Journal for Quality in Women's Health
DOI : https://doi.org/10.30994/jqwh.v7i2.250 https://jqwh.org/
ISSN: 2615-6660 (print); 2615-6644 (online) Vol.7 No 2. September 2024. Page.78-88

Tersedia *online* di https://jqwh.org/index.php/JQWH

Factors Related To The Incidence Of Diarrhea In Children Aged 0-60 Months In The Children's Inpatient Room Of Budi Kemuliaan Hospital In July-August In 2023

Adisty Nabilian[1*], Suri Nurharjanti[2], Erina Windiany[3], Fitria Endah Purwani[4]
[1,3]Program Studi Profesi Kebidanan, Sekolah Tinggi Ilmu Kesehatan Budi Kemuliaan, Jakarta, Indonesia
[2,4]Program Studi Sarjana Kebidanan, Sekolah Tinggi Ilmu Kesehatan Budi Kemuliaan, Jakarta, Indonesia
Corresponding author: aisairiany@gmail.com

ABSTRACT

In Indonesia, diarrhea is the second leading cause of death in children under 5 years old. The prevalence of diarrhea in 2018 was 37.88% or around 1.516.438 cases in toddlers. Then, it increased in 2019 to 40% or around 1.591.944 cases in toddlers. The incidence of diarrhea in children can be influenced by several factors such as children's nutritional status, breastfeeding, the environment, immunization status, parenting patterns and mother's knowledge. The purpose of the study was to determine the factors associated with the incidence of diarrhea in children aged 0-60 months at Budi Kemuliaan Hospital in July-August 2023. This research method used a descriptive analytic approach with cross sectional design with a comparison of two groups. The population in this study were all children treated at Budi Kemuliaan Hospital and obtained 74 samples, namely 37 case samples and 37 control samples by accidental sampling. Data collection in this research used secondary and primary data. Data analysis was performed with Chi-Square and Fisher's Exact tests. The results of the bivariate analysis showed that there were seven variables that were related to the incidence of diarrhea, namely nutritional status with P value= 0.004, duration of exclusive breastfeeding with P value= 0.000, mother's knowledge with P value= 0.000, measles vaccination status with p value = 0.001, ownership of latrines with P value= 0.007, mother's education with P value = 0.000, and mother's occupation status with P value= 0.000

Keywords: Diarrhea, Nutritional Status, Duration of Exclusive Breastfeeding, Mother's Knowledge, Measles Immunization Status, Latrine Ownership, Mother's Education, and Mother's Employment Status.

1. INTRODUCTION

According to the World Health Organization (WHO), diarrhea is a disease that

causes more than three liquid bowel movements that may be accompanied by blood or mucus. According to WHO, diarrhea is an environmental disease that occurs in almost all geographical areas of the world. There are approximately 1.7 billion cases of diarrhea each year, resulting in the deaths of 760,000 children under the age of 5. In developing countries, children under 3 years of age experience diarrhea an average of three times a year. [1]

According to the Indonesian Ministry of Health (2019), there were 21 special episodes of diarrhea (KLB) in 2017, spread across 12 provinces and 17 districts/cities, with a total of 1,725 patients and 34 deaths (CFR 1.97%). According to the Ministry of

Health's 2018 Basic Health Study (Riskesdas) data (2019), children aged 1-4 years accounted for about 12.8%, and females accounted for about 8.3%, making them the largest group of patients. [2]

The Riskesdas reported that the prevalence of diarrhea is more prevalent among children under five years of age. Consisting of 11.4% or about 47,764 cases in boys and 10.5% or about 45,855 cases in girls.[3] Riskesdas also explained that Jakarta Province already has good coverage of access to clean water, sanitation and clean and healthy living behavior, but Jakarta Province is still among the five provinces with the highest prevalence of diarrhea in children under five years of age in Indonesia. [3]

Many factors directly or indirectly drive the occurrence of diarrhea in toddlers, namely the nutritional status of the child, the age of the child, the duration of exclusive breastfeeding, the mother's knowledge about diarrhea, the child's measles vaccination status, the supply of clean water, and the ownership of latrines with the characteristics of the study subjects based on child's sex, mother's age, mother's education, and mother's occupation.

According to research by Subagyo and Santoso (2015), diarrhea is closely related to the incidence of malnutrition. The occurrence of diarrhea is closely related to a person's nutritional status. With a good nutritional status, the body has sufficient ability to fight infectious diseases, otherwise if the nutritional status becomes poor or lacking, the immune response will decrease, which means that the body's ability to fight infectious attacks will decrease.[5]

According to research by Yunadi and Budiarti (2017), age is one of the risk factors for dehydration, as well as toddlers aged 1-2 years are more susceptible to dehydration because toddlers 1-2 years are more sensitive to changes in water and mineral content.[6]

One of the causes of diarrhea in children is feeding errors, giving food to children other than breast milk before the age of 6 months. Exclusive breastfeeding from an early age is important because it can reduce the risk of child mortality due to various common diseases, one of which is diarrhea.[7] The risk of diarrhea in the first 6 months of life is 30 times higher in infants who are not exclusively breastfed.[8]

Sufiati (2019) examined that there are main factors that cause diarrhea, namely maternal factors, namely knowledge about assessment, management and practice of prevention and control of diarrheal disease among mothers is significantly still not good enough so that the need for mothers who have knowledge about diarrhea becomes a determinant in the health sector on how to achieve a healthy life, how to maintain health, how to avoid diseases that will affect the reduction in mortality and morbidity due to diarrheal disease.[9]

According to Azizah et al's research, children who received complete basic immunization had a lower risk of diarrhea compared to children who did not receive complete basic immunization. Immunization is an effort to provide immunity to infants and children by injecting vaccines into the body so that the body produces antibodies to prevent certain diseases.[10] Similarly, if a child is vaccinated against measles, it is expected that the child will not get measles. However, if the child does not have active immunity to measles, the child may develop measles, which can lead to secondary complications such as acute otitis media, encephalitis, bronchial pneumonia and enteritis.[11]

According to Saputri's research, there is a relationship between clean water and diarrhea because clean water is one of the

vectors of disease transmission related to diarrhea. Some infectious bacteria can cause diarrhea transmitted by the fecal-oral route and can be transmitted through the consumption of liquids or objects contaminated by bacteria that enter the mouth, namely drinking water, fingers, food prepared in a pot washed by polluted water.[12]

Based on the results of preliminary studies conducted by researchers, it was found that cases of diarrheal disease in children aged 0-60 months at Budi Kemuliaan Hospital from April were 11 cases, in May 2023 there were 48 cases, and in June there were 53 cases. Based on the above background, researchers are interested in conducting research on factors associated with the incidence of diarrhea in children aged 0-60 months at Budi Kemuliaan Hospital in July-August 2023.

2. METHODS

This study was a descriptive analytic study used a descriptive analytic approach with cross sectional design with a comparison of two groups. The population in this study were all pediatric patients aged 0-60 months who were hospitalized at Budi Kemuliaan Hospital in July-August 2023. The sample in this study included 37 case group samples namely children diagnosed with diarrhea and treated at Budi Kemuliaan Hospital, while the control group included 37 case group samples was children who were not diagnosed with diarrhea and treated at Budi Kemuliaan Hospital with the same characteristics, so that the total sample was 74 samples. The data collection technique in this study was to observe medical record data obtained from medical records at Budi Kemuliaan Hospital to obtain information on factors of child nutritional status, and child age and collect the results of interviews with mothers of patients to obtain information on variables of breastfeeding duration, mothers' knowledge about diarrhea, child measles immunization status, clean water supply, and defecation behavior.

3. RESULTS

The results of the study are described in tables 1 and 2. Table 1 shows that most respondents with normal nutrition (66.2%), most age at 13-24 months (35.1%), most exclusive breastfeeding duration at 6 months (43.2%). The level of mother's knowledge about diarrhea was highest at the insufficient level (47.3%), measles vaccination status was highest for children who had been vaccinated twice (33.9%), clean water supply was highest for proper clean water (98.6%), toilet ownership was highest for own toilet (64.9%), child's sex was highest for male (54.1%), mother's age was highest for 25-35 years old (44.6%), mother's education was highest for high school graduates (59.5%), mother's occupation was highest for housewives (52.7%).

Table 1.
Frequency distribution of respondents

Nutritional Status	**f**	**%**
Malnutrition (<- 3SD)	2	2.7
Undernutrition (- 3SD s/d + 1 SD)	16	21.6
Normal nutrition (- 2 SD s/d + 1 SD)	49	66.2
Risk of overnutrition (> + 1 SD s/d + 2 SD)	4	5.4
Overnutrition (> + 2 SD s/d + 3 SD)	1	1.4
Obesity (> + 3 SD)	2	2.7
Child's Age		
0-6 months	10	13.5
7-12 months	16	21.6
13-24 months	26	35.1
25-36 months	13	17.6
37-48 months	5	6.8
49-60 months	4	5.4
Duration of Exclusive Breastfeeding		
≤ 2 months	13	17.6
3-4 months	10	13.5
6 months	32	43.2
Not Exclusive breastfeeding	19	25.7
Mother's Knowledge About Diarrhea	**f**	**%**
Good	24	32.4
Fair	15	20.3
Poor	35	47.3
Measles Vaccination Status		
Has been vaccinated once	39	66.1
Has been vaccinated twice	20	33.9
Clean Water Supply		
Proper	73	98.6
Unproper	1	1.4
Toilet Ownership		
Private toilet	48	64.9
Public toilet	26	35.1
Child's Sex		
Male	40	54.1
Female	34	45.9
Mother's Age		

Under 25 years old	14	18.9
25-35 years old	33	44.6
Over 35 years old	27	36.5
Mother's Education		
No School	0	0
Elementary school graduate	6	8.1
Junior highschool graduate	15	20.3
Highschool graduate	44	59.5
Universities and equivalent	9	12.2
Mother's Occupation		
Housewife	39	52.7
Self-employed	18	24.3
Private sector employee	16	21.6
Civil servants	0	0
Etc	1	1.4
Total	**74**	**100**

Table 2.1 Relationship Between Nutritional Status and the Incidence of Diarrhea in Children Aged 0-60 Months in the Children's Inpatient Room of Budi Kemuliaan Hospital in July-August 2023

Nutritional Status	Groups				Total	P Value	OR (95% CI OR)
	Diarrhea		Non-Diarrhea				
	f	%	f	%			
Malnutrition	2	F	0	0	2	0.004	1.722
Undernutrition	13	35.1	3	8.1	16		
Normal nutrition	18	48.6	31	83.8	49		
Risk of overnutrition	2	5.4	2	5.4	4		
Overnutrition	1	2.7	0	0	1		
Obesity	1	2.7	1	2.7	2		
Total	**37**	**100**	**37**	**100%**	**74**		

Based on table 2, it is known that from 2 children who are malnourished there were 2 children (5.4%) who have diarrhea, from 16 children who are undernutrition there were 13 children (35.1%) who have diarrhea, from 49 children who are normal nutrition there were 18 children (48.6%) who have diarrhea, from 4 children who were at risk of overnutrition there were 2 children (5.4%) who have diarrhea, from 1 child who is overnourished there was 1 child (2.7%) who had diarrhea, and from 2 children who were obese there was 1 child (2.7%) who had diarrhea. Based on statistical tests, the p value = 0.004 <0.05 means that there is a statistically significant relationship between nutritional status and the incidence of diarrhea in children with an OR value = 1.722, meaning that children with normal nutrition are at risk of 1.7 times experiencing diarrhea.

Table 2.2 Relationship between Child's Age and Incidence of Diarrhea in Children Aged 0-60 months in the Children's Inpatient Room of Budi Kemuliaan Hospital in July-August 2023

Child's Age	Groups				Total	P Value	OR (95% CI OR)
	Diarrhea		Non-Diarrhea				
	f	%	f	%			
0-6 months	4	10.8	6	16.2	10	0.305	1.084
7-12 months	10	27	6	16.2	16		
13-24 months	15	40.5	11	29.7	26		
25-36 months	3	8.1	10	27	13		
37-48 months	3	8.1	2	5.4	5		
49-60 months	2	5.4	2	5.4	4		
Total	**37**	**100**	**37**	**100**	**74**		

Based on table 2.2, can be seen from 10 children aged 0-6 months there were 4 children (10.8%) who have diarrhea, from 16 children aged 7-12 months there were 10 children (27%) who have diarrhea. From 26 children aged 13-24 months there were 15 children (40.5%) who have diarrhea, from 13 children aged 25-36 months there were 3 children (8.1%) who have diarrhea. From 5 children aged 37-48 months there were 3 children (8.1%) who have diarrhea, and from 4 children aged 49-60 months there were 2 children (5.4%) who have diarrhea. Based on statistical tests, the p value = 0.305 (p> 0.05) means that there is no statistical relationship between child's age and the incidence of diarrhea in children with OR 1.084.

Table 2.3 Relationship Between Duration of Breastfeeding with the Incidence of Diarrhea in Children Aged 0-60 Months in the Children's Inpatient Room of Budi Kemuliaan Hospital in July-August 2023

Duration of Exclusive Brastfeeding	Groups				Total	P *value*	OR (95% CI OR)
	Diarrhea		Non-Diarrhea				
	f	%	f	%			
≤ 2 months	9	24.3	4	10.8	13	0.000	0.748
3-4 months	3	8.1	7	18.9	10		
6 months	7	18.9	25	67.6	32		
Not Exclusive breastfeeding	18	48.6	1	2.7	19		
Total	**37**	**100**	**37**	**100**	**74**		

Based on table 2.3, it can be seen that there were 13 children who were exclusively

breastfed ≤ 2 months, there were 9 children (24.3%) who have diarrhea. From 10 children who are exclusively breastfed 3-4 months, there were 3 children (8.1%) who have diarrhea. From the 32 children who were exclusively breastfed 6 months there were 7 children (18.9%) who have diarrhea, from 19 children who were not exclusively breastfed there were 18 children (48.6%) who have diarrhea. Based on statistical tests, the p value = 0.000 (p<0.05) means that there is a statistical relationship between the length of exclusive breastfeeding and the incidence of diarrhea in children, with OR = 0.748 means that children who are not exclusively breastfed are at risk of 0.7 times experiencing diarrhea.

Table 2.4 Relationship Between Mother's Knowledge About Diarrhea and the Incidence of Diarrhea in Children Aged 0-60 months in the Children's Inpatient Room of Budi Kemuliaan Hospital in July-August 2023

Mother's knowledge about diarrhea	Groups				Total	P *value*	OR (95% CI OR)
	Diarrhea		Non-Diarrhea				
	f	%	f	%			
Good (score 80-100)	1	2.7	23	62.2	24	0.000	0.092
Fair (score 60-79)	6	16.2	9	24.3	15		
Poor (score ≤ 59)	30	81.1	5	13.5	35		
Total	**37**	**100**	**37**	**100**	**74**		

Based on table 2.4, it can be seen that from 24 mothers whose knowledge is good there was 1 mother of child (2.7%) who had diarrhea. From 15 mothers whose knowledge is fair there were 6 mothers of children (16.2%) who have diarrhea. From 35 mothers whose knowledge were poor there were 30 mothers of children (81.1%) who have diarrhea. Based on statistical tests. the p value = 0.000 (p<0.05) means there is a statistical relationship between mother's knowledge about diarrhea and the incidence of diarrhea in children with OR value 0.092, means that children whose mothers' knowledge is lacking are at risk of 0.092 times experiencing diarrhea.

There was a significant relationship between knowledge and mother's education with p value = 0.01, from this data it can be concluded that maternal knowledge about diarrhea is related to maternal education. The most mothers who got good score (80-100) were the last education graduated from high school as many as 17 mothers (70.8%).

Table 2.5 Relationship between Measles Vaccination Status of the child and the Incidence of Diarrhea in Children Aged 0-60 months in the Children's Inpatient Room of Budi Kemuliaan Hospital in July-August 2023

Measles Vaccination Status	Groups				Total	P *value*	OR (95% CI OR)
	Diarrhea		Non-Diarrhea				
	f	%	F	%			
Has been vaccinated once	24	88.8	15	46.8	39	0.001	9.067
Has been vaccinated twice	3	11.1	17	53.1	20		
Total	**27**	**100**	**32**	**100**	**74**		

Based on table 2.5, it can be seen that from 39 children who have been vaccinated once there were 24 children (64.8%) have diarrhea. From 20 children who have been vaccinated twice, there were 3 children (8.1%) have diarrhea. From 15 children who have not been vaccinated, there were 10 children (27%) have diarrhea. Based on statistical tests the p value = 0.001 means that there is a statistical relationship between the measles vaccination status of children based on the age of the child with the incidence of diarrhea in children. The OR value = 9.067 means that children who have only been vaccinated once have a risk of 9.067 times experiencing diarrhea.

Table 2.6 Relationship Between Clean Water Supply and The Incidence of Diarrhea in Children Aged 0-60 Months in the Children's Inpatient Room of Budi Kemuliaan Hospital in July-August 2023

Clean Water Supply	Groups				Total	P Value	OR (95% CI OR)
	Diarrhea		Non-Diarrhea				
	f	%	f	%			
Proper	36	97.3	37	100	73	1.000	0.000
Unproper	1	2.7	0	0	1		
Total	**37**	**100**	**37**	**100**	**74**		

Based on table 2.6, it can be seen that from 73 children who have proper clean water supply (PAM, jet pump, borehole, tube well) there were 36 children (97.3%) who have diarrhea. While out of 1 child who clean water

Toilet Ownership	Groups				Total	P Value	OR (95% CI OR)
	Diarrhea		Non-Diarrhea				
	f	%	f	%			
Private Toilet	18	48.6	30	81.1	48	0.007	0.221
Public Toilet	19	51.4	7	18.9	26		
Total	37	100	37	100	74		

source unproper (river water) there was 1 child (2.7%) who has diarrhea, with p value = 1.000 (p> 0.05) means that there is no statistical relationship between clean water supply and the incidence of diarrhea in children.

Based on table 2.7, it can be seen that from 48 children who have private toilets, there were 18 children (48.6%) have diarrhea. From 26 children who do not have private toilets, there were 19 children (51.4%). Based on statistical tests, the p value = 0.007 means that there is a statistical CCrelationship between latrine ownership and the incidence of diarrhea in children with OR value = 0.221.

Table 2.7 Relationship Between Ownership of Latrines and The Incidence of Diarrhea in Children aged 0-60 Months in the Children's Inpatient Room of Budi Kemuliaan Hospital in July-August 2023

Mother's age	Group				Total	P *value*	OR (95% CI OR)
	Diarrhea		Non Diarrhea				
	f	%	f	%			
Under 25 years old	4	10,8	10	27	14	0,160	0,557
25-35 years old	17	45,9	16	43,2	33		
Over 35 years old	16	43,2	11	29,7	27		
Total	37	100	37	100	74		

Table 2.8 Relationship Between Child's Sex and The Incidence of Diarrhea in Children aged 0-60 months in The Children's Inpatient Room of Budi Kemuliaan Hospital in July-August 2023

Child's Sex	Groups				Total	P Value	OR (95% CI OR)
	Diarrhea		Non-Diarrhea				
	f	%	f	%			
Male	20	54.1	20	54.1	40	1.000	1.000
Female	17	45.9	17	45.9	34		
Total	37	100	37	100	74		

Based on table 2.8, it can be seen that from 40 male children, there were 20 children (54.1%) who experience diarrhea. While out of 34 female children, there were 17 children (45.9%) have diarrhea. Based on statistical tests, p value = 1.000 means that there is no statistical relationship between gender and the incidence of diarrhea in children.

Table 2.9 Relationship Between Mother's Age and the Incidence of Diarrhea in Children aged 0-60 months in the Children's Inpatient Room of Budi Kemuliaan Hospital in July-August 2023

Table 2.9 Relationship Between Mother's Age and the Incidence of Diarrhea in Children aged 0-60 months in the Children's Inpatient Room of Budi Kemuliaan Hospital in July-August 2023

Age is over 35 years there were 16 children (43.2%) who have diarrhea. Based on statistical tests. the p value = 0.160 means there is no statistical relationship between maternal age and the incidence of diarrhea in children.

Based on table 2.9 it can be seen that out of 14 children whose mother's age is under 25 years old there were 4 children (10.8%) who have diarrhea. Out of 33 children whose mother's age were 25-35 years there were 17 children (45.9%) who have diarrhea. And out of 27 children whose mother's

Table 2.10 Relationship Between Mother's Education and The Incidence of Diarrhea in Children Aged 0-60 Months in The Children's Inpatient Room of Budi Kemuliaan Hospital in July-August 2023

Mother's Education	Groups				Total	P Value	OR (95% CI OR)
	Diarrhea		Non-Diarrhea				
	f	%	f	%			
No School	0	0	0	0	0	0.000	4.080
Elementary school graduate	4	10.8	2	5.4	6		
Junior highschool graduate	14	37.8	1	2.7	15		
Highschool graduate	18	48.6	26	70.3	44		
Universities and equivalent	1	2.7	8	21.6	9		
Total	37	100	37	100	74		

Based on table 2.10, it can be seen that from 6 children whose mother's education

graduated from elementary school there were 4 children (10.8%) who have diarrhea. From 15 children whose mother's education graduated from junior high school there were 14 children (37.8%) who have diarrhea. From 44 children whose mother's education graduated from high school there were 18 children (48.6%) who have diarrhea. From 9 children whose mother's education graduated from college /equivalent there was 1 child (2.7%) who had diarrhea. Based on statistical tests, p value = 0.000 means that there is a statistical relationship between maternal education and the incidence of diarrhea in children. While the OR value=4.080 means that children whose mother's education graduated from high school have a risk of 4.080 times experiencing diarrhea.

Table 2.11 Relationship Between Mother's Occupation and the Incidence of Diarrhea in Children Aged 0-60 Months in The Children's Inpatient Room of Budi Kemuliaan Hospital in July-August 2023

Mother's Occupation	Groups				Total	P Value	OR (95% CI OR)
	Diarrhea		Non-Diarrhea				
	f	%	f	%			
Housewife	6	16.2	33	89.2	39	0.000	0.206
Self-Employed	18	48.6	0	0	18		
Private Sector Employee	13	35.1	3	8.1	16		
Civil Servants	0	0	0	0	0		
Etc.	0	0	1	2.75	1		
Total	37	100%	37	100%	74		

Based on table 2.11, it can be seen that from 39 children whose mother's occupation were housewife, there were 6 children (16.2%) have diarrhea. From 18 children whose mother's occupation was self-employed there were 18 children (48.6%) who have diarrhea. From 16 children whose mother's occupation as a private employee there were 13 children (35.1%) who have diarrhea Based on statistical tests, p value = 0.000 means there is a statistical relationship between mother's occupation and the incidence of diarrhea in children.

4. DISCUSSION

The relationship between children's nutritional status and the incidence of diarrhea in children aged 0-60 months

Based on table 2.1, the highest proportion of toddlers in the normal nutrition category who experienced diarrhea were 18 children (48.6%), while those who did not experience diarrhea were 31 children (83.8%) with p value= 0.004, which means that there is a significant relationship between the nutritional status of children and the incidence of diarrhea in children aged 0-60 months at Budi Kemuliaan Hospital in July-August 2023.

This study is in line with Siti Juhariyah's research on the relationship between nutritional status and the incidence of diarrhea, stating that the group of toddlers with poor nutritional status and less experienced more diarrhea (76.9%) compared to those without diarrhea by 36% so that there is a relationship between the nutritional status of children and the incidence of diarrhea in children (P value = 0.04),[14] and in line with Rycha Dwi Syafutri's research on the relationship between nutritional status and the incidence of diarrhea in toddlers in Sei Rampah District. Serdang Bedagai Regency, a total of 73 toddlers with normal nutritional status found 35 people (48%) had diarrhea, while 37 toddlers (52%) did not experience diarrhea. So that there was a relationship between the nutritional status of children and the incidence of diarrhea in children P value 0.02.[14]

The relationship between child age and the incidence of diarrhea in children aged 0-60 months

Based on table 2.2, the highest proportion of children aged 13-24 months who experienced diarrhea were 15 children (40.5%), while those who did not experience diarrhea were 11 children (29.7%), with P value =0.305, which means that there is no significant relationship between child's age and the incidence of diarrhea.

This study is in line with the research of Natiara Khalid. Ahmad Wisnu Wardhana. and Hadi Irawiraman on the relationship between nutritional status and age with the incidence of diarrhea with complications in toddlers at Abdul Wahab Sjahranie Samarinda Hospital. there were 45 toddlers (64.3%) aged < 2 years and 25 toddlers (35.7%) aged ≥ 2 years so there was no relationship between the age of the child and the incidence of diarrhea in children

(P value = 0.234).[6] Although the relationship is weak and insignificant, but children aged <24 months there are usually some toddlers who breastfeed have begun to be weaned by their mothers. So, they no longer get breast milk. Thus, the level of immunity of the toddler itself becomes low. If there are infectious germs around them that can cause diarrhea, the toddler is at high risk of developing diarrhea.

The Relationship between duration of breastfeeding and incidence of diarrhea in children aged 0-60 months

Based on table 2.3, the highest proportion of children who were not exclusively breastfed experienced diarrhea as many as 18 children (48.6%). While those who did not experience diarrhea was 1 child (2.7%), with p value=0.000, which means that there is a significant relationship between the length of exclusive breastfeeding and the incidence of diarrhea in children aged 0-60 months at Budi Kemuliaan Hospital in July-August 2023. This study is in line with the research of Nurul Fitriani. Armaidi Darmawan, and Anggelia Puspasari on the analysis of risk factors for diarrhea in toddlers in the Pakuan Baru Puskesmas work area in Jambi City. with the results of 40 children (80%) experiencing diarrhea and 49 children (98%) not experiencing diarrhea, so that there is a relationship between the length of exclusive breastfeeding and the incidence of diarrhea in children (P value = 0.004). And in line with Armina Analinta's research on the relationship between exclusive breastfeeding and the incidence of diarrhea in toddlers in Ampel Village. Semampir District. Surabaya City 2017. the results showed that 69.2% of respondents who did exclusive breastfeeding and 30.8% did not do exclusive breastfeeding so that there was a relationship between the length of exclusive breastfeeding and the incidence of diarrhea in children (P value <0.001 means P <0.05).[19]

The Relationship Between Mother's Knowledge about Diarrhea and The Incidence of Diarrhea in Children Aged 0-60 Months

Based on table 2.4, the highest proportion of mothers in the category of lack of knowledge who experienced diarrhea was 30 children (81.1%), while those who did not experience diarrhea were 5 children (13.5%), with p value=0.000, which means that there is a significant relationship between mother's knowledge about diarrhea and the incidence of diarrhea in children aged 0-60 months at Budi Kemuliaan Hospital in July-August 2023.

This study is in line with Meri Vilanda Putri's research on factors associated with the incidence of diarrhea in infants aged 6-12 months in the work area of the Puskesmas Lingkar Timur Bengkulu City in 2018, obtained data that of the 31 respondents with poor knowledge as many as 19 people (61.3%) experienced diarrhea and of the 45 respondents with good knowledge as many as 34 people (75.6%) did not experience diarrhea so that there was a relationship between maternal knowledge and the incidence of diarrhea in children (P value = 0.003).[16]

The Relationship between children's measles immunization status and the incidence of diarrhea in children 0-60 months of age

Based on table 2.5 of 59 children aged 9-60 months at Budi Kemuliaan Hospital. The highest proportion was found in the category of 23 children aged ≥ 9 - 17 months who had been vaccinated with measles 1 time who experienced diarrhea by 14 children (60.8%). While those who did not experience diarrhea were 9 children (39.1%) With P value =0.001 which means that there is a significant relationship between measles vaccination status and the incidence of diarrhea in children aged 0-60 months at Budi Kemuliaan Hospital.

This study is in line with Ida Sri Aini Agustin's research on the relationship between nutritional status, measles vaccination, personal hygiene and home sanitation with the incidence of diarrhea in children aged 12-24 months, obtained the results of 78.33% of toddlers have been vaccinated against measles, and the remaining 21.67% are not vaccinated against measles, so that there is a relationship between children's measles vaccination status and the incidence of diarrhea in children (P value = 0.015).[17]

This is in accordance with the theory, namely because with immunization the child's body will react and antibodies increase to be

able to fight antigens that enter the body. Immunization is one of the measures to prevent diarrhea. There is no specific immunization for diarrhea problems. but measles immunization has the side effect of preventing diarrhea.[19]

The Relationship Between Clean Water Supply and the Incidence of Diarrhea in Children Aged 0-60 Months.

Based on the table 2.6 with P value =1.000, which means that there was no significant relationship between clean water supply and the incidence of diarrhea in children aged 0-60 months.

This study is in line with Rizky Nur Alam's research on factors associated with the incidence of diarrhea in toddlers in Buniasih village in the Working Area of UPT Puskesmas Kadipaten Tasikmalaya Regency. there is no relationship between clean water sources and the incidence of diarrhea in children (P value = 0.724)

This occurred because some respondents did not utilize clean water as a source of drinking water. Therefore, it is less likely for bacterial contamination to enter the digestive tract. In addition, diarrheal diseases can also be transmitted through washing utensils or hands with contaminated water.[23]

The Relationship Between Ownership of a Latrine and the Incidence of Diarrhea in Children Aged 0-60 Months

It can be seen in table 2.7 that there is a significant relationship between latrine ownership and the incidence of diarrhea in children aged 0-60 months with a P value of 0.007 . This study is in line with the research of Saktha Yudha et al which states that there is a relationship between family latrines and the incidence of diarrhea in children (P value = 0.001). [19] This is in accordance with the theory which states that the requirements for disposal of feces that meet health regulations are not polluting the surrounding soil surface, not polluting the surrounding surface water, not polluting the surrounding ground water, feces should not be open so that it can be used as a place for vectors to lay eggs and breed. [18]

The Relationship Between Child's Sex and the Incidence of Diarrhea in Children Aged 0-60 Months

Based on table 2.8 of the statistical test results with a P value of 1.000, which means that there was no significant relationship between child's sex and the incidence of diarrhea in children aged 0-60 months.

This study is in line with the research of Nurul Fitriani. Armaidi Darmawan. and Anggelia Puspasari regarding the analysis of risk factors for diarrhea in toddlers in the Pakuan Baru Puskesmas working area in Jambi City. There was no significant relationship between gender and the incidence of diarrhea in toddlers in the Pakuan Baru Puskesmas Area in Jambi City in 2020 (P value = 0.648). [19]

This is because diarrhea can attack anyone both men and women, depending on several factors such as nutritional factors. food factors, socioeconomic factors, and environmental factors.[19]

The Relationship Between Mother's Age and the Incidence of Diarrhea in Children Aged 0-60 Months.

From the results of this study P value 0.160, which means that there was no significant relationship between mother's age and the incidence of diarrhea in children aged 0-60 months.

This study was in line with the research of Anita Margaret Wibisono. Ancah Caesarina Novi Marchianti. and Dion Krismashogi Dharmawan regarding the analysis of risk factors for recurrent diarrhea in toddlers at the Sumberjambe Health Center, Jember Regency. There is no significant relationship between mother's age and the incidence of diarrhea in toddlers at the Sumberjambe Health Center Jember Regency 2020 (P value = 0.435).[20]

This is contrary to the theory that says that the younger the mother's age. the more developed education about diarrhea in children will be. But it was not statistically proven to be related in this theory. [20]

The Relationship Between Mother's Education and The Incidence of Diarrhea In Children Aged 0-60 Months

From table 2.10 there is a significant relationship between mother's education and the incidence of diarrhea in children aged 0-60 months with P value= 0.000. This study is in line with Elvira Junita's research on factors associated with the incidence of diarrhea in toddlers in the Bangun Purba Puskesmas' work area. there is a relationship between mother's education and the incidence of diarrhea in children (P value = 0.003)[24]

This is in accordance with the theory that the higher the level of education of a person, the easier it is to receive information so that the more knowledge they have. With this knowledge, a person will better maintain the hygiene of himself and his family so as to avoid diseases especially diarrhea.[24]

The Relationship Between Mother's Occupation and the Incidence of Diarrhea in Children Aged 0-60 Months

Based on the table 2.11, the statistical test result of P value = 0.000 which means that there is a significant relationship between mother's occupation and the incidence of diarrhea in children aged 0-60 months. This study is in line with Widia Eka Susanti. Novrikasari. and Elvi Sunarsih's research on the determinants of the incidence of diarrhea in children under five in Indonesia. There is a relationship between mother's occupation and the incidence of diarrhea in toddlers in the Pakuan Baru Health Center Area. Jambi City in 2020 (P value = 0.028).[25]

Mother's occupation status is associated with diarrheal disease in children. Mothers who are busy with daily activities, both in the form of work and social activitie, can result in children not receiving good care. If the child does not receive good treatment during diarrhea, the child will experience symptoms such as dehydration, weakness, apathy and even shock. nutritional disorders that lead to short-term weight loss, hypoxia, decreased consciousness, etc. and can even cause death.[21]

5. CONCLUSION

In this study there were 35.2% of pediatric patients with diarrhea who were hospitalized at Budi Kemuliaan Hospital in the period of July 15-August 16 in 2023. The results of the study prove that there are variables that have a statistically significant relationship (P value <0.05), namely nutritional status, exclusive breastfeeding duration, mother's knowledge, measles vaccination status, latrine ownership. Mother's education, and mother's occupatiom with the incidence of diarrhea in children aged 0-60 months.

The shortcomings in this study were the sample of diarrhea cases that are rarely found so that researchers have to extend the research time in order to meet the predetermined sample size. The study involved limited number of research subjects, namely 74 children so that the results could not be generalized to a large number of subject groups and affected the small odd ratio value, there were still some respondents who filled out the questionnaire not seriously.

6. REFERENCES

Agustin ISA. the relationship between nutritional status. measles immunization. personal hygiene and home sanitation with the incidence of diarrhea in children aged 12-24 months.

Akbar H. Factors Associated with Diarrhea Occurrence in Infants in Sindue District of Donggala Regency. Vol. 2. Journal of Public Health. 2017.

Alam RN. Factors Associated with the Incidence of Diarrhea in Toddlers in Buniasih Village in the Working Area of UPT Puskesmas Kadipaten Tasikmalaya Regency. 2017;

Analinta A. The Relationship between Exclusive Breastfeeding and the Incidence of Diarrhea in Toddlers in Ampel Village. Semampir District. Surabaya City 2017. 2017;

Andriansyah A. Fatah MZ. Ecological Analysis: Factors affecting diarrhea in toddlers [Internet]. 2022. Available from: http://journal.stikeskendal.ac.id/index.php/PSKM.

Ch Taliwongso F. Ch Manoppo JI. Umboh A. Ratulangi Manado S. Pediatrics Faculty of Medicine Sam Ratulangi University Manado B. Relationship between stunting and diarrhea incidence in elementary school students in Tikala sub-district. Manado. North Sulawesi; 2017.

Eka Susanti W. Sunarsih E. Determinants of Diarrhea Incidence in Toddlers in Indonesia (Advanced Analysis of 2012 IDHS Data). 2016;

Fitriani N. Darmawan A. Puspasari Faculty of Medicine and Health Sciences A. Jambi U. Analysis of Risk Factors for the Occurrence of Diarrhea in Toddlers in the Work Area of Pakuan Baru Health Center. Jambi City. 2020;

Gede D. Apriani Y. Made D. Sastra Putri F. Widiasari NS. Advaita S. et al. An overview of the level of maternal knowledge about diarrhea in toddlers in Baler Bale Agung Village. Jembrana Regency in 2021 [Internet]. Vol. 1. Journal of Health and Medical Science. 2022. Available from: https://pusdikra-publishing.com/index.php/jkes/home

Ibrahim I. Ayu Dewi Sartika R. Astika Endah Permatasari Department of Public Health Nutrition T. Public Health F. Factors Associated with the Incidence of Diarrhea in Primary School Students in Lebak Regency. Banten Province. Indonesia. Vol. 2. 2021.

Irmawartini. Nurhaedah. Research Methodology. Vol. 1. 2017.

Juhariyah S. La A. Mashiro T. Jurnal Obstretika Scientia Hubungan Status Gizi dengan Kejadian Diare. Journal of Obstretika Scientia. 2018;6.

Junita E. Factors associated with the incidence of diarrhea in toddlers in the Bangun Purba Health Center working area. Journal of Maternity and Neonatal. 2014;1(5).

Khalid N. Wisnu Wardhana A. Irawiraman H. The Relationship Between Nutritional Status and the Incidence of Diarrhea with Complications in Toddlers at Abdul Wahab Sjahranie Samarinda Hospital. Verdure Journal. 2022;4(1):325-31.

Lamentira AL. The Relationship of Clean Water Sources and Healthy Latrines with the Incidence of Diarrhea in Toddlers: Systematic Review. June 2020;

Lami E pati wanda. Relationship between nutritional status and the incidence of diarrhea in toddlers at the Tengaran Health Center. 2019;

Made Elsa Wardani N. Ayu Witarini K. Junara Putra P. Wayan Dharma Artana I. Effect of Exclusive Breastfeeding on the Incidence of Diarrhea in Children 1-3 Years of Age. Available from: https://ojs.unud.ac.id/index.php/eu.

Putri ED. Zurfi A. Setiawati E. Lisafitri Y. The Relationship between Clean Water Supply System and Diarrhea Disease Rates in the Coastal Area of Kangkung Village. Journal of Environmental Science. 2022 Jan 1;20(1):158-67.

Putri MV. Factors Associated with the Incidence of Diarrhea in Infants 6-12 Months of Age at Puskesmas Lignkar Timur Bengkulu City 2018.

Rahmaniu Y. Dangnga MS. Abdul H. Program M. Health S. Faculty M. et al. The Relationship of Maternal Knowledge with the Incidence of Diarrhea in Toddlers in the Working Area of Lapaddekota Parepare Health Center. Scientific Journal of Human & Health [Internet]. 2022 May 2;5(2). Available from: http://jurnal.umpar.ac.id/index.php/makes

Salah S. Syarat S. Completing D. Diploma P. Polytechnic I. Kendari K. et al. Overview of Maternal Knowledge about Diarrhea in Toddlers at Poasia Health Center. Kendari City in 2016. 2016.

Syarda A. Ministry of Health Makassar P. The Relationship between Community Behavior with Open Defecation Habits and the Incidence of Diarrheal Disease (Literature Study). 2021;21(1):2021.

Valid News. Dangers of Diarrhea for Children. 2022 Nov 5;

Wibisono AM. Caesarina A. Marchianti N. Dharmawan DK. Risk Factor Analysis of Recurrent Diarrhea on Toddlers in Sumberjambe Health Center Jember Regency. Vol. 6. Journal of Agromedicine and Medical Sciences. 2020.

Witsqa Firmansyah Y. Fadli Ramadhansyah M. Fathan Fuadi M. Nurjazuli N. Factors Affecting the Incidence of Diarrhea in Toddlers: A Review. Buletin Keslingmas [Internet]. 40(1). Available from: http://ejournal.poltekkes-smg.ac.id/ojs/index.php/keslingmas/issue/archive.