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ANALYSIS OF SOIL TRANSMITTED HELMINTHES PARASITES AMONG FEMALE INHABITANTS OF LOWER SOCIO ECONOMIC GROUP IN BANGALORE CITY

P G Dhannya Chandran, Research Scholar, Dept. of Zoology, Kalinga University Raipur, Chhattisgarh

Dr. R K Agarwal, Professor, Dept. of Zoology, Kalinga University Raipur, Chhattisgarh

ABSTRACT

Soil-transmitted helminthes parasites infected 1 billion people around the world. This infection is most common in Females in developing countries. This form of infection is largely managed by improved sanitation and living conditions, as well as the availability of anti-helminthic drugs. This has helped to reduce the worm burden and morbidity associated with it. Prosperity, poor and unsanitary living conditions, lack of adequate sanitation and water supply, high humidity, temperature, and soil quality, lack of personal hygiene, use of human fertilizer, and poor health knowledge and literacy are all risk factors for soil-transmitted helminth transmission. Females in various parts of the world are susceptible to soil-transmitted helminthiasis, but there are regional differences. Even though the incidence is lower in the same states of India, the number of children affected is high. For economic development, the majority of developing countries depend on a variety of resources and infrastructure constraints. Nutritional deficiencies, poor environmental conditions, and insufficient educational facilities all have an effect on Females ability to learn. All of these factors would have a significant impact on labor and economic growth, so better resource allocation in nutrition, health care, and education is needed.

KEY WORDS: epidemics, helminths, infections, transmission, symptoms, disease.

INTRODUCTION

Soil-transmitted helminth infections have a distinct seasonal pattern. The phenomenon of arrested growth in hookworm explains why a pre-monsoon increase in fecal egg counts is occasionally observed in West Bengal and bothers areas. Hookworm transmission rates are higher during the rainy season in some areas where there are distinct rainy and dry seasons. Seasonal pneumonitis

caused by Ascaris migrations occurs annually.

The burden of disease caused by soil transmitted helminths (STH) is enormous among all infectious species. More than 2,000 million people are affected globally, with more than 300 million of them suffering from extreme morbidity; 1, 55,000 deaths are registered per year (W.H.O., 2019). The following table summarizes global estimates of prevalence, mortality, and morbidity (W.H.O., 2019).

S.No.	Parasite	Prevalence Of Infections (Millions)	Morbidity (cases,millions)	Mortality (deaths,thousands)
1.	Ascaris Lumbricoides	1470	370	62
2.	Hookworms	1320	170	67
3.	Trichuris Trichiura	1070	240	12

With the exception of malaria, these viruses account for more than 40% of the global burden of tropical diseases. STH infections are common in tropical and subtropical areas, especially among poor populations. These infections cause a great deal of pain and death, and they also lead to the perpetuation of poverty by impairing children's cognitive ability and development, as well as adults' work capacity and productivity. In terms of disease burden in developing countries' school-aged populations, intestinal helminth infections are the leading cause of both communicable and non-communicable diseases. According to WHO (2019), the number of DALYs (disability-adjusted life years) lost and the ranking of the major causes of disease burden in children aged 5 to 14 in developing countries are as follows:

S.No.	DISEASE	RANK	DALYs lost, in millions (%)
1.	Intestinal helminth infections are parasitic infections that affect the intestines	1	16.8 (11.4%)
2.	Clusters in children (Pertussis- poliomyelitis-measles-tetnus)	2	1 1.9 (8.4%)
3.	Infections of the lungs	3	10.5 (7.4%)
4.	Diarrheal diseases are a form of diarrhoea	4	8.8 (6.2%)
5.	Tuberculosis is a form of tuberculosis that affect	5	6.9 (4.9%)
6.	Malaria is a parasitic disease that affects	6	6.5 (3.4%)
7.	Any and all triggers		142.0 (100%)

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The helminths are classified into three groups: Nematodes (round worms) and Trematodes (flukes) and Cestodes (flat worms) (Tapeworms). The manner, in which the worms infect humans, whether by ingestion, skin penetration, or insect infection, has little to do with the helminth community. The life cycle of certain helminths, such as Enterobius and Trichuris, is extremely simple: eggs move out of the gut, embryonate, and then turn into egg-producing worms in the gut when ingested. Similarly, larvae that have encrusted themselves on meat or vegetables pass through the intestines and turn into tapeworms or intestinal flukes. Ingestion of eggs or skin penetration by larvae, followed by movement through the lungs to the final habitat in the lumen or blood vessels of the gut (.scans, Strongyloides, Hookworms, and Schistosomes) is a more complex mechanism. Finally, helminths that are ingested or injected (by insects) migrate through the tissues to their final habitats: Trichinella - Muscles; Clonorchis, Fasciola, Bchinococcus — Liver; Paragonimus, Bchinococcus - Lungs; Onchocerca - Skin; Wauchereria - Lymphatics.

Outside the body, the most fundamental structures include eggs alone, progressing by skin penetrating larvae, infectious larvae growth in the flesh of other animals or in biting insects, and eventually, generational alternation in which digenetic trematodes undergo sexual reproduction in a definitive host and asexual reproduction in snails. The majority of helminths do not replicate in a particular human host. They've been dubbed guerrillas because they regularly infiltrate host defenses as individuals or small groups, eventually growing into large forces; combat is normally fought through attrition and lasts a long time.

Strongyloides, whose larvae can become infectious while in the gut, resulting in overwhelming autoinfection, and Bchinococcus, the dog tapeworm, with humans as intermediate hosts, in which larval replication occurs in the so-called hydatid cyst, are important exceptions to this case. Most adult worm species' lack of replication in humans has a range of effects, the most important of which is pathogenesis. Human populations have an uneven distribution of worms, with the majority of people having low worm burdens. In the case of hookworm infection, the connection between disease and high worm burdens is most clearly demonstrated. Each Ancylostoma consumes approximately 0.15 ml of blood per day. Blood loss is minimal in patients with low worm burdens,

and anemia is rare, but those with 1000 worms or more can lose more than 100 ml of blood per day. Although it has long been believed that patients with low worm loads were immune and those with high burdens were not, it is possible that the reverse is true, as a small number of worms does not provide enough antigenic stimulation for immunity to develop. Finally, certain helminth infections necessitate the use of extremely toxic medicines to treat them. It may therefore be better not to treat patients with low worm burdens who have no signs or symptoms of disease; those with many worms may be treated with low, non-toxic drug doses to significantly minimize worm burdens rather than with high, toxic drug doses necessary to obtain a "cure." Since this is the path by which helminths enter and leave the human body, the majority of helminths that infect humans lodge in the gastro-intestinal tract. Gastrointestinal helminths are divided into three groups: Nematoda, Cestodea, and Trematoda. Only Nematode and Cestode infections are found in the Kashmir valley.

URBAN VERSUS RURAL ENVIRONMENTS

Fundamental variations in the life cycles of these soil-transmitted helminthes may help explain the urban-rural divide between Ascaris-Trichuris and hookworm. Ascaroside, an un saponifiable lipid found within the inner layer of Ascaris larvae, is responsible for many of the hardy properties. More than ten years after being deposited, viable Ascaris eggs have been retrieved from soil samples. Apart from ascaroside, the parasitology's "five f's," fingers, feces, fomites, flies, and food, may have originated with Ascaris in mind. Ingestion of Ascaris eggs stuck to vegetables is one of the most popular routes of transmission.

The density of people in urban slums, on the other hand, should make drug distribution and health education easier. Individuals should also have better access to antihelmintic medications for their families' care.

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may have originated with Ascaris in mind. Ingestion of Ascaris eggs stuck to vegetables is one of the most popular routes of transmission.

For economic development, the majority of developing countries depend on a variety of resources and infrastructure constraints. Nutritional deficiencies, poor environmental conditions, and insufficient educational facilities all have an effect on children's ability to learn. All of these factors would have a significant impact on labor and economic growth, so better resource allocation in nutrition, health care, and education is needed. Soil-transmitted helminthes parasites infected 1 billion people around the world. This infection is most common in children in developing countries. This form of infection is largely managed by improved sanitation and living conditions, as well as the availability of anti-helminthic drugs. This has helped to reduce the worm burden and morbidity associated with it.

RESEARCH METHODOLOGY

The research was conducted in the months of October and November of 2019-2020. We chose 20 slums areas in the Bangalore city for the sampling method. Twenty slums areas were chosen, with the majority hailing from the rural and urban areas of Bangalore City. We mainly conducted the survey in slum areas because only 15.46 percent of the land in Bangalore City is urban, leaving the rest as rural, and people in rural areas are unaware of parasite-causing diseases. One of them is infections caused by soil-transmitted helminthes. Stunting, development, and malnutrition are common among Females in rural areas. In the rural areas of the Bangalore city, medical facilities are scarce.

We selected 20 slums from the Bangalore City. We selected Female feces and urine samples from both slums and city Females. The Females in the study are aged 30 to 45, and they are taking part in a survey study. Slum Female inhabitants are appropriate for research purposes, and soil-transmitted helminthes infection is most frequently seen in Females aged 30 to 45. The sanitation facilities and personal hygiene of children in Females areas are unknown to them. For the collection of stool and urine samples for the analysis of parasite ova and cysts, we have a plastic jar with spatula. The plastic container has a sticker with the Females names on it. Females collect morning fresh stools and urine samples in a plastic tub containing 10% formalin and a spatula. I

chose the Females aged 30 to 45 years old because soil-transmitted helminthes parasite infection is prevalent in this age group, and this age group suffers from nutritional deprivation because children go through a time of rapid physical and mental development.

Female's morning stool samples were obtained in plastic containers with secure lids. In the field, a lab technician and a worker collect stool and morning urine samples. The lab technician examines the stool and urine samples further. The survey is finished. The formalin in the plastic containers contained 10% formalin, and the samples were fixed the same day with 10% formalin. The sample was tested using the direct smear method and lugol's iodine staining with physiological saline. The stained sample was covered with a cover slip and microscopically examined at low 10x and high magnifications using a light microscope. The existence of a mature parasite, cyst, or eggs may be seen and identified.

The Bangalore city encompasses all 20 slums areas. Fresh stool and urine samples were obtained from Females living in slum areas. Only Females is participants in this research. All of the Females are between the ages of 30 and 45. All Females are given a questionnaire form that includes their name, age, gender, weight, height, family history, occupation, and other personal information. Females fill out the questionnaire form, which is then collected by the Females via an auxiliary worker. For the collection of stool and urine samples for the analysis of parasite ova and cysts, we have a plastic jar with spatula. The plastic container has a sticker with the name and ID of the Females or their class on it. Females collect morning fresh stools and urine samples in a plastic tub containing 10% formalin and a spatula. Fresh morning stool and urine samples are obtained in plastic containers with secure lids. All of the plastic containers contain 10% formalin, and the samples were fixed with 10% formalin the same day. The lab technician and worker collect the whole stool and urine sample bag. Prepare clean slides on which to position the stool or urine sample. In a sample, add saline and loguls iodine to serve as a dye. Under a microscope, these stained samples are covered with a cover slip and studied.

PROFILE AREA

The city of Bangalore and its slums in general, as well as sample slums in particular, are discussed. Bangalore, the state capital of Karnataka, is one of India's fastest growing cities, with a population

of more than 5 million people. The Bangalore City Corporation (founded in 1948 to include the former British cantonment area) and the surrounding urban agglomerations make up the town's administrative structure.

Poverty and a lack of progress

Poverty is a challenge to growth in every setting, but it is especially so in cities because it has so many dimensions. For starters, it widens the income gap, resulting in unbalanced growth. Second, their contribution to urbanization's rapid growth will be reduced. Third, the urban poor contributing to the wealth of the wealthy has its own set of implications in the development process. As a result, urban poverty must be addressed as a top priority in urban development programs.

RESULTS AND DISCUSSION

The survey is recommended by the World Health Organization. The survey is conducted among Female Inhabitants of Lower Socio Economic Group in Bangalore City. To control the infection, antihelminthic drugs are given based on the results of the survey. For high prevalence and severity, this method is also extended to the whole population. When there is a high prevalence and severity, care is given. Much of this happened in a low-income neighborhood. About 70% of Female inhabitants are malnourished. In the total population of the planet, 30% is anemic. Anemia and malnutrition caused by soil-transmitted helminthes infection are closely linked to iron deficiency, anemia and malnutrition, vitamin and foliate deficiency, anemia and malnutrition can cause death in school children and in pregnant women, anemia and malnutrition can cause inappropriate growth and development of infected people.

Our research is being conducted in the Bangalore City. It is located in Karnataka (India). These people are uninformed about their health and are afflicted with a number of diseases, including soil-transmitted helminthes. In the years 2019-2020, survey studies were conducted in October and November. The research is being conducted in the Bangalore City. The rural population is unaware of the numerous diseases and other rapidly spreading diseases. One of the diseases caused by helminthes is soil-transmitted helminthes. This, in turn, affected Female development and retardation.

Helminth parasites are the most common parasites found in Female Inhabitants. In comparison to

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other research, Ascaris lumbricoid was found to be the most common helminth. Prosperity, poor and unsanitary living conditions, lack of adequate sanitation and water supply, high humidity, temperature, and soil quality, lack of personal hygiene, use of human fertilizer, and poor health awareness and literacy are all risk factors for soil-transmitted helminth transmission. Females in various parts of the world are susceptible to soil-transmitted helminthiasis, but there are regional differences. Even though the incidence is lower in the same states of India, the number of Females affected is high.

TABLE- SHOWING SEASONAL VARIATION OF HELMINTHES PARASITE IN BANGALORE URBAN

Name of slum	No. of examine	Month	AL	HN	TT	TS	No.of positive
BANGALORE URBAN	50 female inhabitants	January	04	03	01	01	09
		February	02	04	01	00	07
		March	02	04	00	01	07
		April	01	03	01	00	05
		May	03	02	02	01	08
		June	02	03	01	00	06
		July	02	03	01	00	06
		August	03	03	03	00	09
		September	01	01	01	00	03
		October	00	01	00	00	01
		November	00	00	00	00	00
		December	01	02	01	00	04
Total	50		**21**	**29**	**12**	**03**	**65**

AL=*Ascaris lumbricoid*,HN= *Enterobius vermicularis*, Trichuris trichiura
TS=*Taenia species*

The results shown in the table show that different soil-transmitted helminthes parasites show

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seasonal variation in Bangalore Urban Different soil-transmitted helminthes are isolated in different numbers in different months, resulting in a total of 20 Ascaris lumbricoids in all seasons, 33 Enterobius vermicularisis, 12 Trichuris trichuira, and 0 Taenia species.

We chose the Female inhabitants for the purpose of a research study. Since the Female in this region have stunted development, malnutrition, and a lack of adequate sanitation. As a result, the Female in this region are extremely vulnerable to the aforementioned health issues. A morning stool sample was taken from urban Females. We use a very tight plastic container with the name of the female labeled on it.

The seasonal variation in Bangalore Urban 50 female inhabitants was investigated. The study's findings vary by season, with infection rates steadily increasing from a low point in April to a high point in October and November. In comparison to the summer season, the infection rate is higher during the rainy season and the beginning of the winter season (dry season).

Three species of soil-transmitted helminthes parasite are present during the rainy season. Trichuris trichuira, Ascaris lumbricoid, Enterobius vermicularis, and Ascaris lumbricoid there is no difference between the dry and winter seasons.

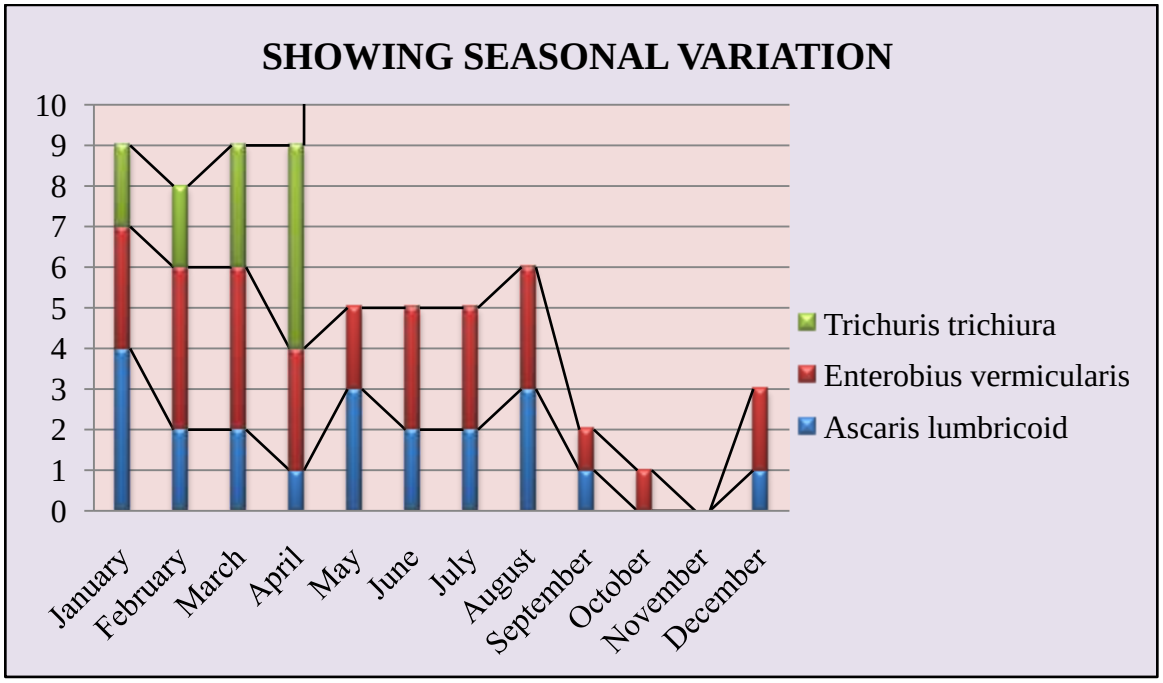

FIGURE- SHOWING SEASONAL VARIATION OF HELMINTHES PARASITE IN

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BANGALORE URBAN

In general, socio-political outlook refers to people's views or beliefs about the social and political situation in a given society or background. In the past, there has been a lot of socio-psychological research done on attitude and attitude development. In recent studies, social scientists have discovered that attitudes and beliefs are related, and that attitudes are essentially an individual's likes and dislikes. Our affinities for and aversions to circumstances, things, individuals, groups, or any other recognizable aspects of our world, according to Bem (1970), have their origins in our feelings, attitudes, behavior, and social influences. The term "attitude" refers to a subjective or mental state of readiness to act. As a result, attitudes are rooted in our values and affect our actions. They reflect our perspective on the world and how we organize our relationships. As a result, attitudes are mental postures and behavior guides to which each new experience is referred before a response is made. Droba (1933) described an attitude as a human being's mental propensity to behave in favor of or against a specific entity. Attitude, according to Krueger and Reckless (1931), is a residue of experience that conditions and governs subsequent operation. In this way, they can be thought of as learned impulses to behave in particular ways in response to or in opposition to an environmental influence that has either a negative or positive meaning.

CONCLUSION

The impact of soil transmitted helminthes infections on ill growth of females in India and other parts of the world where it is prevalent appears to be linked to helminthes infections in female's health. It's difficult to find precise details to describe the relationship between one worm infestation and its impact on health because it's difficult to figure out.

Many factors, particularly in rural areas, contribute to the high prevalence of infection, including a lack of clean piped water in homes and schools, septic latrines, unsanitary conditions, conventional food preparation practices, illiteracy, and so on. Similar factors to be responsible for the high prevalence of infection Furthermore, it was discovered that the prevalence of infection differed by district, with the highest prevalence in Bangalore urban (79.28 percent) and the lowest prevalence in Annantnag (56.98 percent). The disparity in prevalence rates between districts may be attributed to disparities in hygiene habits, such as drinking dirty water and defecating in the open. The origins

of the major rivers that flow through slums in Bangalore, and they are not initially polluted as they flow through this district; however, when they flow northwards, they become contaminated. As a result, people living in other districts are at a higher risk of infection. The findings are consistent that variations in prevalence between districts surveyed may be due to the degree of unhygienic practices in each region. Some people use the latrine more often than others, and some have access to more piped water than others. In the Observed variations in the prevalence of helminthiasis in various geographic areas, this supports the current findings. As a result of the current research, it is clear that control programs must be implemented immediately, or the infection will spread and cause epidemics.

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