship between landfills and the incidence of diarrhea in infants in Abepura Hospital. Test results for odds ratio (OR) = 1,400; CI95% (0.696 - 2.818) interpreted that landfills are not a risk factor with the incidence of diarrhea in infants.

g. Relationship between hand washing habits and the incidence of diarrhea in infants

Table 7. Relationship between hand washing habits and diarrhea in infants in Abepura Hospital in 2018

No	hand washing habits	Incidence diarrhea in infants				n	%
		Casus		Control			
		n	%	n	%		
1	Less	24	50	27	28,1	51	35,4
2	Good	24	50	69	71,9	93	64,9
Total		48	100	96	100	144	100

p-value = 0,016; OR = 2,556; CI95% (1,244 – 5,249)

Based on Table 7, it shows that out of 48 cases there are 24 (50%) habits of washing hands less and as many as 24 (50%) habits of washing hands are good. While from 96 controls there were 27 (28.1%) habits of washing hands less and as many as 69 (71.9%) habits of washing hands were good. The results of the chi square test obtained $p\text{-value} = 0.016 < 0.05$. This means that there is a relationship between the habit of washing hands with the incidence of

diarrhea in infants in Abepura Hospital. The results of the odds ratio (OR) = 2.556; CI95% (1,244 - 5,249) interpreted that hand washing habits that are less risky for children under five are diarrhea 2,556 times higher than good hand washing habits.

h. Relationship between measles immunization and the incidence of diarrhea in infants

Table 8. The relationship between measles immunization and the incidence of diarrhea in infants in Abepura Hospital in 2018

No	measles immunization	Incidence diarrhea in infants				n	%
		Casus		Control			
		n	%	n	%		
1	None	5	10,4	3	3,1	8	5,6
2	Yes	43	89,6	93	96,9	136	94,4
Total		48	100	96	100	144	100

p-value = 0,117; OR = 3,605; CI95% (0,824 – 15,776)

Based on Table 8, showing that of 48 cases there were 5 (10.4%) no immunization against measles and as many as 43 (89.6%) had measles immunization. While from the 96 controls available 3 (3.1%) none gave measles immunization and as many as 93 (96.9%) had measles immunization. The results of the chi square test obtained *p-value* = 0.117 > 0.05. Rewards for providing assistance to children in Abepura Hospital. The odds ratio (OR) test = 3.605; CI95% (0.824 - 15.7776) interpreted as giving measles immunization is not a risk factor with the incidence of diarrhea in infants.

4. DISCUSSION

4.1. Relationship between Mother's Age and Diarrhea in Toddlers

The results showed that there was no relationship between the age of the mother and the incidence of diarrhea in children under five in Abepura General Hospital. The results of this study contradict Prita's (2014) study, namely there was no relationship between age and the incidence of diarrhea in infants. This causes all mothers to have affection for their daughter, so because the mother must be able to remember well. But this is supported by socio-economic conditions such as income and sanitation of healthy homes. The results

of the study revealed that in the case group 62.5% of mothers visited <25 years and in the control group 37.5% were received ≥ 25 years. This shows that in the old group there is no risk that the child can improve diarrhea. This is also evident from the results of the odd test ratio not in accordance with diarrhea factors.

Age is one of the strongest variables used to predict differences in disease, conditions, and health problems, and because of the comparability of each variable the power becomes easily seen (Maryam, 2014). According to Gibson (1997) in Novrianda (2014), that age is an individual factor that is increasingly growing in age, there will be more maturity and more information. However, in this research, it was not in accordance with the above opinion which could consider the facts about the mother in relation to toilet hygiene and had the interest in washing her hands before and handling hand washing with good hygiene of her toddler when playing, eating and after bowel movements and BAK.

Age is a character that is related to human nature that can make a difference in the results of research or that can help determine the relationship of causes of illness, injury conditions, chronic diseases and other diseases that can make human suffering (Notoatmodjo, 2011). The results of research obtained from young mothers have one child under five, so that child supervision is more focused and new experiences become mothers, so mothers are encouraged to seek new knowledge about good care for toddlers, while for mothers asked >25 years have more than one child is a mother's experience in caring for a toddler or being cared for well from her experience.

4.2. Relationship between Mother's Education and Diarrhea in Toddlers

The results obtained were related to the education of mothers with the incidence of diarrhea in infants in Abepura Hospital (*p-value* = 0.032). The results of this study contradict the research of Maidartati (2017), namely that there is a relationship between

education and the incidence of diarrhea in infants which causes education to influence one's thinking in receiving information.

Education is the process of changing attitudes and behavior of a person or group of people in an effort to mature people through efforts to improve and train (Prayoto, 2014). The results of the study obtained in the group reported that 35.4% had low education and in the control group 17.7% had low education. This shows that higher education compared to mothers with low education. This is evidenced from the results of the odd ratio test of mothers with low education. 2,548 times more than highly educated mothers. Education affects the learning process; the higher one's education makes it easier for this person to receive information, both from other people and from the mass media. The more information entered, the more knowledge gained about diarrheal diseases (Notoatmodjo, 2011).

Education that can increase intellectual maturity someone and is an important factor in the withdrawal process information, improve insight and ways of thinking which will subsequently provide perceptions of knowledge, perceptions and attitudes determine someone to make a decision to act. A highly educated mother can find out about her baby's health and find out and ask those who are more understanding (doctors and midwives) who are experienced about how to maintain health so that they don't get sick easily. So from that mother's education is important in child care, because mothers with low education are more closed and do not want to find information about how to maintain good children's health (Handayani, 2013).

4.3. Relationship between Mother's Work and Diarrhea in Toddlers

The results of the study obtained were not related to mothers in hospitals in Abepura Hospital (p -value = 0.943). The results of the study contrast with Cahyaningrum's study (2015), there was no relationship between the work of mothers and the incidence of diarrhea in their toddler children. Caused working mothers have not

entrusted to caregivers. So that children's hygiene is sufficiently recovered. The work that must be done by someone in supporting and maintaining their life and livestock life. Work is also a means for someone to get information from their environment. The more positive aspects of the object that is recognized, the more positive the attitude towards the object will be (the Maramis, 2013).

Thank you Mothers who work as public / state employees on average have higher education than mothers who do not work. Types of work that have an interest in the ability to access in the health sector with the ability to prevent disease. Mothers who work will provide a better economic impact on the family, so that it will provide better conditions. However with working status then automatic attention to the baby it will also reduce the focused time to work. Working mothers will reduce their limited time together with the child, the result is that the child is not monitored or what things can be improved so that they can improve Risk of pain, a special danger transmitted by mouth because toddlers will increase the oral phase, which is like sucking fingers, often insert objects into his mouth (Aulia, 2007)

Mothers who do not work are generally highly educated in mothers who work in low education, mostly selling or trading in small scale, which increases the family income of the mother. The lack of maternal income for information sources is now easier to obtain from electronic media.

4.4. Relationship between Source of Drinking Water and Diarrhea in Toddlers

The results showed that there was no relationship between drinking water sources and the incidence of diarrhea in infants in Abepura Hospital (p -value = 1,000). The results of this study are in line with the research conducted by Dini (2013) in the Kambang Puskesmas in Lengayang Subdistrict, Pesisir Selatan District, revealing that no relationship between the

source of drinking water used can cause diarrhea in infants.

The main source of drinking water is one of the sanitation facilities that is not less important than the incidence of diarrhea. Most infectious germs that cause diarrhea are transmitted through the oral faecal pathway. They can be transmitted by entering into the mouth, liquids or objects contaminated with feces, such as drinking water, fingers, and food prepared in cans containing polluted water (Ministry of Health, 2012).

According to Adnani (2015), some healthy drinking water requirements for physical requirements: clear (colorless, tasteless, temperature below the outside air temperature), bacteriological requirements: needed in 100 cc of air less than 4 pieces of *E. coli* bacteria. Chemical requirements: contain certain substances in certain quantities as well, namely: Fluor (F), Chlorine (Cl), Arsenic (As), copper (Cu), Iron (Fe), organic matter, PH (acidity).

The causes of diarrhea in humans are related to the physical quality of the water they consume for daily drinking. Using contaminated drinking water in this case water that has been polluted from its source or when stored at home can cause diarrhea. So, the physical quality of water seen from the indicators of smell, taste, turbidity, temperature, color, and the amount of dissolved, complete solids can directly contain bacteriological composition and chemicals in air. This event can be caused by contamination of chemicals with certain substances, especially if the ingredients are deep high doses, it can cause diarrhea (Indonesian Ministry of Health, 2011). 18.8% of drinking water sources are lacking and in the control group 19.8% of drinking water sources are lacking. This shows the same opportunity as the incidence of diarrhea in her toddler child. This is a source of drinking water that is used because it uses gallon water that uses sterilization and water The Drinking Water Company (PAM) that takes surface water and provides good water quality through

several processes, making it feasible for use by the community.

4.5 Relationship between Latrine Types and Diarrhea in Toddlers

The results showed that there was a relationship between the type of toilet and the incidence of diarrhea in infants in Abepura Hospital (p -value = 0.013). The results of this study are in line with the research conducted by Marisa (2015) that there is a relationship between the type of latrine and the incidence of diarrhea, where most of the latrine ownership uses public latrines. The results of the study in the case group were 45.8% of the types of latrines which were not healthy and in the control group there were 24% types of latrines which were not healthy. The results of the odds ratios are interpreted that the types of latrines that are not healthy at risk for children under five are diarrhea 2,686 times compared to the types of healthy toilets.

The results of this study found that the use of respondent latrines was a type of squatting and sitting. Toddlers who experience diarrhea are known to have latrine ownership in the unhealthy category (45.8%) because latrines are difficult to flush or slow down and dirty, so they become a breeding ground for bacteria that cause diarrhea. The toilet facilities are part of the sanitation business which is quite important. In terms of environmental health, unclean sewage disposal will be able to pollute the environment, especially land and water sources. Disposal of non-sanitary feces will cause a variety of diseases, especially diarrhea. In addition, toddlers who experience diarrhea with healthy toilet criteria are caused by the use of water that does not meet the requirements because they use well water that has not been tested for healthy water requirements and do not apply hygiene behavior after their toddler defecates by washing without using soap.

The results of the study also found that the use of latrines that were unhealthy and toddlers did not experience diarrhea was caused by after defecating, the mother applied good hygiene practices by using the

correct method by using soap and washing her hands after defecating. The results of this study are in line with the research of Sukut (2013) that the application of mothers who lack hygiene in plunging toddlers and using less clean water is at greater risk than the ownership of unhealthy latrines. This happens because germs or bacteria are lower by practice or the application of good hygiene after defecation. The results showed that there was no relationship between landfills and the incidence of diarrhea in children under five in Abepura Hospital (p-value = 0.443). The results of this study are in line with Marisa's (2015) research that trash that does not meet the relevant requirements is not related to the incidence of diarrhea.

Waste is a material or solid object that is no longer used by humans, or solid objects that are no longer used in human activities and disposed of (Alamsyah, 2014). According to Mubarak and Chayatin (2011), the trash conditions include made of waterproof material and not easy to leak, have a lid that is easily opened, closed, easily emptied of contents and easy to clean and its size is arranged so that it can be carried by one person. The results showed that in the case group there were 58.3% less waste dumps, while in the control group there were 50% less waste disposal sites. this shows that there is an equally risky opportunity for the incidence of diarrhea in their toddler children. Overall the respondents already have a trash can, but have not fulfilled sanitation, ie there is no trash lid. Toddlers who experience diarrhea with less garbage disposal (58.3%) this is due to garbage in the open stimulates flies to perch. Whereas in respondents whose trash bins fulfill the requirements but are slow to dispose of garbage > 3 days, it causes garbage to become a vector and spread in the home environment and become a children's playground.

5. CONCLUSION

From the results of the research and discussion, it can be concluded as follows:

1. There is no correlation between the age of the mother and the incidence of diarrhea in infants in Abepura Hospital (p-value = 0.675; OR = 1.242; CI95% (0.610 - 2.529).
2. There is an educational relationship between mothers and the incidence of diarrhea in infants in Abepura Hospital (p-value = 0.032; OR = 2.548; CI95% (1,156 - 5,616).
3. There is no relationship between the work of the mother and the incidence of diarrhea in infants in Abepura Hospital (p-value = 0.943; OR = 1.130; CI95% (0.491 - 2.601).
4. There is no relationship between drinking water sources and the incidence of diarrhea in infants in Abepura Hospital (p-value = 1,000; OR = 0.935; CI95% (0.385 - 2,259).
5. There is a relationship between the type of toilet and the incidence of diarrhea in infants in Abepura Hospital (p-value = 0.013; OR = 2.686; CI95% (1,286 - 5,608).
6. There is no relationship between landfills and the incidence of diarrhea in infants in Abepura Hospital (p-value = 0.443; OR = 1,400; CI95% (0.696 - 2,818).

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