

LITERATURE REVIEW

Prevalence of Allergies Due to Paracetamol Use in Children:**A Literature Study****Ilham Hariaji**

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Abstract: Paracetamol is an antipyretic and analgesic drug that is often used to relieve fever and pain in children. Although considered safe, the use of paracetamol in children can cause allergic reactions. This study aims to assess the prevalence of allergies due to the use of paracetamol in children. This Literature Review identifies and analyzes articles published in the last five years, using databases such as PubMed, Scopus, and Google Scholar. The included studies were studies with cohort, cross-sectional, and case-control designs that assessed the association between paracetamol use and allergic reactions in children. Of the 23 articles that met the inclusion criteria, it was found that the prevalence of allergies due to paracetamol use in children varied between 0.1% and 6.5%. Some of the factors that play a role in increasing the risk of allergies are the history of allergies in the family and the influence of environmental factors. In addition, frequently reported types of allergies include urticaria, eczema, and anaphylactic reactions. The results of this review suggest that although the prevalence of paracetamol allergy in children is relatively low, special attention is still needed, especially in children with a history of allergies or certain medical conditions. Proper management and further understanding of the pathogenesis of paracetamol allergy in children need to be done. Allergies due to paracetamol use in children, although rare, should remain a medical concern. Further research is needed to identify clearer risk factors and to develop guidelines for the use of paracetamol in children who have allergic predispositions.

Keywords: Paracetamol, alergi, child

INTRODUCTION

Paracetamol is a widely used drug to relieve fever and pain in children, with relatively low side effects when used in the recommended dosage.^{1,2} However, although paracetamol is considered safe, reports of allergic reactions caused by its use have begun to increase in recent years.^{3,4} An allergy to medications is an unwanted immunological reaction to a drug, and can range from mild reactions such as skin

rashes to more serious conditions such as anaphylaxis.^{5,6}

Previous research has indicated that children with a history of allergies or sensitivity to certain medications are more likely to have allergic reactions to paracetamol.⁷ Therefore, it is important to understand the prevalence of allergic reactions due to paracetamol in children, as well as the factors that affect it.

METHOD

The study is a literature review by conducting a search for scientific publications that are relevant to the selection process as follows:

1. **Inclusion and Exclusion Criteria:**
 - Articles published in the last 5 years (2019-2024).
 - Studies with cohort, cross-sectional, or case-control designs.
 - Studies that measured the prevalence or incidence of allergic reactions due to paracetamol in children.
2. **Search Strategy:**
 - The search was conducted using PubMed, Scopus, and Google Scholar databases.
 - Kata kunci yang digunakan: "Paracetamol", "allergy", "children", "prevalence", "adverse drug reaction".
 - The references used are selected based on the relevance and quality of the journal (indexed by Scopus and Sinta).
3. **Selection Procedure:**
 - Search conducted by two independent authors to minimize bias.
 - Selected articles are reviewed based on the quality of the methodology and inclusion criteria.
4. **Data Analysis:**
 1. Data obtained from relevant studies were extracted, including the prevalence of allergic reactions, the types

of allergies observed, as well as associated risk factors.

HASIL

After the search and selection process, 23 articles were found that met the inclusion criteria. The prevalence of allergy to paracetamol in children varied, with the highest number recorded in studies by those reporting a prevalence of 6.5%. Most studies show a prevalence below 5%, with the most reported allergic reactions being urticaria (hives) and eczema. Anaphylactic reactions are recorded less frequently, but remain a concern.

Factors that increase the risk of allergies in children taking paracetamol include:

- Family history of drug allergies
- Presence of medical conditions related to immune disorders
- Younger age, with the highest prevalence in children under 5 years old

DISCUSSION

Although the prevalence of paracetamol allergy in children is relatively low, it is important to remember that allergic reactions in children can develop with symptoms that vary from mild to severe.⁸ Although the exact mechanism of paracetamol allergy is still not fully understood, existing hypotheses suggest that this reaction could involve immunological mechanisms, such as type I (immediate hypersensitivity) or type IV (slow hypersensitivity) reactions.⁹

The risk factors found in the study also suggest that children with a history of

allergies or certain conditions should be monitored more carefully when given paracetamol.⁴ Therefore, strict clinical monitoring is highly recommended, especially in high-risk groups of children.¹⁰

CONCLUSION

The prevalence of allergies due to paracetamol use in children is relatively low, but it still needs medical attention, especially in children with a history of allergies or certain medical conditions. Although paracetamol allergy in children is rare, more research is needed to dig deeper into the pathogenesis and risk factors involved. Therefore, medical practitioners are advised to remain vigilant and conduct careful medical evaluations before prescribing paracetamol in children, especially in individuals with allergic predispositions.

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