associated with the infection. Generally, enterobiasis is considered as asymptomatic disease. However, with heavy worm burdens, neurological symptoms such as restlessness, nervousness, distraction and irritability can be seen particularly in children. Pruritis ani is the most striking symptom which is developed as a result of laying eggs in the perianal skin by female worms. Scratching may cause skin irritation with subsequent dermatitis, haemorrhage and secondary bacterial infections. Moreover, ectopic infections of lung, liver and kidneys can occur. In rare instances, female pinworms can enter the female genital tract to lay eggs leading to vulvovaginitis. In addition, pinworm infections adversely affect on the utilization of vitamin B12 and leading to lowered child’s intelligence. The control of enterobiasis is still difficult due to re-infection, incomplete treatment, and its simple transmission though effective treatments have been established decades ago.

The most common mode of transmission is through the fecal-oral route or transmission of pinworm eggs through handling of contaminated clothes or bed linens and also eggs can become airborne and inhaled. In addition, retro-infection is possible. Diagnosis of pin worm infection is mainly based on demonstrating eggs or adult worms. This is achieving by sampling the perianal and perineal skin in the morning before washing the anal area using an adhesive cellulose tape.

It is revealed that 4-28% of children are infected with *E. vermicularis* worldwide. In Sri Lanka, only a few studies have been carried out to investigate the prevalence of enterobiasis in children. As a result of regression to the limited data on the prevalence and potential factors associated with pin worm infection in a local community, Therefore, the current study undertaken to determine the prevalence and associated factors of *E. vermicularis* infection among children (1-12 years old) in an estate community in Sri Lanka.

**METHODS**

**Study area and population**

This study was conducted in the Hantana Tea Estate (HTE) in Kandy district of Sri Lanka. It is a mountainous area and located from 600 m to 1100 m above sea level. It covers about 1130.38 hectares with an estimated population of 5511 (national census 2012). In general, socio economic status of people living in this estate is very low compared to other communities living in the peripheral. People live with low sanitation facilities and in heavily crowded houses with a limited space and resources. A cross-sectional study was carried out in two divisions, namely Factory Division and West Division. All children aged from 1 to 12 years were included in the study. Informed consent was obtained from parents and/or legal guardians of minors before data collection and sampling.

Ethical clearance for the study was obtained from Ethics Review Committee of the Faculty of Medicine, University of Peradeniya.

**Data collection**

A cross-sectional study was conducted from September to December 2013. After obtaining informed consent, data (socio economic data, educational level, deworming history, conditions and availability of the sanitary and housing facilities) were collected using an interviewer administered questionnaire.

**Detection of Enterobius vermicularis eggs**

Clean rectangular (2X3 cm) transparent adhesive cellulose tapes (scotch tape) were distributed among all participants to collect samples. These scotch tapes were fixed on to an x-ray paper and labeled each tape with a specific number to identify them. Standard procedure of sample collection was clearly demonstrated to the parents and/or guardians using dummies. Samples were collected in the morning (before washing the perianal region). Then, scotch tapes were transported to the Department of Parasitology, Faculty of Medicine, University of Peradeniya for laboratory investigation. Scotch tapes were then fixed on glass slides and examined under a light microscope for the presence of *E. vermicularis* eggs. The number of eggs present on each scotch tape (2X3 cm) were counted and recorded separately.

**Statistical analysis**

SPSS (Version 17) was used to analyze data. Chi-squared and Fisher’s tests were used to examine the association between socio-demographic factors and *E. vermicularis* infection. The descriptive data was given as mean ± standard deviation (SD). The differences were considered statistically significant if p-value was less than 0.05.

**RESULTS**

**Prevalence of Enterobius vermicularis**

A total of 204 scotch tape samples was collected from the children. The mean age of children was 6.1 (SD ± 3.1) years. Table 1 has shown the prevalence rate of *E. vermicularis* in the study population. Of the 204 children, 104 (51%) were males and 100 (49%) were females. Overall prevalence of *E. vermicularis* infection was 31.9% (65/204). Males had a slightly higher prevalence (32.7%) than females (31.0%). However, difference was not statistically significant ($\chi^2=0.67; p > 0.05$). Children aged one to three years showed the highest prevalence (37.5%).

**Association of socioeconomic factors and hygienic practices with Enterobius vermicularis infection**

Table 2 shows the personal hygiene and other socioeconomic factors that may potentially be associated