

# Characteristic of Patients Diarrhea Acute Children in General Hospital Center Sanglah Denpasar

Wita Fitriyani<sup>1</sup>, I Nyoman Budi Hartawan<sup>2</sup>, I Gusti Lanang Sidiartha<sup>3</sup>

<sup>1</sup>Medical Student of Udayana University, Denpasar, Bali, Indonesia

<sup>2,3</sup>Udayana University, Bali, Indonesia

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**Abstract:** The prevalence of diarrhea in Indonesia is still quite high in pediatrics. World Health Organization (WHO) states that every year there are more than 1.5 million children under the age of 5 who die due to acute diarrhea. In 2015 the number of diarrhea cases found increased compared to 2014 which was 87,845 people, while diarrhea cases that occurred in Denpasar showed that diarrheal disease was still ranked 10th as a disease that often occurs. **Methods :** The method used in this research is descriptive research design with *cross sectional*. The sampling technique is done by using the *consecutive sampling* method where the research data is taken from the results of recording the inpatient register of pediatric diarrhea patients in the Children's Health Department of Sanglah Hospital. **Results:** As many as 85 samples were collected in which 2 samples were excluded because they did not meet the required variables, acute diarrhea was more common in boys (61.4%) than in girls, the age of patients with the most acute diarrhea was in the range of 0- 24 months (59%). The highest nutritional status is good nutritional status (50.6%), with the highest domicile of patients in Denpasar (61.4%). The most dehydrated status in patients is mild-moderate (65.0%), concomitant diseases associated with diarrhea of the respiratory system. The most common cause of diarrhea is pathogens (80.7%) the length of stay of most 3-5 days (69.0%) with treatment is Zinc, Hipoosmolar Oralit, IVFD. The majority of patients returned home with improved treatment results (97.6%).

**Keywords:** Acute Diarrhea, Children, Characteristics.

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## I. INTRODUCTION

The prevalence of diarrhea in Indonesia is still quite high in pediatrics. The high incidence of diarrhea in Indonesia is caused by several factors such as poor sanitation, environmental hygiene, bacterial, viral, fungal and parasitic infections, malabsorption factors and dietary factors to psychological factors. <sup>1</sup>WHO states that every year there are more than 1.5 million children under the age of 5 who die due to acute diarrhea. <sup>1,2</sup>Based on data from the Bali Health Service Diseases affecting the digestive tract such as diarrhea are still high. In 2015 the number of diarrhea cases found increased compared to 2014 which was 87,845 people, while diarrhea cases that occurred in Denpasar showed that diarrheal disease was still ranked 10th as a disease that often occurs. <sup>3</sup> In reducing morbidity and mortality, improved sanitation and efforts to rehydrate oral with ORS is not enough, so vaccination is the first choice that becomes an effort in preventing effective diarrhea. This is related to the amount of diarrhea that occurs due to rotavirus infection. <sup>4</sup> Previous research found that acute diarrhea experienced by children by age, many experienced by children less than two years and most children of male sex. Based on nutritional status, diarrhea experienced by children with the undernourished and nutritionally poor. <sup>5</sup> The absence of data regarding the characteristics of pediatric diarrhea patients in Sanglah Hospital Denpasar has caused difficulties for medical staff in determining the prevalence as well as in regulating efforts in the prevention and control of this disease. So the author wants to conduct a study with the title "Characteristics of Acute Diarrhea Patients in Children at the General Hospital of Sanglah Denpasar" which the writer will do by collecting data in the form of age, sex, nutritional status, domicile, dehydration status, comorbidities, causes of diarrhea, length of stay, therapy and treatment results. The writer hopes. This research can be a reference for future research and can be used as a reference for related institutions in efforts to improve public health, especially in the field of child health.

## II. MATERIAL AND METHODOLOGY

This research is a retrospective descriptive study with a *cross-sectional* study design . Data obtained from patient medical records

Acute diarrhea in children at the General Hospital at Sanglah Hospital in Denpasar . Research is conducted at Dr Sanglah approximately 3 months ie during Septe mber until December 2019. The sample used is the entire population obtained in the appropriate medical record data . The sampling technique uses a *consecutive sampling* method , where subjects in the sample population who meet the inclusion criteria and exclusion criteria are included in the study. The sample size used in this study is in accordance with the minimum sample size. Characteristic data recorded included sociodemography (age , sex, domicile , and nutritional status ), dehydration status, comorbidities, causes of diarrhea, length of stay, therapy, and treatment results of acute diarrhea patients in children who came and went to Sanglah Hospital Denpasar. Data were analyzed descriptively using Ms Excel application and displayed as frequency distribution, percentage, average, and standard deviation. This study has received permission for research eligibility from the Ethics Committee of the Faculty of Medicine, Udayana University / Sanglah Hospital Denpasar.

## III. RESULT

The results of the study there were 85 data registers of diarrhea patients for inpatients registered in the January 2018 - December 2019 period. Of the 85 data, 83 data could be examined in that period. Data on patient characteristics are presented in the following tables:

**Table 1: Characteristics of Research Subjects ( Gender, Age, Nutrition Status, Domicile )**

Characteristics	Frequency n = 83 (percentage)
Gender	
Male	51 (61.4%)
Girl	32 (38.6%)
Age (26.6 ± 31.94)	
1. 0-11 months	29 (35.0%)
2. 12 - 23 months	20 (24.1%)
3. 24 - 35 months	12 (14.5%)
4. 36 - 47 months	8 (9.6%)
5. 48 - 53 months	3 (3.6%)
6. 54 - 59 months	5 (6.0%)
7. > 59 months	6 (7.2%)
Patient's Origin	
Denpasar	51 (61.4%)
Badung	10 (12.0%)
Gianyar	4 (4.8%)
Bangli	1 (1.2%)
Tabanan	4 (4.8%)
Klungkung	2 (2.4%)
Karangasem	6 (7.2%)
Country	1 (1.3%)
Singaraja	4 (4,8)
Nutritional status	
Well	42 (50.6%)
Less	32 (38.5%)
Bad	1 (1.2%)
More	8 (9.6%)

**Table 2: Overview of Causes of Diarrhea and Dehydration Status of Patients with Acute Diarrhea in Children**

Characteristics	Frequency n = 35 (percentage)
Causes of Diarrhea	
Virus	67 (80.7%)
Bacteria	12 (14.5%)
Lactose Intolerance	4 (4.8%)
Dehydration status	
Without dehydration	19 (22.9%)
Mild to moderate	54 (65.0%)
Weight	10 (12.1%)

**Table 3: Overview of Accompanying Acute Diarrhea in Children**

Disease Group	Types of diseases	amount
<b>Congenital Heart Disease (2.4%)</b>	Septum defect	
	Ventricular Septal Defect (VSD)	1
	Tetralogy of Fallot (TOF)	1
	<b>Total</b>	<b>2</b>
<b>Digestivus Tract Disorders (7.2%)</b>	Intestinal, Rectal, Rectal Abnormalities	
	Hischprung	2
	Anorectal Malformation	2
	Nutrition and Metabolism	
	Marasmus	1
	Hypothyroidism	1
	<b>Total</b>	<b>6</b>
<b>Neurological disorders (12.1%)</b>	Cerebral Palsi	2
	Epilepsy	6
	Septic Enelopathy	1
	Meningitis	1
	<b>Total</b>	<b>10</b>
<b>Infection (6.1%)</b>	Urinary tract infection	3
	Acute Ear Infection	2
	<b>Total</b>	<b>5</b>
<b>Respiratory Disorders (15.7%)</b>	Bronchiolitis	1
	Pneumonia	6
	Acute pharyngitis	6
	<b>Total</b>	<b>13</b>
<b>Etc (8.4%)</b>	Anemia	2
	Hypokalemia	1
	Lactose Intolerance	1
	Sepsis shock	1
	Urticaria General-tourism	1
	Neonatal jaundice	1
	<b>Total</b>	<b>7</b>

**Table 4: Overview of Length of Hospitalization, Treatment Results and Acute Diarrhea Therapy in Children**

Characteristics	Frequency n = 35 (percentage)
Duration of Hospitalization	
1-2 days	16 (19.3%)
3-5 days	49 (59.0%)
6-15 days	17 (20.5%)
≥ 15 days	1 (1.2%)
Treatment Results	
Improve	81 (97.6%)
Get worse	2 (2.4%)
Therapy	
Zinc	72 (91%)
Hipoosmolar ORS	57 (78.8%)
IVFD Kaen 3B	33 (48.5%)

#### IV. DISCUSSION

In Table 1. can be seen ba h wa most children with diarrhea in this study were children of men ie 51 patients (61.4%). The prevalence of diarrhea in boys compared to girls, according to the results of research conducted by Berlian et al<sup>4</sup>. a study in the same province also showed similar results, where research conducted in Tabanan, Bali in 2016 showed a higher number of boys with diarrhea than girls.<sup>6</sup> Results of the study, showed that most patients came from the age group of 0-11 months (35.0%) where if grouped into a larger group, the patients were dominated by the age group under 35 months (61.0%). Study data from Sulaiman Yusuf in 2011 also supports the results of this study, in a study of the diarrhea profile of the child stating that the prevalence of diarrhea was higher in the younger age group with the highest prevalence in the age group of 6 -11 months<sup>32</sup>, the same results were reported by Berlian Hasibuan et al in RS Pirngadi Hospital Medan stated that diarrhea was more experienced by children in the group under 2 years<sup>11</sup> Research in Tabanan in 2013 showed that the most sufferers came from the age group under 24 months (2 years) compared to the age group 25 -59 months (67.8% vs 32.20%)<sup>5</sup> Patients mostly from Denpasar ( 6 1.4 %) diikut i by Badung (12.0%) , This has to do with the results that have been studies that have been reported Arimbawa et al found no significant correlation between the incidence of diarrhea by environmental factors. The results of this study are probably related to the location of Sanglah Hospital which is located in Denpasar and is only 14 km and 23 km away from Badung, respectively. In addition, the number of people in Denpasar also greater than other districts so as to allow the number of patients who come from Denpasar too much. In addition, the status of Sanglah Hospital which is a tertiary referral hospital causes patients who come from outside Denpasar to be treated at Sanglah Hospital Denpasar<sup>3</sup>Based on the nutritional status seen in table 5.1, the majority of patients have good nutritional status (50.6%), patients with poor nutritional status (38.5% ), poor nutritional status (1.3% ) and patients with more nutritional status (9.6% ). The results of the same study reported by Rosa ria et al which is indicated as many as 84.1% of patients with diarrhea have good nutritional status<sup>13</sup>

In Table 2 looks sufferers of acute diarrhea in children most often caused by pathogens and viruses that are the most (80.7%), while those caused by bacteria (14.5%). Acute diarrhea itself is diarrhea with sudden onset (<72 hours) lasting less than 2 weeks with the most common cause is a viral infection including rotavirus<sup>11</sup>. This is similar to a study conducted at Dr. Sardjito Hospital, Yogyakarta where the most common cause of diarrhea in this study was a virus (75%). This is consistent with research conducted in Venezuela which found that rotavirus infections (54%) mostly occur in children . Rotavirus is said to be the main cause of diarrhea in children, especially in developing countries. This is because most developing countries have not distributed the rotavirus vaccine equally. In addition, rotavirus is said to spread more easily than bacteria because of its characteristics as a virus that is more resistant to various conditions compared to bacteria. In this study, it cannot be known the specific type of virus due to the limitations of this study which only looks for data from the data register.

In this study, it was found that the number of patients who were dehydrated was (77.1%) of the total patients while (22.9%) patients were not dehydrated. The dominant type of dehydration is mild to moderate dehydration (65.0%). This is

consistent with the results of a study conducted by Wibisono Riau in which pediatric diarrhea patients experienced mild to moderate dehydration (86.7%) (Wibisono Ekky et al, 2015) Patients who experienced severe dehydration (12.1%), patients generally have concomitant diseases that can worsen the dehydration experienced by patients, the same research conducted by Darmawati, the results obtained are that there is a significance between comorbidities on the incidence of severe dehydration in pediatric diarrhea patients<sup>11</sup>.

Table 3 shows accompanying diseases other than acute diarrhea that are treated at Sanglah General Hospital are very varied. The presence of this accompanying disease is due to Sanglah Hospital as a tertiary hospital where most diarrhea children who come not only suffer from diarrhea but have other ballast diseases that cause the first-level health facilities are unable to handle the child. Abnormalities involving the nervous system are also thought to influence bowel movements in children. The literature says that in some neurological disorders, bowel movements become slower making it susceptible to infection. In addition there is also a relationship in children with nervous system and brain disorders with malnutrition<sup>6</sup>.

In Table 4 results in research shows that majority of patients can return home with the situation improved after receiving care at Sanglah Hospital (97.6%) and deteriorated or died (2.4%). The average *length of stay of patients* is 3-5 days with a minimum of 1 day care while a maximum of more than 15 days. Most of the patients (59.0%) had an inpatient stay of 3-5 days, in addition the patients had an inpatient stay of 1-2 days (19.3%). Whereas only (1.2%) of the total patients undergoing treatment for more than 15 days. The results of the study conducted by Wibisono et al showed that there was no relationship between length of stay and nutritional status of pediatric diarrhea patients<sup>10</sup>. Provision of drug therapy in acute diarrhea that is recommended based on the Ministry of Health of the Republic of Indonesia is to do rehydration, nutrition, and medical. In diarrhea that occurs in children fluid and electrolyte loss often occurs, the main treatment in this condition is the administration of hypoosmolar ORS, in addition the main drug given as therapy for diarrhea in children is 20 mg zinc. The results of this study, the majority of patients treated with this method. Provision of this therapy is in accordance with research by Siswidiarsari in the same province where the profile of drug therapy in pediatric diarrhea patients using Lactated Ringer (93.48%) as initial rehydration and also zinc (65.22%)<sup>13</sup>

## V. CONCLUSIONS AND SUGGESTIONS

In the period January 2018 - December 2019 there were 85 patients diagnosed with acute diarrhea in the Children's Clinic of Sanglah Hospital. Of the 85 patients, accounting for 83 patients ya ng included in the inclusion criteria. The largest age of patients is in the range of 0-35 months with 61 patients with the highest number of male sex being 51 patients. The highest nutritional status is good nutritional status of 42 patients, the minimum height and weight of the patient is 41 cm and 2.1 kg while the maximum is 135 cm and 38 kg cm and the highest number of patients in Denpasar is 51 patients from the entire population. Dehydration status in most patients was mild / moderate as many as 54 patients, concomitant diseases other than diarrhea vary greatly. The cause of diarrhea in Sanglah Hospital is divided into two namely pathogens and non pathogens and most are caused by pathogens which are 67 patients. The length of treatment for most patients is 3-5 days. The majority of patients are given treatment in the form of zinc, hypoosmolar ORS, IVFD and there are some who are only given additional treatment in accordance with concomitant diseases. The majority of patients in this study went home with the results of treatment improving by 81 patients. Recording the history of the disease and examination of the patient needs to be completed again in the medical record to make it easier if later needed for research

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