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Management Of Drug Use In Patients With Febrible Seizures In Palaraya Mother And Child Hospital, Tegal District

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ABSTRACT

Pharmaceutical preparation management, especially drug management, is one of the most critical activities that receive an allocation of 40-50% of funds. Drugs must be managed optimally to ensure the achievement of the correct number and type of pharmaceutical supplies that are sufficient and appropriate for their use. This study aims to provide the availability of drugs, whenever needed, in terms of style, amount, and proper usage, effectively and efficiently in pediatric patients with febrile seizures. Febrile seizures are seizures associated with symptoms of fever and age, and there is no intracranial infection or other abnormalities in the brain. This type of research is a qualitative descriptive study to determine drug management in the Pharmacy Installation of Palaraya Mother and Child Hospital in the Tegal Regency. In this study, researchers used a qualitative approach to obtain more in-depth information about managing drugs used in patients with febrile seizures in hospital pharmacy installations. The sampling method in this study was total sampling, namely outpatients from July to September 2022 at Pala Raya Hospital who were diagnosed with febrile seizures and met the inclusion and exclusion criteria. The method of collecting data is using secondary data obtained by recording the name of the drug in the patient's medical record from July to September 2022 on a worksheet.

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1. INTRODUCTION

Pharmaceutical preparation management, especially drug management, is one of the essential activities that receive an allocation of 40-50% of funds. Drugs must be managed optimally to ensure the correct number and type of pharmaceutical supplies and medical devices [1]. The goal of drug management is the availability of narcotics whenever needed, both in terms of style, quantity, and quality, effectively and efficiently [2]. This study aimed to determine the management of the use of drugs used in pediatric patients with febrile seizures in terms of type, amount, and accuracy of use. The drug management process must be carried out because inefficiency and fluency in drug management will harm pharmaceutical service activities in the provision of health services as a whole, both medical, social.

The quality level of drug management in hospitals must be assessed (2) [3]. This is clarified in Permenkes No. 72 of 2016 concerning pharmaceutical service standards as a reference in determining hospital drug management policies (3) [4]. Inefficiency will hurt operational costs for hospitals because drug logistics materials are one of the places where budget leaks occur, so drug management can be used as a process of driving and empowering all available resources to be utilized to realize the availability of drugs whenever needed so that operations are practical and efficient (4). In addition, appropriate medications are essential for the recovery of pediatric febrile seizure patients [5].

2. METHOD

This research uses an analytic observational method with a qualitative design and approach. It intends to look at the description that occurs in the implementation of the management of the use of febrile seizure drugs in RSIA. This research occurred at the Palaraya Mother and Child Hospital

Pharmacy, Tegal Regency, in July - September 2022. The variable studied was the management of drug use in patients with febrile seizures.

The population in this study was drug use in pediatric patients with febrile seizures accompanied by comorbidities from July to September 2022. Sampling in this study was total sampling, namely outpatients from July to September 2022 at Pala Raya Hospital, Kab. Tegal was diagnosed with febrile seizures that met the inclusion and exclusion criteria. The inclusion criteria were patients diagnosed with febrile seizures and comorbidities—pediatric patients hospitalized at Pala Raya Hospital. Exclusion criteria were incomplete medical record data, including name, gender, age, and therapy given. Unreadable medical record data. Patients who were forcibly discharged or declared dead.

The tools used to retrieve data were patient medical record sheets and a list of questions submitted to the pharmacy staff at RSIA.The data collection method in this study used medical record data review and the interview process. The researcher first requested permission from the hospital. The data collection method uses secondary data obtained by recording the name, gender, and age in the patient's medical record from July to September 2022 on a worksheet—primary data collection using in-depth interviews with officers.

3. RESULTS AND DISCUSSION

Based on The research that has been carried out aims to determine the effectiveness of facial soap and aloe vera gel with the level of acne vulgaris in students at SMA Negeri 2 Bayang with 20 respondents, the authors can describe the results of the research in the exposure below:

Sample Characteristics

The sample in this study was 30 samples from 49 medical record data of pediatric patients with seizures who were hospitalized in October - December 2022. Characteristics included gender and age, patient's weight, and diagnosis of comorbidities in pediatric febrile seizures in inpatient installations RSIA Pala Raya.

Table 1. Respondent Characteristics

Characteristics	Amount	Percentage (%)
Gender		
Man	13	43,33
Woman	17	56,67
Total	30	100
Age Group		
newborns(0-3 months)	0	0
infants(3-12 months)	6	20
toddler(1-3 years)	19	63,33
preschool(4-5 years)	5	16,67
Total	30	100
Weight Group by Age		
Very less weight (severely underweight)	1	3,33
underweight	4	13,34
Normal weight	24	80
The risk of being overweight	1	3,33
Total	30	100
Diagnosis of co-morbid febrile seizures		
Bacterial Infection	3	10
Acute Diarrhea	3	10
Aspiration Pneumonia	1	3,33
ISPA	22	73,34
ISPA + Vomitus + Moderate Dehydration	1	3,33
Total	30	100

Characteristics of the samples in the table. They stated that the percentage of male sex was 13 patients (43.33%) and female was 17 patients (56.67%). While the age characteristics are divided based on Petrick et al. (2020), the percentage of newborns was 0 patients (0%), infants were six patients (20%), toddlers were 19 patients (63.33%), and preschool were five patients (16.67%). In terms of patient weight based on age, seen from the distribution of the Republic of Indonesia Ministry of Health (2020), it can be seen that one patient was severely underweight (3.33%), four patients (13.34%) were malnourished, 24 patients (80%) average weight, and one patient at risk of being overweight (3.33%). While the doctor's diagnosis, comorbidities experienced by pediatric patients with febrile seizures, namely bacterial infections in 3 patients (10%), acute diarrhea in 3 patients (10%),

Seizure Treatment with Diazepam

One of the treatments for simple febrile seizures is diazepam. Diazepam is available in oral, rectal/suppository, and parenteral preparations.

Table 2. Seizure Treatment with Diazepam

Therapy	Amount	Percentage (%)
Diazepam		
Oral	26	86,67
Oral + Suppositories	4	13,33
Total	30	100

According to the table for the treatment of seizures, 26 (86.67%) oral diazepam and four suppositories (13.33%) were used.

Seizures generally last a short time (average 4 minutes), and the seizures have stopped by the time the patient arrives. If the patient comes into convulsions, intravenous diazepam is the fastest drug to control seizures. A practical drug that parents can give at home (prehospital) is rectal diazepam (19).

The anticonvulsant given to pediatric patients with febrile seizures is diazepam [6]. While the preparation most often used in this study was oral in 26 patients (86.67%) compared to the combination of oral and suppositories in 4 patients (13.33%). This is because the patient's seizures had stopped when he was admitted to the hospital, and afterward, he was treated only with oral diazepam. Meanwhile, the other four patients were still in a state of convulsions and were immediately given diazepam suppositories.

Fever Treatment with Paracetamol

Fever is a risk factor that can cause febrile seizures in children. One of the fever therapy is paracetamol [7]. Following are the data results on paracetamol preparations used in patients with simple febrile seizures at RSIA Pala Raya.

Table 3. Fever Treatment with Paracetamol

Therapy	Amount	Percentage (%)
Diazepam		
Paracetamol Inf	27	90
Oral Paracetamol	2	6,67
Paracetamol Inf + Oral	1	3,33
Total	30	100

Data on fever treatment therapy obtained in this study were inf paracetamol given to 27 patients (90%), oral paracetamol given to 2 patients (6.67%), and inf paracetamol combined with oral paracetamol given to 1 patient (3.33%).

The antipyretic given in this study was only paracetamol. While the preparations given were paracetamol in 27 patients (90%), oral paracetamol in 2 patients (6.67%), and a combination of paracetamol inf + oral paracetamol in 1 patient (3.33%). Paracetamol inf was the most widely used in

this study because the patient had febrile seizures; it is hoped that this inf paracetamol can have a faster onset effect than oral use. Meanwhile, according to (Ikatan Dokter Anak Indonesia, 2016), antipyretics have not been proven to reduce the risk of febrile seizures, but experts in Indonesia agree that antipyretics can still be given. And according to [9], knowing the risk factors for febrile seizures can provide preventive measures. Preventing febrile seizures can be done by administering a fever reducer by treating the child's fever until the temperature returns to normal. Avoid giving acetylsalicylic acid (aspirin) to reduce fever because aspirin has the side effect of Reye's Syndrome, namely the accumulation of fat in the brain, liver, and other organs, which can cause organ damage. The use of safe fever reducers in children can be given antipyretics such as paracetamol and ibuprofen. However, according to the American Academy of [10], ibuprofen is not recommended for children under six months of age because it has different pharmacokinetics and because of immature kidney function. In addition, in cases of gastrointestinal bleeding and nephrotoxicity.

Antibiotic Therapy in Concomitant Diseases

Antibiotic therapy is given to diagnose comorbidities in pediatric patients with simple febrile seizures [11]. From the grouping results, doctors diagnosed comorbidities: bacterial infections, acute diarrhea, aspiration pneumonia, ARI, and ARI + Vomitus + Moderate Dehydration. The results of using antibiotics based on comorbidities can be seen in Table 4.

Table 4. Antibiotic Therapy in Concomitant Diseases

Therapy	Amount	Percentage (%)
Bacterial Infection		
Ceftriaxone Inj	1	3,33
Ceftriaxone Inj + Cefixime Oral	1	3,33
Ceftriaxone Inj + Cotrimoxazol Oral	1	3,33
Acute Diarrhea		
Cefotaxime Inj	2	6,67
Co-trimoxazole Oral	1	3,33
Aspiration Pneumonia		
Ceftriaxone Inj	1	3,33
ISPA		
Cefotaxime Inj	18	60.03
Cefotaxime Inj + Amoxicillin Oral	1	3,33
Cefotaxime Inj + Cefixime Oral	1	3,33
Ceftriaxone Inj	1	3,33
Ceftriaxone Inj + Ampicillin Inj	1	3,33
ISPA + Vomitus + Moderate Dehydration		
Cefotaxime Inj	1	3,33
Total	30	100

In bacterial infections, the use of the antibiotic ceftriaxone was found in 1 patient (3.33%), ceftriaxone in + oral cefixime in 1 patient (3.33%), ceftriaxone in + oral cotrimoxazole in 1 patient (3.33%). The second comorbid disease was acute diarrhea, treated with cefotaxime inj in 2 patients (6.67%) and oral co-trimoxazol in 1 patient (3.33%). Aspiration pneumonia was given ceftriaxone in antibiotics in 1 patient (3.33%). ISPA antibiotic therapy given was cefotaxime inj in 18 patients (60.03%), and cefotaxime inj + oral amoxicillin, cefotaxime inj + cefixime oral, ceftriaxone inj, ceftriaxone inj + ampicillin inj each in 1 patient (3.33%)). Finally, ARI + vomiting + dehydration while using cefotaxime, namely one patient (3.33%).

The amount of antibiotics given to pediatric patients with febrile seizures depends on the diagnosis and the doctor's decision to give antibiotics, seen from the patient's age and weight [12]. The distribution of drug administration in this study was divided according to the diagnosis of the disease by the doctor listed in the medical record. In this study, the most used was cefotaxime, and in 18 patients

(60.03%) with ARI. This is in line with previous research that one of the antibiotics from the cephalosporin class that is widely used is cefotaxime, as much as 65%. And cefotaxime is one of the most commonly used cephalosporin-class antibiotics by inpatients [13]. Doctors widely prescribe Cefotaxime for cases of ARI pneumonia.

Symptomatic Treatment of Concomitant Diseases

Table 5. Symptomatic Treatment of Concomitant Diseases

Diagnosis	Amount	Percentage (%)
Bacterial Infection		
No Drugs	3	10
Acute Diarrhea		
Probiotics + Zinc Syrup	2	6,67
Probiotics + Zinc Syrup + Ondansetron Inj	1	3,33
Aspiration Pneumonia		
Dexamethasone Inj	1	3,33
ISPA		
Ambroxol	13	43,36
Ambroxol + Dexamethasone Inj	2	6,67
Ambroxol + Dexamethasone Inj + Ranitidine Inj	1	3,33
Ambroxol + Rhinos Syrup	1	3,33
Ambroxol + Zinc	1	3,33
Ambroxol + Zinc + Ondansetron Inj	1	3,33
Ambroxol + Ondansetron Inj	1	3,33
Dexamethasone Inj	1	3,33
Erdosteine	1	3,33
ISPA + Vomitus + Moderate Dehydration		
Ambroxol + Zinc Syrup + Ondansetron Inj	1	3,33
Total	30	100

Symptomatic treatment for comorbidities, including bacterial infections, was not given drugs, only antibiotics for three patients. For acute diarrhea, given probiotics, zinc, and ondansetron; for aspiration pneumonia, given dexamethasone. ISPA is given Ambroxol, dexamethasone inj, ranitidine, rhinos, zinc, ondansetron, and erdosteine , depending on the patient's symptoms. At the same time, ISPA + vomiting + moderate dehydration, Ambroxol, zinc, and ondansetron therapy were given.

Symptomatic treatment aims to reduce complaints regardless of the primary disease that causes these complaints to arise [14]. In this study, symptomatic treatment depended on the diagnosis of comorbidities. The most common comorbid disease suffered by pediatric patients with febrile seizures at RSIA Pala Raya was ISPA, namely, 18 patients (60.03%). Drug therapy was given to these comorbidities, namely oral Ambroxol by 13 (43.36%), in addition to Ambroxol with combinations such as dexamethasone inj, ranitidine inj, oral Rhinos, oral zinc, ondansetron in. Apart from oral ambroxol treatment, doctors prescribe only dexamethasone inj or erdosteine. This is in line with research by [15]. Namely, the class of mucolytic drugs most widely used in the treatment of ARI is Ambroxol as many as 91 recipes with a percentage of 25.42%, compared to the minor use is bromhexine HCl as much as one prescription with a rate of 0.28%. According to [16], Ambroxol is a drug used to thin, thick mucus that is easy to expel. Apart from Ambroxol, other mucolytics used in this study wereerdosteine.

Another symptomatic treatment for ARI is dexamethasone inj such to research by [15], the most used type of corticosteroid drug class was dexamethasone in 5 recipes with a percentage of 1.40%, and the least used was lotarson and methylprednisolone each in 1 formula with a share of 0.28%. Similar to the study by [17], the corticosteroid class ranks fifth with a rate of 6.82% for treating ISPA. The use of corticosteroids is used to reduce swelling by suppressing the local inflammatory process. ARI begins with the entry of the virus as an antigen into the respiratory tract moving towards the pharynx or other

respiratory tract or with a spasm reflex arrest by the pharynx. If the reflex fails, the virus damages the mucous lining of the respiratory tract, causing inflammation of the respiratory tract, such as redness, pain, heat, and swelling. The most widely used corticosteroid for the treatment of ARI is dexamethasone.

4. CONCLUSION

Research related to the management of drug use in pediatric patients in cases of febrile seizures, namely the type of treatment carried out for cases of febrile seizures, namely anticonvulsants in the form of oral diazepam and suppositories and the most use is oral diazepam 86.67, for anti-fever in the form of paracetamol infusion and verbal with the most use of this type of infusion 90%, for antibiotics used are ceftriaxone, cotrimoxazole, cefotaxime, amoxicillin, ampicillin with the most use of cefotaxime injection 60, 03%, for symptomatic drugs used, namely zinc, probiotics, ondansetron, dexamethasone, erdostein, ambroxol, with the highest use of drugs, namely 43.33%.

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