Profile of Pediatric Patients at Emergency Department in Secondary Hospital in July-December 2021

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Abstract

Background. Emergency is a clinical condition that requires immediate medical action to save live. Emergency treatment in children are different from adults. The emergency departement is place where responsible for admission, initial assessment, stabilization, management of patients with acute conditions, injuries and referrals for continuing care. In Indonesia itself there is still no definite data that describes the number of visits by pediatric patients in Indonesia. **Objective.** Know the characteristic of pediatric patients at the emergency department in secondary hospital in July-December 2021 according to age, sex, triage, working diagnosis and waiting time. **Methods.** A descriptive observational study research. Number of sample 3003 patients. Research variables consist of age, sex, triage, working diagnosis and waiting time. **Results.** The results of this study showed that male patients more than female patients, the most common age of patients are in 5-10 year age group, there were many false emergency cases than emergency cases, the most common working diagnosis is fever, patients were treated less than 30 minutes. **Conclusion** Out of 3003 patients, there were many male patients, 5-10 year age group, many false emergency cases, most working diagnosis were fever and patients were treated in less than 30 minutes

Keywords: pediatric patients, sex, age, triage, working diagnosis, waiting time

INTRODUCTION

Emergency is a clinical condition that requires immediate medical action to save live and prevent disability (1). Emergency conditions can threaten anyone, including children and require immediate treatment. The emergency department is a part of a hospital that provides initial treatment for patients suffering from illness and injury (2). This unit has the main objective of stabilize patients who need resuscitation with a certain level of emergency (3).

The reasons for visit the emergency department for children vary by age and conditions such as common viral and respiratory infections, fever, cough, nausea, vomiting, and abdominal pain are the most common cases of pediatric ER visits (4).

Based on the results of a study conducted by Li et al in 2013, the number of pediatric at Taiwan Hospital in 1 year (2006-2007) were 29,035 patients. Meanwhile in Thailand, the number of pediatric patients visit to the emergency room in the last 10 years were 122,037 people with an average of 12,000 visits per year. In Indonesia itself there is still no definite data that describe the number of visit by pediatric patients at emergency departement. However, based on the result of research by Dharmawanti et al in 2012, it was found that the number of visits by pediatric patients to the emergency room of RSUD Dr. Soetomo, in 1 year were 5,835 patients with an average of 486 patients in a month. Until now, it has been little information about paediatric patients in emergency department (5). Therefore, it is necessary to have study research on the profile of pediatric patients in emergency department, especially in secondary hospital.

METHODS

Based on its purpose, the type of research used in this study was a retrospective descriptive using secondary information through medical record of pediatric patients at emergency department. The population in this study were pediatric patients who visited the emergency department in secondary hospital from 1 July 2021 to 31 December 2021. License and informed consent were obtained from director of hospital. In this study were used total sample of all pediatric patients at emergency departement in secondary hospital for 6 months (July 2021 to December 2021). Criteria inclusion was all patients who get medication at emergency department. Patients with incomplete medical records were excluded from this research. Variables used in this study were gender, age, triage, working diagnosis, and waiting time. Age were grouped into 4 groups such as <1 month, 1-5 years, 5-10 years, and 10-18 years. Triage were grouped by false and true emergency. Working diagnosis were made by doctor on duty at emergency department. Waiting time at emergency department count on start from patient came to the emergency department until the diagnosis enforced. The research instrument used was electronic medical record for pediatric patients who get medication at emergency departement on July-December 2021. Sample in this study analysis by descriptive which calculated with SPSS.

RESULT

This research was conducted at emergency department in secondary hospital on April-August 2022. From the results, it was found that the number of pediatric patients at emergency department in secondary hospital was 3,003 patients. The data collected in this study included gender, age, diagnosis, waiting time and the triage.

Characteristic of pediatric patients treated at the emergency department based on gender and age are shown in table 1.

Characteristic	Percentage (%)
Sex	
Male	57.5
Female	42.4
Age	
1-<12 months	27.8
1-5 years	53.7
5-10 years	16.6
10-18 years	1.86

Table 1. Distribution of the frequency of pediatric patients by sex and age at emergency department in secondary hospital in July-December 2021

Based on table 1, it is known that out of 3,003 pediatric patients, there were more male patients than female patients. Characteristics of pediatric patients based on age were divided into 4 groups, such as as <1 month, 1-12 months, 1-5 years, 5-10 years, and 10-18 years. The most patients are in 5-10 years age group with 1,613 patients and the least number of patients are in 11-18 years age group, namely 56 patients.

Characteristics of pediatric patients who go to the emergency department based on triage are grouped into 2, false emergency and true emergency. The results of waiting time are presented in table 2.

Characteristic	Percentage (%)
Triage	
True emergency	63.3
False emergency	36.6
Waiting time	
<30 minutes	49.65
1 hour	46.75
2 hours	2.99
3 hours	0.19
>3 hours	0.39

Table 2. Distribution of the frequency of pediatric patients based on triage and waiting time at the emergency department secondary hospital in July-December 2021

Based on table 2, it is known that pediatric patients who go to the emergency department were false emergency cases. It is found that pediatric patients who went to the emergency department in secondary hospital were treated more in <30 minutes.

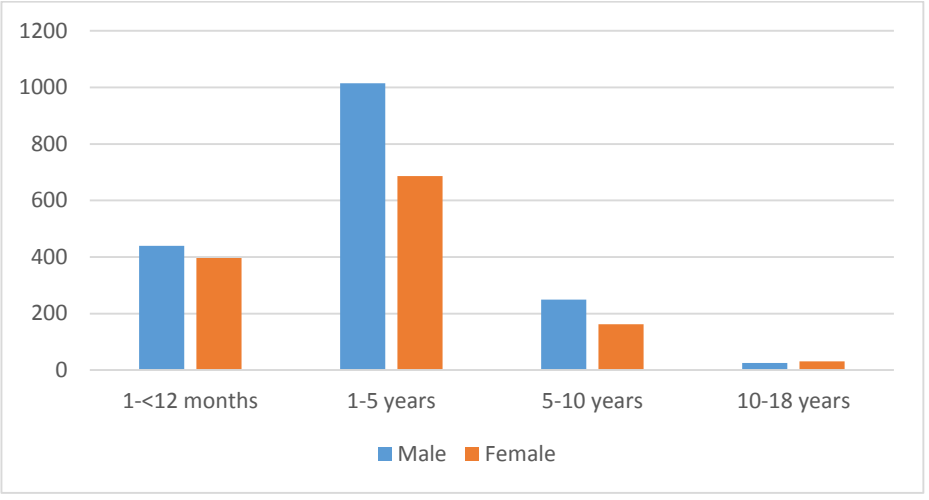
The distribution of the frequency of pediatric patients based on the working diagnosis can be seen in table 3.

Working diagnosis	Percentage (%)
Abdominal distention	0.03
Abdominal pain	1.26
Abcess	0.16
Adenotonsilitis chronic	0.03
Acute abdomen	0.06
Allergy	0.26
Angioedeme	0.23
Appendicitis acute	0.09
Asphyxia	0.09
Asthma	4.39
Bronciolitis acute	2.63
Bronchitis	0.46
Bronchopneumonia	2.43
Dengue hemorrhagic fever	1.16
Diarrhea without dehidration	5.42
Diarrhea with dehidration	2.53
Pharyngitis acute	11.3
Fever	14.3
HIL	0.29
Hiperbilirubinemia	8.95
Acute respiratory infectiom	2.86
Febrile convulsiom	0.02
Pneumonia	1.49
Post injury	1.07
Prolonged febris	0.19
Acute rhinopharnyngitis	10.02
Acute rhintis	0.49
Acute tonsilopharyngitis	1.36
Urticaria	0.53
Vigorous baby	1.53
Vomiting without dehidration	6.69
Vomiting with dehidration	0.73
Vulnus appertum	1.06
Vulnus laceratum	0.53
HFMD	0.53
Hydrocele	0.16
Colic abdomen	0.09
Constipation	0.49
Paronychia	0.16
Phymosis	0.06
Respiratory distress syndrome	0.09
Congenita syphilis	0.16
Status epilepticus	0.13
Stomatitis	0.23
	0.09

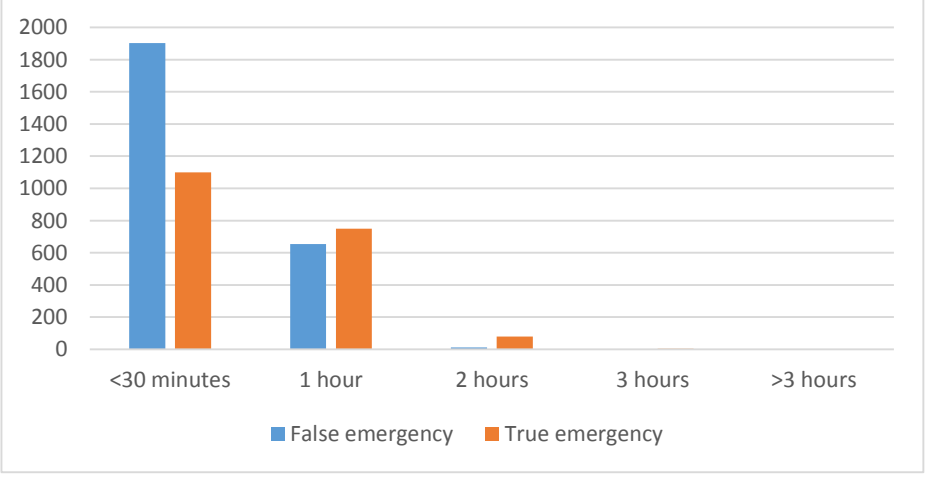
Hypovolemic shock	
Thypoid fever	0.13
Varicella	0.09
Vulnus morsum	0.13

Table 3. Distribution of the frequency of pediatric patients based on working diagnoses at the emergency department in secondary hospital

Based on table 3, the most pediatric patients who were treated at the Secondary hospital Denpasar emergency department were diagnosed with fever, and at least diagnosed with chronic adenotonsilitis.



Picture 1. Outcome graph based on gender and age at emergency department Secondary hospital Denpasar



Picture 2. Outcome graph based on waiting time and triage at emergency department Secondary hospital Denpasar

From picture 1, it was found that the most patients were male with age 1-5 years, and least were male in age 10-18 years. From picture 2, it can be seen that false emergency cases are the most common cases and they treated in less than 30 minutes.

DISCUSSION

From the results of this study, it was found that out of 3,003 pediatric patients, there were more male patients than female patients. This is in line with (5), from 3462 patients who visited the emergency room, it found that 428 (56%) male and 336 (44%) female patients from USU Hospital and 1,574 (58%) male and 1124 (42%) female patients from HAM Hospital. Research by (6) found that male visited the emergency department more often than female as many as 117 people (59.7%) (7). It is the same as the study from Dharmawati et al. It was found that the visits of male patients more than female patients (8). Research which conducted by (9), also shows that the number of visits by male patients is more than than the number of visit by girls. This study also shows that there is no relationship between gender and pediatric patient visits to the emergency department. The prevalence of the male population in Indonesia is higher than female, with 136,142,501 male and 134,923,865 female patients (10). In another study conducted by (11), male patients visited the emergency room as 57.5% and female patients as 42.5% (11). In another study from (12) according to gender, the total number of male at emergency department was 25,675 people (55.4%) and women were 20,699 people (44.6%) (12).

At Secondary hospital Denpasar, the highest number of patients visit were in the toddler age group (1-5 years) with 1,613 patients and at least patients in adolescent age group as 56 patients. Research conducted by (8) (9) where the age of children visit the emergency room is in the age at range 1-4 years or in the preschool range. This is not in line with research which conducted by (13) at the emergency department at Prof. Hospital. Dr. R. D. Kandou Manado showed that there were 1999 patients classified as 11-18 years old as the most visits to the IGD Prof. Hospital. Dr. R. D. Kandou Manado (13). Research conducted by (5) also showed that the most patients were aged 11-18 years where 267 patients were from USU Hospital and 971 patients from HAM Hospital.

From the research conducted, it was found that pediatric patients who visited the emergency room were more in false emergency cases than emergency cases. Of all pediatric patient visits to the Secondary hospital Denpasar Emergency Room, more than 50% of patients come with false emergency cases. Threats to life and disability in patients vary, depending on how severe the patient's condition is. To determine the size of a patient's threat to death, it is necessary to sort patients based on the level of emergency or what is called triage. By doing triage, the emergency priority can be determined.

The results of the research conducted showed that the most pediatric patients who received treatment at the Secondary hospital Denpasar emergency department were diagnosed with fever, there were 430 children, and at least diagnosed with urticaria. It is different from a study conducted by (5) in which the study found that the most diagnoses from HAM Hospital were injury in 325 (12%) patients and fever from USU Hospital in 107 (14%) patients. Injury is categorized as the most common diagnosis in HAM Hospital due to traffic and irregular regulations in Medan.

From this study, it was found that the waiting time for pediatric patients who received treatment at the Secondary hospital Denpasar emergency department was handled more with <30 minutes. Waiting time (LOS) here can be in the form of a doctor's decision to decide that the patient will go home or be hospitalized, and for those who are going to be admitted to the inpatient room, it is certainly a long time to wait to move to the inpatient room (14). Based on the results of a study conducted by (9), the average LOS in Taiwan hospitals is 2.6-4.7 hours. Meanwhile, in Indonesia, studies related to LOS in pediatric patients have never been carried out. The recommended waiting time for patients in the emergency department is no more than 4 hours (15). Long LOS can be caused in increased mortality and morbidity. Some research show that there is a relationship between LOS and increased mortality, where there is an increase in the mortality rate of around 2.5% in patients who leave the emergency department less than 2 hours to 45% in patients who leave the emergency department within 12 hours or more (14). Many factors are related to the LOS of pediatric patients in the emergency department, such as the number of laboratory examinations or consultation with pediatrician. Based on research conducted by (16) there is a relationship between age, number of laboratory tests, consultation with specialist doctors with LOS in pediatric patients in the emergency room.

CONCLUSION

From this study, it was found that the samples obtained pediatric patient at emergency department Secondary hospital Denpasar in the period July to December 2021 as many as 3003 patients. From the result, it was found that the most visits were male patients, in the 5-10 years age group, more cases were not true emergency cases, the most working diagnosis was fever. The waiting time in the emergency department was recorded as less than 30 minutes.

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