The prevalence of children enterobiosis of Uttaradit province, attending mobile unit of Naresuan University.

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Introduction

Uttaradit is province in the Lower North, Uttaradit has along history developing the years since prehistoric time. The site of the original town, than called Bang Pho Tha It, was located on the right bank of the Nan River. It flourished as a port for goods transportation. As a result, King Rama V elevated its status into a province and re-named it Uttaradit, literally the Port of the North. Uttaradit is located 491 km. for Bangkok and covers an area of 7,838 square km. and is divided into the following districts: Muang, Tron, Laplae, Phichi, Tha Pla, Nam Pat, Fak Tha, Ban Khok and Thong Saen Khan. In 2010 Uttaradit Province had a total population of 462,651, male of 228,268 people and female of 234,383 people (Uttaradit Primary Education Service area office 1. 2013; Update July 2010)

The pinworm, Enterobius vermicularis, is one of the most common world-wide distributed parasites of man particularly in school children. It is characterized by an esophagus with a posterior bulb. The worms are most abundant in the cecum and appendix. Human are generally thought to be the only host, but these worm have been reported in a few other primates for example, chimpanzee an gibbon (Noble et al, 1989). Nocturnal migration of the female worms to host’s anus for laying eggs frequently leads to severe irritation. Most cases are asymptomatic. However, anal or vaginal pruritus, abdominal pain, constipation or diarrhea can occur. Children are more commonly infected than adult, presumably because they are less fastidious in matters of personal hygiene. (Paingjai et al, 1992)

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The objective of this study was to determine the egg positive rate of pinworm infection in students of rural area of Uttaradit province.

**Materials and Methods**

A survey of *Enterobius vermicularis* was carried out in three schools (Chumchonbanhuadong School, Watmaechey School, and Denchat School) in Uttaradit the 160 children in these areas, age 1-13 years were recruited in this study with verbal informed consent form their parents. The children were clarified for using cellophane tape. As described by Beaver *et al.* 1984.

**Results**

A total of 37(23.12%) of the 160 samples were positive for pinworm egg. The egg positive rate among boys (27.39%) was higher than that among girls (19.54%)

**Discussion**

The overall infection rate was 23.12% (37/160) in with the egg positive rate positive rate among boys (27.39%) was higher than that among girls (19.54%). The result of the present study is nearly as much as other worker in Thailand. By using the same method. The infection rates were 15.49% and 21.54% in Mae Chame, Chiang Mai and Bang Khum Thian, Bangkok, respectively (Saksirisampant *et al.*, 2004, Changsab *et al.*, 2000). However, a high prevalence in the hill tribal children Mae Suk district and Karen hill tribe villages in Chiang Mai were 41.60% (Chaisalee *et al.*, 2004). In this study the egg positive rate among boys (19.02%) was no significant differences that among girls (18.52%). Never the less, a total of 307 (18.50%) of the 1,661 samples were positive for *Enterobius vermicularis* eggs. The egg positive rate ranged from 0% to 59.30% by location on western and southern coastal of the republic of Korea. (Park *et al.* 2005)
The prevalence of enterobiasis greatly depends upon socioeconomic situation levels, and on personal hygiene and habits. A lack of personal hygiene and close contact between people encourage the spread of *Enterobius vermicularis*. Other factors including playing on the floor nail biting, failure to wash hand before meals, and living in non-apartment dwelling have also been reported to associate with the prevalence of enterobiasis (Sung *et al.*, 2001). In this respect, kindergarten and school based mass control activities are likely to be more effective than individual treatment.

Enterobiasis is a disease with usually mild symptoms such as, perianal itching and dermatitis; it is asymptomatic in most adult who have low worm burdens. However, in children, particularly who have heavy worm burdens, neurological symptoms including nervousness, restlessness, irritability, and distraction may occur, and these may influence child growth (Beaver *et al.*, 1984, Cook, 1994, Song *et al.*, 2003). Rarely ectopic infections in the pelvic area or urinary tract of woman can occur.

Egg positive rate in our study is rather low, may be form using a single test. Goldsmith and Heyneman (1989) suggested that 3 tests will detect 90.00% and 99.00% in 5 tests. Repeated cellophane tape method must be done again to get the real prevalence in these communities.

Effective chemotherapeutic regimens have been developed and used for decades; however, the control of enterobiasis is difficult because of frequent reinfection and a short life cycle (Lee *et al.*, 2001). Repeated health education concerning improved personal hygiene and regular inspections and mass chemotherapy with appropriate anthelminitics are essentially required to control enterobiasis among children in three school of Uttaradit.

**Fig 1.** Egg of *Enterobius vermicularis* (Cellophanetape technique, 40X)
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References


