

# Estimation of Helminths Infection among School Children's in Deola-Taluka of Nashik District (M.S), India.

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## Abstract:

The study was designed to find out the estimation of helminthes infection and associated factors among Z.P school children's of Deola taluka in Nashik district. One school was randomly selected from Deola taluka and all the children's (n=30) of selected school were included in the study. Faecal samples were collected and examined by Kato-Katz techniques. Demographic, socio-economic and health related behavior data were obtained from the parents using interviewer questionnaire. Prevalence of soil transmitted helminths was 13 (43.3%) in this study.

**Keywords:** Prevalence, Helminthes, school children, Deola.

## Introduction:

Soil transmitted helminthiasis is one of the major causes of public health problems particularly in tropical regions. World Health Organization has estimated that *Ascaris lumbricoides*, *Ancylostoma duodenale* and *Trichuris trichiura* infect 2.5 billion, 1.5 billion and 1.0 billion people worldwide (WHO, 1997). Low socio-economic state and poor sanitation coupled with low educational rates of parents are the main causes influencing the transmission and distribution of the infection. The morbidity of STH infections is greatest among children of school age and may have an adverse effect on growth (Nematian et al., 2008). STH are a common problem in India due to poor socio-economic conditions, unhygienic environment and poor knowledge regarding health (Pawlowski, 1985). High prevalence of intestinal parasitic infestation was observed in Z.P school children from Deola.

This study is undertaken because as there are no recent studies in Deola, Nashik district to assess the current prevalence of intestinal helminthes and its associated factors among school children.

## Materials and Methods Study area:

This study was carried out during January 2011 to December 2013 in Deola taluka. One school was randomly selected from Deola and all the selected students of school were included in this study.

## Ethical consideration:

Ethical clearance for the study was obtained from the University Grant Commission. Permission to carry out the study was also obtained from the Principal, KRA College, Block Education Officer, Z.P, Deola, Headmaster of the schools, parents and respective teachers of Zilla Parishad School, Deola.

**Data collection:** An interviewer structured questionnaire was composed of the following components:-

- a) Socio economic and demographic data.
- b) Health practices towards prevention of soil transmitted helminths.

**Collection and examination of faecal samples:**

The pupils were educated on the causes of intestinal helminthic infections and thereafter a wide mouth corked sterile bottles were given for the collection of their stool samples at home and structured questionnaires were distributed for the collection of demographic information such name, age, sex, type of toilet facility used, and number of individuals in the house, parents occupation, foot were habits, regularity of deworming etc. and accordingly labeled (ID).

The pupils were taught how to collect stool samples and with the help of their teachers. The stool samples were properly labeled and were carried in a cold box filled with Ice packs and transported to the private laboratory for analysis. All the slides were read by a medical doctor specialized in Parasitology.

**Results:**

Thirty Stool samples were examined by Kato-Katz method for prevalence of Soil transmitted helminths.

**Demographic data of the parents:**

Seventeen 17(56.6%) parents stated that they were aware of worm infestation. Thirteen parents (43.3%) stated that they used to clean their children after defecation. Among them, few (43.3%) always and majority (53.3%) sometimes and 3.3% never washed their hands with soap and water after cleaning. An almost equal proportion of children used water sealed toilet (43.3%) and open air (56.6%) for defecation. Forty (40%) children always and (60%) children sometimes used foot ware when they go out. (Table 1).

**Table 1: Hygenic habits.**

Variable	Category	Response % (N=30)
Washing hands with soap and water after cleaning the defecated child	Always	43.3
	Some times	53.3
	Never	03.3
Toilet facility	Water sealed toilet	43.3
	Open air defecation	56.6
Wearing slippers while going out	Always	40.0
	Some times	60.0

**Discussion:**

Intestinal parasitic infestations are endemic worldwide and a major public health problem in developing countries (Shakya et al., 2009). Many studies have been carried out in India (Paul et al., 1999), Pakistan (Ahmad Khan et al., 2004) and elsewhere in the world regarding intestinal helminthiasis. A higher than 50% prevalence for *A. lumbricoides* was reported from 10 different locations scattered across six states, Jammu and Kashmir, Assam, Bihar, Tamil Nadu, West Bengal and Andhra Pradesh

covering nearly 30% of India's population (Nasir Salam & Saud Azam 2017). . But, according to our study carried out in 2011, 43.3% prevalence of STH was observed in Z.P School children's in Deola. Regarding low educational level could have lead to a poor awareness level of worm infestations.

Studies carried out in Nepal (Gyawali *et al.*, 2009) and in Pakistan (Ahmad Khan *et al.*, 2004) have proved that the prevalence of intestinal helminthiasis was high among people going to the open fields for defecation. In this study, only 43.3% of respondents used water sealed toilet and 56.6% used open places for the defecation. Though almost equal amount of children used water sealed toilet and open place defecation, there were no difference in the prevalence was observed in this study.

The study shows the higher prevalence rate of intestinal helminths infestation was observed in the group with hand washing practices after defecation (Gyawali *et al.*, 2009). In our study, 96.6% of the parents stated that they cleaned their children after defecation. Among them, the majority always (43.3%) and a few (53.3%) sometimes washed their hands with soap and water after cleaning. This may be one of the factors which could attributed towards reducing the prevalence of intestinal helminthiasis. As mentioned in the previous study carried out in Nigeria (Houmsou *et al.*, 2010), there was an association between wearing footwear and reductions of intestinal parasitic infestation. In this study, 12 (40%) school children always and 18 (60%) children sometimes wore footwear when they went out. This foot wearing habit also has little impact on the prevalence of the intestinal nematodes. But, the impact of wearing foot ware could have been masked by the frequent antihelminthic prophylaxis.

Therefore, further study should be carried out to find out the interval in which the anti-helminthic prophylaxis to be given.

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