JOURNAL LA MEDIHEALTICO

VOL. 02, ISSUE 01 (020-026), 2021
DOI: 10.37899/journallamedihealtico.v2i1.283

Factors Associated with the Incidence of Diarrhea in the Regional Technical Implementation Unit (UPTD) of the Community Health Center

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Article Info

Article history:
Received 31 December 2020
Received in revised form 14 January 2021
Accepted 18 January 2021

Keywords:
Education
Work
Income
Knowledge
Attitude

Abstract

In common, the issue of diarrhea illness is one of the environmental-based illnesses which is still the greatest health issue in Indonesia due to destitute basic sanitation conditions, the physical environment and the low behavior of the community to live clean and healthy, and there are still numerous variables that cause the rise of diarrhea disease. The purpose of this study is to explore what related components may influence diarrhea. The inquire about is conducted in local community health center in one district of Bone regency. This research method is descriptive analytic with cross sectional design with a research sample of 112 people. Data analysis used univariate analysis and bivariate analysis with Chi square statistical tests. The results of this study indicate the relationship between predisposing factors such as education with a value of p = 0.000 (p <0.05), work with a value of p = 0.013 (p <0.05), income with a value of p = 0.024 (p <0.05) and knowledge with a value p = 0.13 (p> 0.05) and attitude p = 0.47 (p> 0.05). The conclusion in this research is that there is a relationship such as education, work and income, there is no relationship between knowledge and attitude with the incidence of diarrhea. It is recommended that mothers under five should always adopt clean and healthy living habits and provide nutritious food to avoid infectious diseases, especially diarrhea

Introduction

Environmental cleanliness is something that greatly affects health in general. The number of environmental diseases that attack the community due to the lack of cleanliness of the surrounding environment or bad habits that pollute the environment. This can cause diseases carried by dirt in the free environment either directly or indirectly, namely through intermediaries (Hillel, 1998).

Diarrheal disease is a disease that has been known since the time of Hippocrates. Until now, diarrhea is still one of the main health problems of the Indonesian people. Diarrhea is a dangerous disease because it can cause death and can lead to outbreaks of extraordinary events (KLB). The main cause of death in diarrhea is dehydration, which is a result of loss of fluids and electrolyte salts in diarrhea stool. If they are not helped immediately, 50-60% of them can die (Bresee, 2003).

In Indonesia, the diarrhea morbidity rate for 2000 was 301 per 1,000 population, an increase compared to the results of the same survey in 1996 which was 280 per 1,000 population. Meanwhile, based on the regency / city reports in 2008, the diarrhea morbidity rate was 27.97

ISSN 2721-1215 (Print), ISSN 2721-1231 (Online)

per 1000 population. Meanwhile, the diarrhea morbidity rate in 2009 was 27.25%. Much decreased compared to the previous 12 years.

Ministry of Health of the Republic of Indonesia, Diarrheal disease in Indonesia is still one of the main public health problems. This is due to the high morbidity and mortality rates, especially among children under five. It is estimated that more than 1.3 billion attacks and 3.2 million deaths per year among children under five are caused by diarrhea. Each child had an average of 3.3 episodes of diarrhea per year and more than 80% of the deaths occurred in children less than two years old.

The number of cases of diarrhea outbreaks in 2010 was 2,580 with 77 cases of death (CFR 2.98%). This result is different from 2009 where there were 3,037 cases of diarrhea outbreaks and 21 cases of death (CFR 0.69%). This difference, of course, needs to be seen from various factors, especially the completeness of the report. Apart from that, the awareness and knowledge of the community, the availability of clean water sources, the availability of family latrines and the reach of health services also need to be considered as factors that influence the outbreak of diarrhea data from Ministry of Health of the Republic of Indonesia As for diarrhea, the national prevalence rate in 2018 reached 12.3 percent. But the good news is, this figure has fallen to 4.5 percent in 2019. Even though deaths from diarrhea are still increasing (Lestari & Rosyidah, 2010).

Methods

This study used an analytic survey approach with a cross sectional design, and conducted observational studies to look at the factors associated with the incidence of diarrhea at the same time, to determine the relationship between the independent variable and the dependent variable. Nursalam (2014) The research was conducted at UPTD Puskesmas Biru from July to December 2014. The population was all children under five who visited the health center. Sampling was 112 mothers who had children under five by simple random sampling (Nursalam, 2016).

Result and Discussion

Number of Diarrhea visits to children under five by region

Table 1. Recapitulation of diarrhea visits by region at UPTD Puskesmas Biru, Period July to December 2019

Sub-district of Biru	Month					
	July	August	September	October	November	December
Masumpu	13	28	19	19	24	30
Manurungnge	3	12	10	7	11	9
Bukaka	2	5	7	4	2	3
Watampone	0	2	2	3	0	1
Ta’	0	1	1	1	1	3
Walannae	0	0	0	0	2	0
Palopo	6	6	3	2	4	10
Jumlah	26	56	43	41	50	57

The data obtained at the UPTD Puskesmas Biru is seen from the point of view of the place where it consists of 8 villages, namely the Kelurahan Biru, Masumpu, Manurunge, Bukaka, Watampone, Ta ', Walannae, and Pappolo. Of the 8 kelurahan, it shows that the kelurahan with the highest percentage of diarrhea disease incidence is Blue with a percentage of 48.7%. Then the lowest is Walannae Village with a percentage of 0.7%

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Number of visits by toddlers by age group

Table 2. Recap of diarrhea visits according to age group at UPTD Puskesmas Biru, Period July to December 2019

Age	Bulan						Total	*f*
	July	**August**	**Sep**	**October**	**Nov**	**Dec**	**n**	
< 1 year	1	8	6	3	4	10	32	12,0
1 – 4 years	14	19	22	18	25	20	118	44,3
> 5 years	16	38	30	24	30	28	116	43,6
Total	31	65	58	45	59	58	266	100

Figure 2. Percentage of diarrhea cases according to age group at UPTD Puskesmas Biru for the period July to December 2019. The data obtained at UPTD Puskesmas Biru if viewed from the highest number of cases of diarrhea disease is in the age group <5 years with a large percentage namely 44.3%. And the lowest is the age group <1 year with a percentage of 12.0%.

Number of Toddler Visits by gender

Table 3. Recapitulation of diarrhea visits by sex at UPTD Puskesmas Biru for the period July to December 2019

Sex	Jul	Aug	Sep	Oct	Nov	Dec
Male	17	30	22	20	24	28
Female	14	35	36	25	35	35
Total	31	65	58	45	59	63

Table 3.Percentage of diarrhea cases according to sex in UPTD Puskesmas Biru for the period July to December 2019 Data obtained at UPTD Puskesmas Biru if viewed from gender, female sex is greater, namely 69.9% and male 51.6%.

Univariate test

Based on the tests that have been carried out on the respondents of mothers who have toddlers by conducting an analysis that describes the frequency distribution of respondents between independent and dependent variables

Table 4. Characteristics of respondents according to education level, occupation, income, knowledge and attitudes with the incidence of diarrhea

Educational Level	***f***	**%**
Elementary School	25	22,3
Junior School	30	26,8
High School	53	47,3
Undergraduate	4	3,6
Total	112	100
Employment	***f***	**%**
Civil Servant	2	1,8
Entrepreneur	3	2,7
Labor	44	39,5
Farmer	24	21,4
House Wife	39	34,8
Total	112	100
Income	***f***	***%***
> Minimum Wage 2.529.000,-	24	21,4
< Minimum Wage 2.529.000,-	88	78,6

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Total	112	100
Level of Knowledge	***f***	***%***
Good	71	63,4
Enough	31	27,7
Less	10	8,9
Total	112	100
Behavior	***f***	***%***
Good	70	62,5
Enough	42	37,5
Total	112	100
Family Support	***f***	***%***
Good	86	76,6
Less	26	23,2
Total	112	100
Clean Water Management Behavior	***f***	***%***
Good	23	20,5
Less	89	79,5
Total	112	100

Based on table 1 above, it can be concluded that of the 112 respondents, the highest level of high school education is 53 people (47.3%), while the least is the level of undergraduate education, namely 4 people (3.6%). It can be seen from the 112 respondents that the most working as laborers was 44 people (39.5%), while the least working as civil servants was 2 people (1.8%). It can be seen from the 112 respondents, the largest income was below the UMK 2,529,000, namely 88 people (78.6%), while the lowest income was above the UMK 2,529,000, namely 24 people (21.4%).

Bivariate Test

Table 2. The relationship between maternal education and the incidence of diarrhea at Puskesmas Biru

No	**Education**	**Diarrhea occurrences**				**Total**		**p-value**
		Diarrhea		**Not Diarrhea**				
		f	%	f	%	f	%	
1	Elementary	17	32,1	19	67,9	25	100	,000
2	Junior School	1	3,3	29	96.7	30	100	
3	High School	14	100	43	0	53	100	
4	Undergraduate	1	4	3	96	4	100	
Total		23	20,5	89	79,5	112	100	

Based on the table above, between the level of education and the incidence of diarrhea, it can be found that the largest number of respondents with elementary education level is 17 (32.1%) with the incidence of diarrhea in under-five. Based on the results of the chi square test, it shows that the value of p = 0.000 (<0.05), this indicates that there is a relationship between low levels of education and the incidence of diarrhea.

Table 3. Relationship between maternal occupation and the incidence of diarrhea among children under five

No	**Employment**	**Diarrhea occurrences**				**Total**		**p-value**
		Diarrhea		**Not Diarrhea**				
		f	%	f	%	f	%	0,013

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1	Civil Servant	1	100	1	0	2	100	
2	Entrepreneur	2	66,7	1	33,3	3	100	
3	Labor	8	18,2	36	81,8	44	100	
4	Farmer	3	12,5	21	87,5	24	100	
5	House Wife	2	20,5	31	79,5	39	100	
Total		23	20,5	89	79,5	112	100	

Based on the table above, between occupation and the incidence of diarrhea, it was found that respondents who worked as laborers (18.2%) had more bad behavior than respondents who worked as civil servants (0%). Based on the results of the chi square test with a value of p = 0.013 (<0.05), this indicates that there is a relationship between the respondent's occupation and the incidence of diarrhea.

Table 4. The relationship between income and the incidence of diarrhea

No	**Income**	**Diarrhea occurrences**				**Total**		**p-value**
		Diarrhea		**Not Diarrhea**				
		f	%	f	%	f	%	
1	< Mininimum Wage	13	15,1	75	84,9	88	100	0,024
2	> Mininimum Wage	8	38,5	16	61,5	24	100	
Total		21	20,5	91	79,5	112	100	

Based on the table above, between income and the incidence of diarrhea, it is known that respondents who have an income below the UMK are 86 people and experience diarrhea, namely 73 people (84.9%), while respondents who have an income above the UMK are 26 people and those who experience diarrhea as many as 16 people (61.5%), respondents.

Table 5. The relationship between maternal knowledge and the incidence of diarrhea

No	**Knowledge**	**Diarrhea occurrences**				**Total**		**p-value**
		Diarrhea		**Not Diarrhea**				
		f	***%***	***F***	***%***	***F***	***%***	
1	Good	14	19,7	57	80,3	71	100	***0,136***
2	Enough	9	29,0	22	71,0	31	100	
3	Less	0	0	10	100	10	100	
Total		23	20,5	89	79,5	112	100	

Based on the table above, it is known that the knowledge of mothers is good as many as 71 people, it is known that there are 14 (19.7%) toddlers who experience diarrhea with good knowledge of the mother, while 57 children without diarrhea (80.3%), (71.0%),

Table 6. The relationship between attitudes and waste management behavior

No	**Behavior**	**Diarrhea occurrences**				**Total**		**p-value**
		Not *Diarrhea*		***Diarrhea***				
		f	***%***	***f***	***%***	***f***	***%***	
1	Baik	54	22,9	16	77,1	70	100	***0,479***
2	Cukup	35	16,7	7	83,3	42	100	

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	Total	89	20,5	23	79,5	112	100	

Based on the table above, it is found that respondents who have good attitudes are as many as 70 mothers of toddlers and experience diarrhea as many as 16 (77.1%) under five, while the attitude of aunt who is sufficient from 42 people who experience diarrhea is as many as 7 (83.3%) children under five.

Diarrhea is a change in the frequency and consistency of stool. WHO in 1984 defines diarrhea as liquid stools three or more times a day and night (24 hours). Diarrhea is loose or liquid bowel movements that can be in the form of water which is often more frequent than usual (usually three or more times a day) (Depkes RI, 2000). Based on the results of the research on the relationship between education level and the incidence of diarrhea, it can be found that the most respondents with elementary education level are 17 (32.1%) with the incidence of diarrhea among children under five. Based on the results of the chi square test, it shows that the value of p = 0.000 (<0.05), this indicates that there is a relationship between low levels of education and the incidence of diarrhea, this is due to low education so the ability to prevent diarrhea, especially in children under five, especially in managing a healthy environment and tend to neglect their children and let their children play without supervision. Iman (2016) stated Environmental cleanliness is something that greatly affects health in general (Sugiyono, 2010). The number of environmental diseases that attack the community due to the lack of cleanliness of the environment around them (Notoatmodjo, 2012). Bad habits that pollute the environment, especially water sources, scatter garbage, resulting in many vectors that cause diarrhea (Notoatmodjo, 2012). This can cause diseases carried by dirt in the free environment either directly or indirectly, namely through intermediaries (Andriani et al., n.d) Whereas based on work with the incidence of diarrhea based on the results of the chi square test with p value = 0.013 (<0.05), this indicates that there is a relationship between the respondent's occupation and the incidence of diarrhea in their toddlers because toddlers' mothers who work tend to have less time at home so that cleanliness at home is neglected (Dinar,2009). Likewise, low income will affect the availability of nutritious food so that toddlers may lack the nutrients needed for their development (Mahing, & Ana 2011)

The relationship of maternal knowledge based on research results shows that mothers have good knowledge because information sources are often obtained from the internet and other sources even though there are still those with low education (World Health Organization 2007)

Based on the table above, it is found that respondents who have good attitudes are as many as 70 mothers of children under five and experience diarrhea as many as 16 (77.1%) children under five, while the attitudes of mothers who are sufficient from 42 people who experience diarrhea are as many as 7 (83.3%) under five. Diarrhea prevention is still lacking, this is because there are still toddlers who have diarrhea, this shows that mothers have not stimulated their toddlers, especially getting used to washing their hands, not playing in dirty places and providing nutritious food to increase their immunity so that they avoid infectious diseases (Smith et al., 2017).

Conclusion

Based on the results of the research, the relationship between the level of education, occupation, and parents' income has an effect on the incidence of diarrhea in under five. While knowledge and attitudes have no effect because P> 0.05 this happens because information about the prevention of diarrhea can be obtained from various sources, both from health workers, the community and at non-formal meetings. It is recommended to the public, especially mothers under toddlers, to always pay attention to clean living habits both at home and in the community and provide nutritional needs so that infectious diseases do not occur, especially experiencing diarrhea in their toddlers

ISSN 2721-1215 (Print), ISSN 2721-1231 (Online)

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ISSN 2721-1215 (Print), ISSN 2721-1231 (Online)