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Short Communication

Homoeopathic treatment of intestinal parasitic infections in school children: a pilot study

Siva Rami Reddy E.*, Parveen Kumar Sharma and Praveen Raj P.
Faculty of Homoeopathy, Tantia University, Sri Ganganagar, Rajasthan, India
dr.sivaramireddy@gmail.com

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Abstract

Parasitic infections are global health problem. These infections are major public health problem in children. Intestinal parasitic infections are lack of good hygienic living and poor socioeconomic conditions in India and developing countries. Parasitic infections complication cause not only anaemia, malnutrition nourishment but can lead to intestinal obstruction in paediatrics, primary school children. Effect of homoeopathic medicines in school children with intestinal parasitic infections in Sri Ganganagar, Rajasthan, India. Thirty cases of intestinal parasitic infections (diagnosed based on clinical history and investigation) were selected as per the exclusion criteria and inclusion criteria using purposive sampling technique. Homoeopathic medicines were prescribed depended up on the totality of symptoms with Repertorization. The data was statistically analyzed and significance was achieved (P > 0.05). Twenty six patients were improved and four patients were drop out in this pilot study. There was significant reduction in stool examination before and after homoeopathic treatment in case of intestinal parasitic infections in children.

Keywords: Ascaris, Entamoeba, Infections, Parasites.

Introduction

Intestinal parasitic infections are most common cause of chronic infections in developing countries[1,2]. Parasite is a living organism which depends on a living host for its survival and derives nutrition from the host, without giving any benefit to the host. Host is defined as an organism which harbours the parasite. Different types of host are as follows: definitive host, intermediate host and reservoir host. In definitive host is that harbours the adult stage of the parasite or where the parasite replicates sexually. In intermediate host is the host that harbours the larval stages of the parasite or where the parasite replicates a sexually. In reservoir host is the host that harbours the parasite and acts as an important source of infections.

Figure-1: Ascaris Lumbricoides[3].

Parasites were classified into protozoa and helminthes. Protozoa are amoebae, flagellates and sporozoa. Helminths are trematodes, cestodes and nematodes. In protozoa amoebae examples are Entamoeba Histolytica, Entamoeba Gingivalis. In protozoa (unicellular) of flagellates is Giardia Lamblia, Trichomonas vaginalis, Leishmania Sp. In protozoa of ciliates is Balantidium coli. In helminthes (multicellular) of trematodes is fasciola sp and schistosoma sp. In helminthes of cestodes is taenia sp and echinococcus sp. In helminthes of nematodes is round worm (Ascaris Lumbricoides) (Figure-1), hook worms and threadworm/pinworm (Figure-2) (Enterobius vermicularis)[4].

Figure-2: Enterobius vermicularis[5].

There was various parasites cause different diseases and sicknesses. Human beings become infected by infective larvae

penetrating[6] the skin or ingesting infective eggs of the parasite cause enter in to the intestine, they grow and multiply by binary fission[7]. This parasite passes from intestinal to extraintestinal areas. In extraintestinal areas are heptic, lungs, brain, spleen and skin. Incubation period is depended up on the protozoas and helminthes. Parasites infections depend on the condition of the ecological area, social, locality and economic development of the in habitant. Etiology of parasites infections is habits, poor hygienic, contamination of food or water by agents such as fly from fecal matter and poor hygienic surrounding areas. This parasites infections cause serious health problems like intestinal obstruction, colitis etc.

Parasites clinical features are asymptomatic, pyrexia, abdominal discomfort, vomiting, chronic indigestion, splenomegaly, hepatomegaly, lymphadenopathy and general features of anaemia and may be present intestinal disorders. In cases of worm infections occur intermittent colicky cramps, loss of appetite, malnutrition, heavy infections may cause intestinal obstruction[8], vomited out or may pass through the oesophagus and come out through the mouth or nose, release of toxic body fluids of the worm infections may lead to allergic manifestations. In pinworm have pruritus ani, an eczematous condition around the anus and perineum and nocturnal enuresis. If untreated/ incurable may cause children cognitive development, learning abilities, nutritional status and result in to other health problems. Most common parasitic infections are poor sanitation, hygienic and fly's. Different types of lifestyles like playing on sand, any sand games licking of fingers etc. which are common to those infected with variety of parasites infections. Eating habits like eating raw vegetables, sand etc., also allow the enter parasites infections to the intestine of human beings[9-11]. The study aimed to evaluate the effectiveness of homoeopathic medicines in intestinal parasitic infections in school children.

Methodology

It is a Pilot study, permitted by the institutional ethical committee. After explanation about this study, subjects were handover written consent from their school authorities/parents. 30 school childrens were selected randomly by using purposive sampling technique[12].

Place of study: The pilot study was carried out in Sri Ganganagar, Rajasthan, India.

Study population: The majority of study populations were males, females (children). This study was included school children aged between 9 to 18 years. The total schools were from the rural and urban area, which was selected using a systematic selection method by randomized sampling technique.

Sample size: Sample populations 50 pupils were selected from 3 schools. Finally 10 samples were collected from three schools, among pupils were willing with aid of class teachers who understood the effect or importance in the public health (n=30).

Remedy used: Different potency of homoepathic medicines (Cina, chelidonium majus, clacarea carbonica, naphthaline, spigelia, stannum met, Arsenicum album, Belladonna, Tecurium Marum, Sanntoninum, Ferrum Phos)[13] were brought from Homoeopathic pharmacy, sri ganganagar, Rajasthan, India. Single medicine was given for the period of one week, later on observed up to six month (five cup dose). Placebo was administered two times a day. Patients were evaluated at 2^{nd}, 4^{th}, 6^{th}, 12^{th} and 24^{th} weeks. Patient stool tests were repeated every visit. Follow ups was watched and analyzed as per criteria set up in each case according to standard guidelines of homoeopathy.

Follow up: Each case follow up was 1^{st}, 2^{nd}, 4^{th}, 6^{th}, 12^{th} and 24^{th} (week's) duration according to the guidelines given in standardized case record. Follow up complaints (presence, absence, aggravation and amelioration) were noted in each visit. Observation follow up was in 2^{nd}, 4^{th}, 6^{th}, 12^{th} and 24^{th} weeks in this pilot study (without medication).

Inclusion criteria: Age between 9 to 18 years and no history of clinically ill.

Exclusion Criteria: The present pilot study, we excluded the people with certain conditions such as recurrent infections, history of intestinal problems, recent history of surgeries are all excluded from the study.

Sample collection: Each patient was supplied with a label bar code, clean wide mouth plastic specimen bottle with a cover. Patients properly instructed that how to collect and transfer their early morning faecal samples in to the specimen bottles to avoid being contaminated using the applicator stick attached to sterile sample bottle cover. This was done for younger pupils by their parents. Collected stool bottles from patients and immediately transformed to laboratory and preserved with formalin (according to WHO guidelines).

Laboratory examination: Faecal samples microscopically examinations were done at laboratory. A drop of saline was placed on a clean slide. Using an applicator stick, a little quantity of properly mixed stool sample was collected and emulsified on the drop of the saline. The sample was covered with a cover slip for microscopically examination. This preparation was with light microscopy at 100x and finally with 400x magnifications. 1 mille litters of well mixed stool sample was put in a glass examination tube containing 4 ml of 10% formalin. 3 mille litters of the 10% formalin was again added and mixed well. This preparation was sieved using strainer in to a centrifuge tube. 3 mille litters of diethylether was added and stoppered. It was succession up to one mint. The stopper was removed and the suspension centrifuged for one min at 400 rpm. Fluid removed by using pipette and transferred in to centrifuge tube. 10% formalin was added to the transferred suspension to make up to 10 ml. it was then centrifuged at 1000rpm fir 10 mints. The deposit was examined under microscopy at 100x as well as 400x magnifications for parasites[14].

Statistical analysis: Summary of statistics were represented in percentage. Unpaired student T test was used to identify statistically significant differences between before and after homoeopathic treatment in school children. Statistical significance was achieved (P > 0.05). Detailed case was taken and chelidonium majus, clacarea carbonica, naphthaline, spigelia, stannum met, Arsenicum album, Belladonna, Tecurium Marum, Sanntoninum, Ferrum Phos[11] prescribed according to homoeopathic principals.

Results and discussion

Table-1: Distribution of cases according to sex.

Sex	Total cases	Percentage (%)
Male	15	50
Female	15	50
Total	30	100

We can observe that male (50%) and female (50%) percentage out of 30 patients.

Table-2: Distribution of cases according to age.

Age in years	Total cases	Percentage (%)
< 9	12	40.00
10– 12	9	30.00
13 – 15	5	16.66
16-18	4	13.33
Total	30	100

Out of 30 samples, we can observe that 12 (40%) cases more than nine years age, 9 (30%) cases between ten to twelve years age, 5 (16.66%) cases were between 13 to 15 years age, 4 (13.33%) cases between 16 to 18 years in school children.

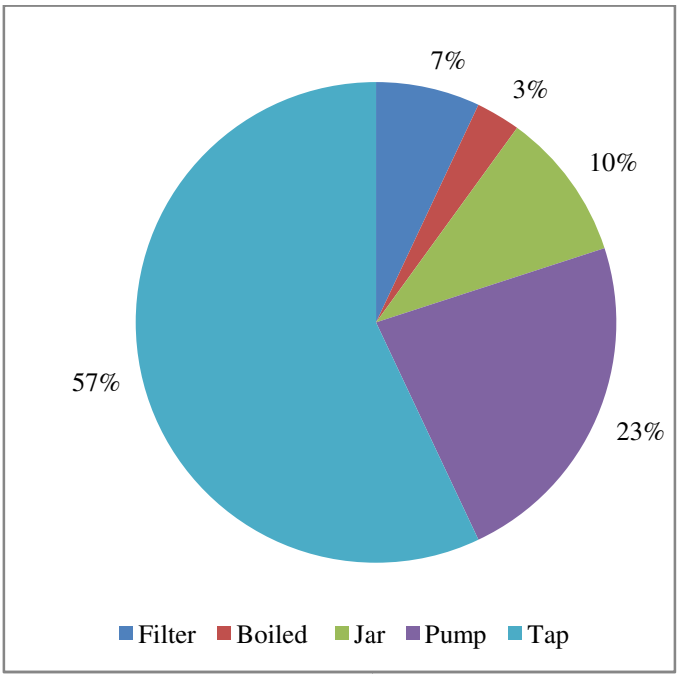

Figure-3: Total cases on the basis of water sources.

Highest parasite positive cases were found in children who used tap water seventeen (56.66%), seven (23.33%) cases in pump water, three (10.00%) cases in jar water, two (6.67%) cases in filter water, one (3.33%) cases in boiled water for drinking purpose.

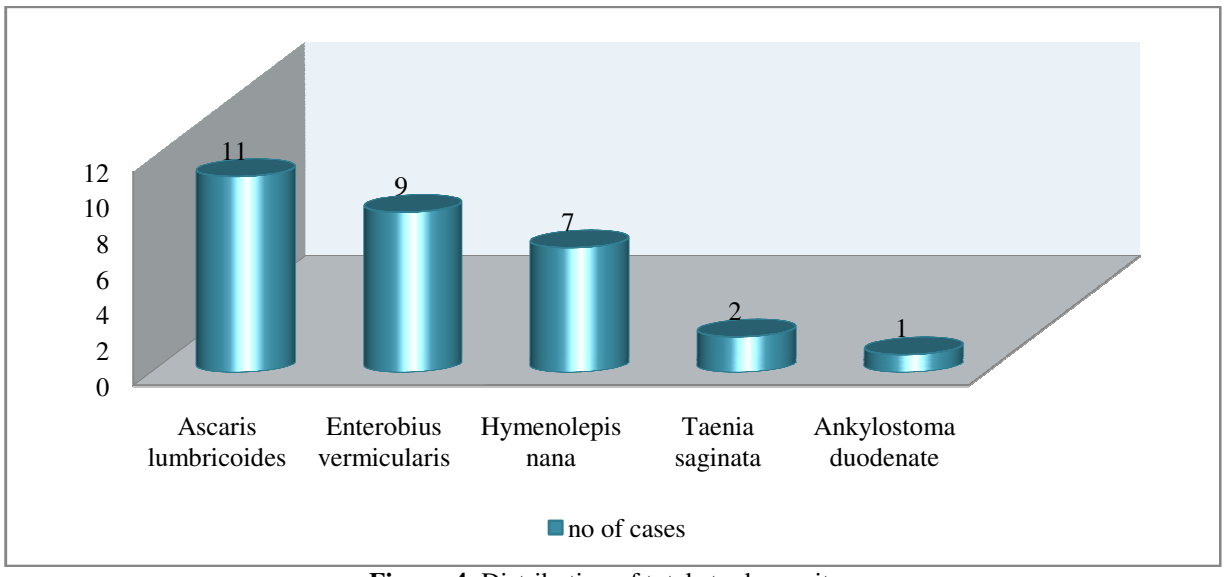

Figure-4: Distribution of total stool parasites.

Thirty cases were found ascaris lumbricoides 11(36.66%), followed by Enterobius Vermicularis 9(30.00%), Hymenolepis nana seven (23.33%), Taenia Saginata two (6.66%), Ancylostoma Duodenale one (3.33%).

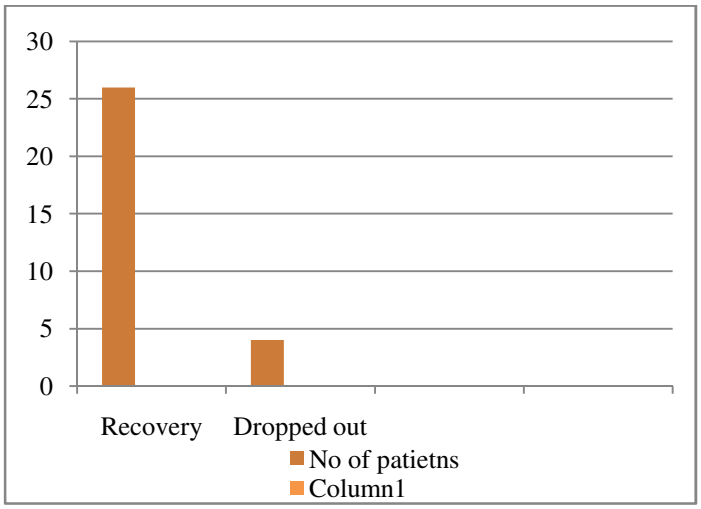

Figure-5: Distribution of cases according to treatment.

Twenty six patients were improved and four patients were drop out of thirty patients in this pilot study.

Table-3: Distribution of cases according to medicines used by no. of patients.

Homoeopathic Medicines	No. of Patients	Percentage (%)
Cina	7	23.33%
Chelidonium majus	4	13.33%
Calcarea carbonica	4	13.33%
Naphthaline	4	13.33%
Spigelia	2	6.67%
Stannum met	2	6.67%
Arsenicum album	2	6.67%
Belladonna	2	6.67%
Tecucrium Marum	1	3.33%
Sanntoninum	1	3.33%
Ferrum Phos	1	3.33%
Total	30	100.00%

We observe that 7(23.33%) patients were prescribed cina, 4 cases (13.33%) were prescribed chelidonium majus, 4 cases (13.33%) were prescribed clacarea carbonica, 4 cases (13.33%) were prescribed naphthaline, 2 cases (6.67%) were prescribed spigelia, 2 cases (6.67%) were prescribed stannum met, 2 cases (6.67%) were prescribed aresnicum album, 2 cases (6.67%) prescribed Belladonna, 1 case (3.33%) were prescribed Tecurium Marum, 1 case (3.33%) were prescribed Sannotnium, 1 case (3.33%) were prescribed Ferrum Phos (3.33%).

Discussion: Out of total sample 30, we can observe that 12(40%) cases more than nine years age, 9(30%) cases between ten to twelve years age, 5(16.66%) cases were between 13 to 15 years age, 3(10%) cases between 16 to 18 years, 1(3.33%) cases between 19 to 21 years in school children. In age distribution we can observe that 12(40%) cases more than nine years age, 9(30%) cases between ten to twelve years age, 5(16.66%) cases were between 13 to 15 years age, 3(10%) cases between 16 to 18 years, 1(3.33%) cases between 19 to 21 years in school children. Highest parasite positive cases were found in tap water seventeen (56.66%) , seven (23%) cases in pump water, three (10.00%) cases in jar water, two (6.67%) cases in filter water, one (3%) cases in boiled water for drinking purpose.

In 30 stool parasites positive cases, the commonest intestinal parasite found was ascaris lumbricoides 11(36.66%), followed by Enterobius Vermicularis 9(30.00%), Hymenolepis nana seven (23.33%), Taenia Saginata two (6.66%), Ancylostoma Duodenale one (3.33%). Distribution of Homoeopathic Medicines we observe that 7(23.33%) patients were prescribed cina, 4 cases (13.33%) were prescribed chelidonium majus, 4 cases (13.33%) were prescribed clacarea carbonica, 4 cases (13.33%) were prescribed naphthaline, 2 cases (6.67%) were prescribed spigelia, 2 cases (6.67%) were prescribed stannum met, 2 cases (6.67%) were prescribed aresnicum album, 2 cases (6.67%) prescribed Belladonna, 1 case (3.33%) were prescribed Tecurium Marum, 1 case (3.33%) were prescribed Sannotnium, 1 case (3.33%) were prescribed Ferrum Phos (3.33%). In observe only four patients dropped out of 30 patients.

The intestinal parasites are common parasites infections in school age children. Infections rate gradually decreasing but it is still major public health problem in India.

Conclusion

During the study, it was observed that almost all homoeopathic medicines were responded well and the patients not only got rid of the main complaints but also restoration of health. With the help of the Homoeopathic medicines even allopathic was avoided. Thus we can conclude that Homoeopathic medicines used with holistic approach, very effective in treating the case of intestinal parasites infestation in the school children.

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