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**CORRELATION BETWEEN PERSONAL HYGIENE AND INFECTION OF
INTESTINAL HELMINTHS AMONG STUDENTS AT THE PUBLIC ELEMENTARY
SCHOOL 3 ABELI, KENDARI INDONESIA**

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ABSTRACT

Backgrounds: Intestinal helminth is one of diseases derived from environment and still becomes a health problem in Indonesia until today. The high number of intestinal helminth prevalence in Indonesia is related with bad personal hygiene, including handwashing habit, nail hygiene, and foot-wear wearing habit.

Objectives: The objective of this research is to know the correlation between the infection of intestinal helminths with handwashing habit, nail hygiene, and foot-wear wearing habit of the students at the Public Elementary School 3 Abeli Kendari Indonesia.

Methods: This research was a cross sectional study with an observational analysis. There was 134 respondents were recruited using total sampling.

Results: Findings revealed that there were 27 respondents (20.1 %) who had handwashing habit with good category, and 107 respondents (79.9) had handwashing habit with poor category. There were 32 respondents (23.9%) had nail hygiene with poor category, and 102 respondents (76.1 %) had nail hygiene with good category. There were 52 respondents (38.8%) had not good foot-wear wearing habit, and 82 respondents (61.2%) had good foot-wear wearing habit. There was a correlation between handwashing habit, nail hygiene, foot-wear wearing habit and the infection of intestinal helminth among students of public elementary school 3 Abeli Kendari city.

Conclusion: There were significant relationship between personal hygiene and intestinal helminth. Thus, it is suggested that parents, school teachers, and other significant persons need to maintain the habit of personal hygiene of the students that consists of handwashing habit, nail hygiene, foot-wear wearing habit.

Key words: personal hygiene, intestinal helminths, infection.

INTRODUCTION

Many wormy infections were found on society who live in developing countries, especially in rural areas. It is estimated that more than two billion people were infected in the worldwide of which

about 300 million suffer of severe worm infection and an estimated 150,000 deaths occur each year due to wormy infections.¹ Intestinal helminth disease was one of diseases which prevalent occur in society but have got less attention.² In Indonesia,

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the number of morbidity because of intestine helminthes or stomach infected was quite high.³ It was because of the geographical location of Indonesia in the tropics area having a hot climate but humid. In an enabling environment,⁴ intestinal helminths can breed well, especially by worms that were transmitted through the ground. The transmission of intestinal helminthes may spread through contaminated food,⁵ water,¹ through contaminated air or directly through contaminated hands of worm eggs which are infective.

Nowadays, the infection of helminthes was one disease-based environment that is still a problem for public health in Indonesia. The high of prevalence number of worms in Indonesia was closely related to several factors, including: 1) Indonesia is located in the tropical climate which is an ideal place for the development of worm eggs, 2) Unhealthy living habits, such as bowel habits in any places and without footwear, and 3) poor residents having a high risk susceptible to infect the worms, such as intestinal helminthes which transmitted through soil or called as soil transmitted helminthes. The main species worms are roundworm (*Ascaris lumbricoides*), hookworm (*Ancylostoma duodenale* and *Necator americanus*) and whipworm (*Trichuris trichura*).⁶

Survey found that the group of elementary school students had a high prevalence of helminthes, approximately 60-80%. The high number of helminthes on this group of students because they often play or contact with the ground in where intestinal helminthes was growed and developed. Although, the number of helminthes was still relatively high, but the prevention and eradication of the infection was not performed optimally. It was because of intestine helminth infection usually got insufficient attention,

especially from the parents. Furthermore, the impact of the helminthes infection could not be directly seen.

Generally, the factors that influence the intestinal helminth infection such as climatic conditions that are suitable for its growth, the condition of environmental sanitation and bad personal hygiene, as well as the socio-economic condition and low education. Personal hygiene is an attempt to prevent diseases caused by environmental influences in order to achieve optimal health status. Personal hygiene is closely related to intestinal helminth infections, such as hand washing, nails cleaning, and foot-wear wearing. The transmission of eggs or worm larva could occur through the nail that is containing eggs/larva worm, and then enter to the mouth from the food if the child does not wash their hands before eating or does not keep the clean of the nails.¹

Pilot study indicated that the students of the public elementary school 3 Abeli Kendari city had bad personal hygiene and foot-wear wearing habit. However, little is known about the number of helminth infection of students in the public elementary school 3 Abeli Kendari city. Thus, the objective of this study is to determine the relationship of hand washing habit, nails hygiene, and wearing foot-wear wearing habit with intestinal helminth infections among students of the public elementary school 3 Abeli Kendari, Indonesia.

METHODS

This was a cross sectional study with an observational analysis. There was 134 respondents were recruited using total sampling technique. It was conducted at the Public Elementary School 3 Abeli Kendari from August to November 2015. Questionnaire was used to identify personal hygiene, consisting of: 12 questions with vary question items,