

Abstract of Master's Thesis

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Course	Master of Public Health	Name	Takuya Shizume
Thesis Title	Difference of Risk Factors of Schistosomiasis, Opisthorchiasis and Hookworm Infection between Adults and Children in Southern Lao PDR		
<p>Background :</p> <p>Opisthorchiasis (<i>Opisthorchis viverrini</i>) and Hookworm (<i>Ancylostoma duodenale</i> and <i>Necator americanus</i>) infection are widely distributed in Lao PDR. By contrast, Schistosomiasis (<i>Schistosoma mekongi</i>) is restricted to the southern part of the country along the Mekong River. The major symptoms of these parasite infections are diarrhea, stomachache and anemia, which results in developmental delay and poor work performance. As a control strategy, mass drug administration (MDA) has been conducted since 2008. Indeed, more than 50% decrease of the schistosomiasis prevalence over 10 years was reported. However, prevalence information is available in the limited area. In addition, the control program is mainly focused on schistosomiasis though the other parasite infections are also common in this region. Therefore, understanding the prevalence of each parasite infection and risk factors in both children and adults is required in this endemic area.</p> <p>Objective :</p> <p>This study aims to uncover the prevalence of each parasite and basic information which is relevant to parasite infections, and to identify the risk factors of schistosomiasis, opisthorchiasis and hookworm infection in children and adults.</p> <p>Method :</p> <p>This is a cross sectional epidemiological study conducted between 23th April and 17th May 2017 and enrolled adults (>16 years old) and children (5 - 15 years old) in three villages of Khong district in southern Lao PDR. Stool samples from participants were collected twice. The study used Kato Katz method to perform stool examination for schistosomiasis, opisthorchiasis, and hookworm infection. Those who had a parasite egg were defined as positive. Also, the questionnaire for all participant asked following: sex, age, social economic status, knowledge on schistosomiasis, availability of latrine and general daily practice.</p>			

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<p>Besides these factors, this study measured indexes of height, weight and waist for children. After selecting significant factors with cross tables, a generalized linear mixed model was applied to analyze the risk factors of the infections.</p> <p>Result :</p> <p>This study found the prevalence of schistosomiasis, opisthorchiasis and hookworm infection were 4.0%, 37.9% and 35.6% among children, 12.9%, 76.2% and 37.9% among adults, respectively. Female had higher prevalence for schistosomiasis than male among adults. Male had higher prevalence for hookworm infection than female in both children and adults. Latrine availability at home was a preventive factor of opisthorchiasis among children and hookworm infection in both children and adults. Adults who live in Houakhamao had less risk of schistosomiasis whereas children in the same village had an increased risk of opisthorchiasis and hookworm infection, which were close to the significant level. There were no common factors that had an association with all parasite infections. Only 16.1% of adults and 17.8% of children knew schistosomiasis.</p> <p>Conclusion :</p> <p>Although MDA implementations in this region, schistosomiasis, opisthorchiasis and hookworm infections are still prevalent and knowledge to prevent schistosomiasis remained lower than 20%. To prevent opisthorchiasis and hookworm infection, latrine availability was identified to play an important role. For more effective parasite control, this study suggested that MDA could be integrated with health education and water, sanitation and hygiene intervention. Furthermore, combination control of multiple parasites might be desirable because of the commonality of the parasite infections.</p>			