Suitability Of Non-Sterile Concretion Recipes InPediatric Patients at RA Kartini Hospital: Incompatibility and Stability Study

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Abstrack. Non-sterile concoctions are preparations that do not require a sterilization process when mixed. Non-sterile formulations may result in incompatibility, stability and drug interactions. The purpose of this study was to determine the suitability of prescriptions for non-sterile concoctions in pediatric patients regarding incompatibility, stability and drug interactions in the children's polyclinic at RSUD RA Kartini Jepara. This type of research is a descriptive study with retrospective data collection where non-sterile concoctions of pediatric patients are the independent variables and the incidence of incompatibility, stability and the dependent variables. The sample of this study was pediatric patients who received non-sterile concoction prescriptions at the Children's Polyclinic at RSUD RA Kartini Jepara. Based on this study, the results obtained were pediatric patients who most often received non-sterile concoctions, namely pediatrics who had an age range of 6-11 years as many as 75 patients (69%). The sex of pediatrics who most often received concoction prescriptions was women, 59 patients (54.7%). Most of the drug administration in pediatric patients was 2-4 drugs (71.3%). The most frequently prescribed drugs are Salbutamol, Dexamethasone, CTM and Valproic Acid. All prescriptions for pediatric patients are compatible with other drugs. There is a correlation between the number of drugs with stability. There was no correlation between the number of drugs and the incidence of drug incompatibility. There was a relationship between the amount of drug and drug stability. There is no relationship between the number of drugs and the incidence of drug incompatibility. Based on the results of the chi square test, a P value of 0.000 <0.005 was obtained, which means that there is a relationship between the number of drugs and the occurrence of drug interactions and stability and the P value - which means that there is no relationship between the number of drugs and the incidence of drug incompatibility.

Keywords: non-sterile concoction recipe, incompatibility, stability

INTRODUCTION

Pediatrics is a medical specialty that is concerned with the physical, mental and social health of children from birth to young adulthood. Children differ from adults anatomically, physiologically, immunologically, psychologically, developmentally and metabolically (Rimsza *et al*., 2015). Due to the unavailability of appropriate medicines for pediatric patients, doctors often prescribe treatment in the form of compounded preparations (Turwewi, 2018).

Compound preparations are the process of combining, mixing or changing ingredients to make sterile or non-sterile medicines that are tailored to the patient's needs (FDA, 2017). The final product of the compounded preparation contains many components that cannot be known for certain and the contents become more complex, thereby allowing problems to occur which include the problem of dosage non-uniformity, chemical and physical instability and the possibility of containing microbial contamination which can affect the efficacy and safety of the drug (Tuleu *et al*., 2007). There are several errors that can be caused by prescribing compounded medicines for children, including problems with the quality of medicines, for example contamination or medicines that do not have the quality and purity according to standards (FDA, 2017).

Incompatibility is a change that results and the formation of an undesirable product, which can affect the safety, efficacy, appearance and stability of a pharmaceutical product. Drug incompatibility can also occur before the drug reaches the patient resulting from physicochemical reactions between several drugs, between the drug and the solvent (excipient) or with the equipment used. The three types of incompatibilities related to compounding are physical incompatibilities, chemical incompatibilities and therapeutic incompatibilities (*United States Department of the Army*, 1953). The results of research at the Bogor Regency Hospital showed that 34% of prescriptions had incompatibility due to the unsuitability of the crushed dosage form (Rochjana *et al*., 2019).

Drug stability is the extent to which a product is stored, within certain limits and throughout the period of storage and use (shelf life), with the same properties and characteristics that it had at thetime of manufacture (USP, 2016). The stability of medicinal preparations experiencing instability can be caused by hygroscopicity, hydrolysis and oxidation of a preparation (Aztriana *et al*., 2021). There are

five types of stability that are commonly known, namely, physical stability, chemical stability, microbiological stability and toxicological stability (Ahmad *et al*., 2016).

Based on the above background, it is necessary to carry out research that can describe the suitability of prescribing compounded drugs, especially pulveres preparations in pediatric patients regarding incompatibility and stability. With the hope of minimizing medication errors in the dispensing phase.

METHODS

This type of research is non-experimental research. Using descriptive quantitative methods. This research design was carried out by collecting data retrospectively and sampling using a cross sectional method. This research was conducted from March to April 2023 at RSUD RA Kartini Jepara which is located at Jl. KH. Wahid Hasyim Bapangan, Jepara Regency, Central Java. The population in this study were all pediatric patient prescriptions containing concocted medicines to make pulveres in the children's polyclinic at RA Kartini Hospital Jepara in the period January-December 2022.

The samples in this study were all pediatric patient prescriptions containing compounded medicines at the Children's Polyclinic at RA Kartini Hospital Jepara in the period January-December 2022 who met the following criteria: prescriptions for pediatric patients aged 2 - 11 years, prescriptions for pediatric patients who received compounded medicines, Outpatient prescriptions and patient prescriptions that meet administrative and pharmaceutical requirements.

The instruments used in this research are as follows:Complete prescription sheet, supporting literature (Medscape 2022, Indonesian Pharmacopoeia III Edition 1979, Indonesian Pharmacopoeia IV Edition 1995, Martindale 36th Edition 2009 and Pharmaceutical Codex 12th Edition 1994).

Data analysis in this study used univariate tests with frequency tests forfind out the percentage of drugs that experience incompatibility and stability. Test the correlation with the chi-square test to determine the relationship between variables. It is said that there is a relationship if the p value is <0.05, and the data is said to have no relationship if the p value is > 0.05.

RESULTS AND DISCUSSION

1. Patient Characteristics

The characteristics of the patients in this study can be seen in the table 1

Table 1. Patient Characteristics

Characteristics	Total (N=108)	Percentage
• Patient Age		
25 years	33 patients	31%
6 – 11 years	75 patients	69%
• Gender		
Man	49 patients	45.3%
Woman	59 patients	54.7%
• Number of Drugs2		
- 4 drugs	77 recipe sheets	71.3%
5 – 6 drugs	31 recipe sheets	28.7%

Source: Processed secondary data (2023)

a. Characteristics based on Patient Age

In this study, the age of pediatric patients who most often received non-sterile compounded drugs was 6 - 11 years, namely 75 patients (69%). This is because children aged 6 years and over are more likely to do outdoor activities so they are more likely to get sick.

The same research was also carried out by Tuloli *et al*. (2022) that the pediatric age range of 6-12 years is a period of active outdoor activities so that if it is not balanced with adequate nutrition, disease will easily occur. This is also related to the structure and anatomy of the body's organs and the immune system which has not yet developedperfectly.

This research is different from researchVirginia (2014) which states that pediatric patients aged ≤ 6 years have a greater proportion of receiving concoction prescriptions than pediatric patients aged > 5 years. This is related to the anatomical and physiological conditions in pediatric patients aged ≤ 6 years who have not developed fully.

b. Characteristics by Gender

Data on patient gender characteristics can be seen in the graph above, indicating that female patients received more concocted drugs, namely 59 patients (54.7%) while male patients were 49 patients (45.3%). In this case, both male and female patients have the potential to receive a

prescription for the concoction because it is still in the pediatrics category.

This is in line with research conducted by Morris *et al*. (2013) regarding pharmacokinetics, it states that gender at pediatric age does not affect the pharmacokinetic parameters. So it can be concluded that gender does not have a big influence on the dose resulting from the compounding process.

c. Characteristics based on Number of Drugs

Characteristic data based on the number of drugs can be seen in table 1 Of the 108 pediatric patient prescriptions, there were more prescriptions containing 2-4 (71.3%) types of drugs than prescriptions containing 5-6 (28.7%) types of drugs. The amount of medication given to each patient is adjusted to the symptoms that appear in each patient. The more symptoms they experience, the greater the amount of medication.

This is different from research conducted by Hendra (2019) that the percentage of prescriptions that received >3 types of medication was greater, namely 198 prescriptions, while the number of prescriptions that received < 3 types of medication was 160 prescriptions.

This is related to polypharmacy. Polypharmacy is divided into 2 classes based on the number of drugs on each prescription sheet, namely minor and major polypharmacy. Minor polypharmacy is a prescription sheet containing 2-4 drugs, while major polypharmacy is a prescription sheet containing ≥ 5 drugs (Agustina *et al*., 2015). So it can be concluded that in this study the incidence of minor polypharmacy was dominated.

d. Characteristics of Drug Use

Characteristics of pediatric patient drug use in this study can be seen in table 2

Table 2. Characteristics of pediatric patient medication use at the Children's Polyclinic of RA Kartini Jepara Regional Hospital

Drug	Total (N=108)	Percentage
Salbutamol + CTM + Dexamethasone	11	10%
Paracetamol syr + CTM + Dexamethasone + Salbutamol	8	7.27%
Paracetamol syr + Cefadroxil + CTM + Dexamethasone + Salbutamol	8	7.27%
Valproic Acid + Paracetamol Syr	5	4.5%
Cetirizine syr + Dexamethasone + Salbutamol	4	3.63%
Valproic Acid syr + PCT syr + Salbutamol + Dexamethasone + CTM	3	2.72%
PCT syr + Dexamethasone + Salbutamol + Simucil	3	2.72%
Alerfed + Simucil + Salbutamol + Cefadroxil	2	1.8%

Piracetam + Phenobarbital + Phenytoin	2	1.8%
Cetirizine syr + Dexamethasone + Salbutamol + Acetylcystein + Phenobarbital	2	1.8%
Syr Valproic Acid + Phenobarbital + Phenytoin	2	1.8%
Syr Valproic Acid + Kutoin-100 + Paracetamol	2	1.8%
Cetirizine syr + Valproic Acid syr Dexamethasone + Salbutamol + Acetylcystein	2	1.8%
PCT syr + Cefat + CTM + Dexamethasone + Salbutamol	2	1.8%
Paracetamol syr + Curvit syr + Cefat + Salbutamol + Dexamethasone + CTM	2	1.8%
Cefixime syr + PCT Syr + CTM + Dexamethasone + Salbutamol	2	1.8%
Dexamethasone + Cefadroxil + Salbutamol + CTM	2	1.8%
Syr Valproic Acid + Cetirizine	1	0.9 %
Valproic Acid syr + Sanmol syr	1	0.9 %
Valproic Acid + Zinc Sulfate syr	1	0.9 %
Valproic Acid + Cefadroxil	1	0.9 %
Salbutamol + Alerfed + Cefadroxil	1	0.9 %
Valproic Acid syr + Episan syr + Antacid Doen syr	1	0.9 %
Valproic Acid + Salbutamol + Dexamethasone + CTM	1	0.9 %
PCT syr + Cefadroxil syr + Dexamethasone + Salbutamol + CTM + simucil	1	0.9 %
Dexamethasone + Salbutamol + Simucil	1	0.9 %
Acetylcystein + Dexamethasone + Salbutamol + CTM	1	0.9 %
Dexamethasone + Salbutamol + Acetylcystein + Phenobarbital	1	0.9 %
Dexamethasone + Salbutamol + Cetirizine	1	0.9 %
Salbutamol syr + Cetirizine syr	1	0.9 %
Cetirizine syr + Amox syr + Salbutamol + Dexamethasone + CTM	1	0.9 %
Cetirizine syr + Pct + CTM + Dexamethasone	1	0.9 %
PCT syr + Dexamethasone + Acetylcystein + CTM	1	0.9 %
Acetylcystein + Alerfed	1	0.9 %
PCT syr + Cefadroxil + Dexamethasone + Salbutamol	1	0.9 %
Cetirizine syr + Paracetamol syr + Acetylcystein + Dexamethasone	1	0.9 %
Paracetamol syr + Amox syr + Acetylcystein + Dexamethasone + Salbutamol	1	0.9 %
PCT syr + Salbutamol + Dexamethasone + Acetylcystein + Halmezin syr	1	0.9 %
Aacetylcysteine + Alerfed	1	0.9 %
Phenytoin + Piracetam	1	0.9 %
Ibuprofen syr + Licurmin syr + Salbutamol + Dexamethasone + Acetylcystein	1	0.9 %
Valproic Acid + PCT Syr + Salbutamol + Dexamethasone + Acetylcystein	1	0.9 %
Valproic Acid + Salbutamol + Dexamethasone + Acetylcystein + CTM	1	0.9 %
Valproic Acid + Lasal syr	1	0.9 %
Valproic Acid + Phenobarbital + Sibital	1	0.9 %

Sanmol syr + Acetylcystein + Alerfed + Salbutamol	1	0.9 %
PCT syr + Amox syr + Salbutamol + Dexamethasone + CTM	1	0.9 %
PCT syr + Dexamethasone + Salbutamol	1	0.9 %
Cefixime syr + Dexamethasone + Salbutamol + Crofed + PCT	1	0.9 %
Dexamethasone + Salbutamol + Simucil + Cetirizine	1	0.9 %
Cetirizine + Dexamethasone + Salbutamol	1	0.9 %
Ibuprofen syr + Licurmin syr	1	0.9 %
Valproic Acid + Paracetamol syr	1	0.9 %
Cefadroxil + CTM + Dexamethasone + Salbutamol		
Salbutamol + Dexamethasone + Acetylcystein + Cefixime syr + Halmezin syr	1	0.9 %
Cetirizine syr + Paracetamol syr + Acetylcystein + Dexamethasone	1	0.9 %
Paracetamol syr + Amox syr + Acetylcystein + Dexamethasone + Salbutamol	1	0.9 %

Source: Processed secondary data (2023)

Based on table 2, the combination of non-sterile concoction recipes most often given to pediatric patients at the children's polyclinic at RA Kartini Hospital, Jepara, isSalbutamol + CTM + Dexamethasone as many as 11 (10%) prescription sheets, Paracetamol syr + Cefadroxil + CTM + Dexamethasone + Salbutamol as many as 8 (7.27%) prescription sheets and Paracetamol syr + CTM + Dexamethasone + Salbutamol as many as 8 (7.27%) recipe sheet.The combination of use of several drugs varies depending on the diagnosis and clinical condition of each patient.

This is in line with research conducted by Rochjana *et al*. (2019) that the use of a combination of the drugs Salbutamol, Dexamethasone and Chlorpheniramine Maleate is in larger quantities or is often prescribed to patients. The same research was also carried out by Aztriana *et al*. (2021) that the use of a combination of the drugs Salbutamol, Dexamethasone and CTM has a greater percentage than other drugs.

e. Distribution of drug types

Concoction prescriptions for pediatric patients in terms of drug type can be seen in table 3

Table 3. Frequency and Percentage of Medicines for Pediatric Patients in the Children's Polyclinic of RA Kartini Jepara Regional Hospital

Medicine name	Total (N=408)	Percentage (%)
Salbutamol	80	19.6%
Dexamethasone	79	19.4%
CTM	52	12.7%
Paracetamol syr	42	10.3%
Valproic acid	34	8.3%
Acetylcysteine	22	5.4%
Cetirizine syr	15	3.7%
Cefadroxil	14	3.4%
Alerfed	7	1.7%
Phenobarbital	7	1.7%
Simucil	6	1.5%
Paracetamol	5	1.2%
Phenytoin	5	1.2%
Cefat	4	1.0%
Cefixime syr	4	1.0%
Cetirizine	4	1.0%
Amox syr	3	0.7%

Piracetam	3	0.7%
Cefadroxil syr	3	0.7%
Sanmol syr	3	0.7%
Licurmin	2	0.5%
Curvit	2	0.5%
Halmezin syr	2	0.5%
Ibuprofen	2	0.5%
Kutoin	2	0.5%
Antacid	1	0.2%
Episan syr	1	1.0%
Lasal syr	1	1.0%
Oxopect syr	1	0.2%
Sibital	1	0.2%
Zinc Sulfate	1	0.2%

N = Number of Drugs

Source: Processed secondary data (2023)

Based on the research that has been carried out, it can be seen in table 3 that from a total sample of 108 prescriptions, the types of drugs that are frequently prescribed to pediatric patients in the children's polyclinic at RA Kartini Jepara Hospital are Salbutamol 80 (19.66%), Dexamethasone 79 (19.4%), CTM 52 (12.7%) and Valproic Acid 34 (8.3%).

Salbutamol is a beta-2 receptor agonist bronchodilator. Salbutamol is indicated for the treatment of bronchospasm in patients with reversible obstructive airway disease (Medscape, 2022). This is in line with research conducted by Tuloli *et al*. (2022) that the use of the drug salbutamol is used to treat patients who have a diagnosis of ARI.

Dexamethasone is a corticosteroid that prevents the release of substances in the body that cause inflammation. Dexamethasone is used to treat various inflammatory conditions such as allergies and skin conditions (Medscape, 2022). Dexamethasone is useful for reducing inflammation in the lungs during an infection. This is in line with research conducted by Syafitri *et al*. (2021) that the use of the drug dexamethasone is used for ARI treatment therapy.

Chlorpheniramine (CTM) is a 1st generation antihistamine indicated for allergic rhinitis, urticaria, allergic symptoms such as coughing, runny nose, sneezing, itching of the nose and throat (Medscape, 2022). This is in line with research Yuwindry *et al*. (2023) that the use of the drug Chlorpheniramine is predominantly used to treat non-allergic itching and non-allergic colds.

Valproic acid is a fatty acid derivative anticonvulsant drug that is used to treat various types of seizure disorders. In this study, the most frequently prescribed anticonvulsant drug was valproic acid. This is in line with research conducted by IF Nisak (2022) which states that valproic acid is an anticonvulsant drug that is most often prescribed than other drugs.

Some of these drugs are generally indicated for patients diagnosed with ARI and epilepsy. Because this study was taken at a children's polyclinic with a diagnosis of ARI and epilepsy.

f. Stability Compatibility and Incompatibility

1) Compatibility Incompatibility

The results of the drug incompatibility study in this study can be seen in table 4

Table 4. Incompatibility Compatibility

Category	N(108)	Percentage
Compatible	108	100%
Incompatible	-	-

N = Number of Recipes

Based on drug incompatibility, the results obtained were that all the drugs formulated in this study were 100% compatible, this is because all types of drugs are compatible based on the literature listed in Appendix 10.

According to *The Pharmaceutical Codex Twelfth Edition* (1994)Acetylcysteine is incompatible with the drugs Amphotericin, ampicillin sodium, chlortetracycline hydrochloride, chymotrypsin, erythromycin lactobionate, most metals (especially copper, iron, nickel), oxygen and oxidizing agents, oxytetracycline hydrochloride, rubber, tetracycline hydrochloride and trypsin. Chlorpheniramine Maleate is incompatible with calcium chloride, noradrenaline tartrate or sodium pentobarbitone. In this study there were no drugs that were incompatible with

Acetylcysteine and CTM drugs.

Based on *The Pharmaceutical Codex Twelfth Edition* (1994) Phenobarbital is incompatible with ammonium salts, acids and acidic substances (ammonium chloride and carbon dioxide) and with chloral hydrate. Incompatible with cephalothin sodium, chlorpromazine hydrochloride, clindamycin phosphate, dimenhydrinate, diphenhydramine hydrochloride, ephedrine sulfate, erythromycin gluceptate, hydralazine hydrochloride, hydrocortisone sodium succinate , hydroxyzine hydrochloride, insulin, kanamycin sulfate, metaraminol tartrate, opioid salts, oxytetracycline hydrochloride, pentazocine lactate, phenytoin sodium, procaine hydrochloride, prochlorperazine salt, promazine hydrochloride, promethazine hydrochloride, propiomazine hydrochloride, streptomycin sulfate, suxamethonium chloride, tetracycline hydrochloride, thiamine hydrochloride, tripelennamine hydrochloride, and vancomycin hydrochloride. Based on this research, it was found that phenobarbital is compatible with any drug.

The drugs Valproic Acid, Cefadroxil, Cefixime, Cetirizine, Dexamethasone, Ibuprofen, Phenytoin, Paracetamol, Pseudoephedrine, Salbutamol and Zinc Sulfate were not found to be incompatible with other drugs. So it can be concluded that there was no incompatibility in the combination of non-sterile concocted drugs in this study.

2) Stability Compliance

The results of the drug stability suitability study in this study can be seen in table 5

Table 5. Stability Compliance

Category	N(108)	Percentage
Stability	51	52.8 %
Instability	57	47.2 %

N = Number of Recipes

Table 5 shows the results of the drug stability analysis in this study as many as 51 prescriptions (52.8%) while the drugs experiencing instability were 57 prescriptions (47.2%). This is because there are several drugs that are hygroscopic. Hygroscopicity is the property of a substance to absorb moisture from the air (VCH, 2019). Physical stability is the state of a substance maintaining its initial physical properties which can be seen from its appearance (organoleptic). A pulveres mixture becomes wet due to the presence of certain drugs that are hygroscopic or moist, such as salt forms (HCl, HBr, maleate and so on) and preparations in capsule form whose contents are removed during compounding, thus making the powder wet (Kurniawan, 2013).

Some of the drugs in this study which are hygroscopic are Chlorpheniramine Maleate (CTM) which has a salt form, namely maleate and Pseudoephedrine which has the HCl salt form, so that when mixed with other drugs there will be a decrease in relative vapor pressure which can cause the drug powder to melt or become wet. The drug paracetamol absorbs an insignificant amount of moisture at a temperature of 25°C, at a relative humidity of up to 90% so that paracetamol does not affect the drug formulation.

This is in line with research conducted by Rahman *et al*. (2020) stated that there was a change in stability which was characterized by the powder becoming wet due to the presence of the hygroscopic pseudoephedrine drug. Meanwhile, prescriptions containing medication in salt form experienced changes on the first day. A drug that has hydrolysis (decomposition of substances in a chemical reaction caused by water) against moisture is dexamethasone. Some hygroscopic drugs when combined with dexamethasone have the potential for instability because during the compounding and storage process hygroscopic drugs absorb water from the surroundings, causing the powder to become damp. In this study, the instability of dexamethasone can be seen in Appendix 12.

Based on research conducted by Aztriana *et al*. (2021) stated that dexamethasone has the potential to absorb water from the surroundings if mixed with other drugs so that the powder becomes moist.

Next is chemical stability, Chemical stability is an active substance that maintains chemical integrity and the potency stated on the label within the stated time limit where chemical stability is influenced by storage conditions and location. Some of the drugs that are sensitive to light in this study are Cefadroxil, Cefixime, Cetirizine, Paracetamol and Salbutamol because the stability of these drugs is influenced by light which results in photodegradation of the drug. This can be overcome by proper storage methods so that the quality of the drug is

maintained and reduces the potential for chemical stability. For materials that are easily oxidized by light, it is recommended that they be stored in a container that is impermeable to light or in a place protected from light.

Based on research conducted by Rahman *et al*. (2020) stated that in his research no chemical stability was found because the concoction was stored in a tightly closed container and protected from light, thereby slowing down the chemical reaction.

g. Test Frequencies

In this study, a frequency test was carried out which was used to determine which drugs experienced incompatibility, stability and drug interactions. Frequency test results are presented in table 6.

Table 6. Frequencies Test Results

Category	N(108)	Percentage
Compatible	108	100%
Incompatible	-	-
Stability	51	52.8 %
Instability	57	47.2 %

Source: Processed secondary data (2023)

Based on table 4.8, it can be seen that the incidence of compatible drugs is 100%, meaning that all drugs in the non-sterile concoction prescription in this study are compatible. The incidence of stability in the study was 51 (52.8%) while the incidence of instability was 57 (47.2%).

Chi Square Test In this study, after the frequency test was carried out, it was followed by a chi square test on the incidence of incompatibility, stability, drug interactions and the number of drugs on each prescription sheet. The chi square test was used to determine the relationship between the number of drugs and the incidence of incompatibility and stability. The results of the chi square test can be seen in table 7.

Table 7. Chi square test results

Category	Sig	P value	Information
Stability	0,000	<0.05	There is a relationship
Instability	0,000	<0.05	There is a relationship

Information :
p value <0.05 there is a relationship
p value >0.05 there is no relationship

Based on table 7, it can be seen that the Pearson chi square value is smaller than 0.05, so it can be concluded that there is a significant relationship between the number of drugs in one prescription and the incidence of stability.

Based on stability events and the number of drugs, 51 prescriptions contained 2 - 4 drugs, while instability events resulted in 26 prescriptions containing 2 - 4 drugs and 31 prescriptions containing 5 - 6 drugs. Having obtained a Pearson chi square value of 0.000, it can be concluded that there is a relationship because the Pearson chi square value is < 0.05. This is because the greater the number of drugs, the greater the possibility of instability. In this study, the ingredients in pulveres that experienced instability were prescriptions containing the drugs CTM, pseudoephedrine and dexamethasone.

CONCLUSION

There is suitability for prescriptions for non-sterile concoctions based on drug incompatibility given to pediatric patients at RSUD RA Kartini Jepara. There is a discrepancy in the prescription of non-sterile concoctions based on stability given to pediatric patients at RSUD RA Kartini Jepara. There is no relationship between the number of drugs and the incidence of drug incompatibility.

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It is hoped that further research can be carried out regarding the study of the suitability of prescriptions for non-sterile concoctions in pediatric patients using different methods, for example using prospective methods. with the aim of being able to see stability and incompatibility events directly.

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