

Original Research Article

The role of personal hygiene on non complicated pediatric appendicitis patients

Budhi Ida Bagus^{1*}, Azka Rumaisha², Suwardi Suwardi³, Yudhani Ratih Dewi²

¹Department of Surgery, ²Medical Faculty, Sebelas Maret University, Indonesia

³Department of Surgery, Moewardi General Hospital, Indonesia

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*Correspondence:

Dr. Budhi Ida Bagus,

E-mail: budhi_suryaadnyana@yahoo.com

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ABSTRACT

Background: Appendicitis is an inflammation that occurs in appendix vermiformis and is the most common cause of abdominal pain. Appendicitis is also an indication of emergency abdominal surgery in children. The incidence of child appendicitis is 1.66 per 1000. If the diagnosis is delayed, 97% of cases of acute appendicitis will lead to perforation with a mortality rate of 5.1 per 1000 cases. The most common etiology of appendicitis is lymphoid tissue hyperplasia which represents one of the immune responses to infection. One of the infection factors was the poor personal hygiene level. This research aimed to discover personal hygiene level description in pediatric non complicated appendicitis.

Methods: This research used descriptive quantitative observational research conducted in Moewardi General Hospital Surakarta. The sampling method was total sampling in appendicitis patient with, 33 respondents. Assessment in patients was calculated using personal hygiene scale questionnaire consisting of 12 items. The independent variable in this research was personal hygiene level, and the dependent variable was the incidence of pediatric appendicitis. Data were analyzed statistically for descriptive analysis.

Results: The result showed that 51.5% of patients with pediatric appendicitis had poor personal hygiene.

Conclusions: Pediatric appendicitis patient had poor personal hygiene level.

Keywords: Appendicitis, Hygiene, Personal hygiene, Pediatric appendicitis

INTRODUCTION

Appendicitis is an inflammation that occurs in the appendix vermiformis and is the most common cause of acute abdominal pain. The pain is caused by appendicitis vermiformis inflammation.¹ Incidence of appendicitis in children is 1.66 per 1000 children annually. According to some studies, the incidence of appendicitis cases is higher in the ages of children and adolescents.¹ If diagnosis is delayed, as many as 97% of cases of acute appendicitis will lead to perforation with a mortality rate of 5.1 per 1000 cases.² As many as 1-8% of patients entering the emergency room are acute appendicitis.^{3,4} Appendicitis is

also the most frequent indication of emergency abdominal surgery.^{2,5} The most common pathophysiology of appendicitis is caused by lymphoid tissue hyperplasia. Lymphoid tissue hyperplasia is an immune response of an infection that is one of the factors caused by poor personal hygiene.^{6,7}

Personal hygiene is a behavior or act in order to maintain cleanliness and personal hygiene in supporting physical and psychological wellbeing. Based on research conducted, appendicitis developments in pre-school age children in Greece are affected by lymphoid tissue conditions and hygiene conditions. Low-hygiene

environments make children susceptible to increased lymphoid tissue of the appendix and other immunologic reactivity.⁸ Increased lymphoid tissue is a specific defense mechanism that occurs when the mucosal tissue of the appendix containing gut associated lymphoid tissue (GALT) is exposed to the antigen. Hyperplasia that occurs will inhibit the drainage of mucus secretion due to lumen obstruction resulting in inflammation.⁹

One study concluded that dietary consumption and personal hygiene were associated with appendicitis. In addition, other studies showed that eating habits, snack habits, and nutritional status had an effect on the incidence of appendicitis in children in hospitals in Yogyakarta. This led researchers to doing research on the description of personal hygiene levels in pediatric appendicitis patients.

METHODS

This research is a descriptive quantitative observational research conducted in Dr. Moewardi General Hospital Surakarta in the period of 1 December 2017 until 20 January 2018. Source Population of this research is patient of pediatric appendicitis in Surakarta with the target population of appendicitis children in Moewardi General Hospital Surakarta. Subjects were taken in total sampling with criteria: children aged 0-19-year-old, diagnosed appendicitis with Pediatric Appendicitis Score more than 5, and willing to be respondent. Exclusion criteria for this study are patients who are difficult to communicate and are not accompanied by a guardian, do not understand the counselor in the questionnaire, have immobilized disorders, or have returned home without contacts that can be contacted.

Table 1: Indicators of personal hygiene fulfillment assessment.

Indicator
Washing hands before leaving the bathroom
Washing hands before eating
Drinking water which was cooked or mineral water which still sealed properly
Eating cooked vegetables, fish, and meats
Washing fruits cleanly before consumed
Washing vegetables cleanly before consumed or cooked
Accustomed to washing hands and cutting nails to keep hand hygiene
Accustomed to washing cutlery (plates, spoons, forks) with soap
Accustomed to washing my drinking utensils (glasses and cups) with soap
Accustomed to drying cutlery
My house is clean from trash
Immediately seek medical attention in case of severe abdominal pain

The independent variables in this study are the level of personal hygiene which is the level in the maintenance of hygiene and personal health. Personal hygiene assessment is conducted using research questionnaires made by researchers with reference to the journal Litbangkes. The previous questionnaire has been through the process of validity and reliability test. Assessment on questionnaires using Likert scale with indicator points as in Table 1. The dependent variable in this study is the incidence of child appendicitis diagnosed by doctor. Description results of this research is based on subject interview using questionnaires. The results then tabulated the interview data and then assessed statistically for the description of personal hygiene level in the population.

RESULTS

This study observed at the description of personal hygiene level in pediatric appendicitis patient. The research data obtained is the result of measurement using Likert Scale of personal hygiene questionnaire.

Based on the inclusion and exclusion criteria, the subjects of this study were 33 samples. The personal hygiene level categorization in this study was measured using a personal hygiene scale questionnaire. The determination of a category is determined by the mean and standard deviation of the total score, provided that the data distribution is normal. From the statistical calculation, obtained the mean value of 42 and the standard deviation value 3,335. Thus, the results of research and category division are obtained as in table 2. Table 2 shows that 51.5% of pediatric appendicitis patients had low personal hygiene level.

Table 2: Personal Hygiene Level Percentages.

Category	Score	Percentages (%)
Low	0-41	51.5
High	42-48	48.5
Total		100

DISCUSSION

The results of data analysis show that low level of personal hygiene in most pediatric appendicitis patients. Similar results were also obtained by previous studies which found that populations with poor levels of personal hygiene had a higher prevalence of appendicitis than other populations.^{3,4,5}

It is also in line with studies that found that hygiene rates have contributed to an increase in the incidence of appendicitis.^{6,7} Related to hygiene, cases of appendicitis may also be triggered by short-term air pollution exposure. This is evidenced by the decrease in the incidence of appendicitis when air quality improvements are made.⁸ In the journal "Epidemiologic Features of Appendicitis" is also explained that one of the alleged causes of appendicitis is infection and bad hygiene.¹⁰

In pathophysiological, good personal hygiene can prevent bacterial or viral infections.¹⁰ Immune reactions to bacterial or viral infections in the form of lymphoid tissue hyperplasia is one of the etiologies of appendicitis.¹¹ Lymphoid tissue hyperplasia resulting from immune reactions to antigens is a major cause of appendicitis with an appendix lumen obstruction mechanism.¹²

CONCLUSION

51.5% of non-complicated pediatric appendicitis patients had low personal hygiene.

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