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A study to assess the knowledge on causes and complications of hookworm infections among adults at Dakkilivaripalem, Nellore

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Abstract

Background: Hookworm it has been estimated that more than 200 million people are infested in India alone. Hookworm enters the body through skin, commonly through bear feet. It may also be acquired by food such as carrots, beetroot when consumed without washing. The larva migrates to the small intestine, where they may live for several years taking nutrient from the intestinal walls.

Aim: The aim of the study was to assess the knowledge on hookworm infestation among adults in Dakkilivaripalem, Nellore.

Objectives: 1. To assess the knowledge on hookworm infestation among adults in Dakkilivaripalem, Nellore. 2. To associate the knowledge and attitude on their practices knowledge on hookworm infection with selected socio demographic variables in Dakkilivaripalem, Nellore. 3. To correlated the knowledge and attitude of adults on their practices knowledge on hookworm infection in Dakkilivaripalem, Nellore.

Methodology: 50 samples from Dakkilivaripalem, Nellore, were selected by using convenience sampling method.

Results: Regard to knowledge level of adults regarding hook worm infection, 4(8%) had A grade, 5(10%) had B+ grade, 24(48%) had B grade, 7(14%) had C grade and 10(20%) had D grade.

Keywords: knowledge, causes, complications, hookworm infections, adults

Introduction

Hookworm infection is a chronic infestation of small intestine by ancylostoma duodenale or necator Americans. It causes anemia, edema, cardiac dilatation and cardiac failure. It retards physical growth and mental development of adults and handicaps the progress of agriculture and industry. Adult constitute a large section of the population in India. It is a great challenge to the nation to provide health education and food to the adult from 25-40 years.[1]

Adult comprising of 38% of the country, who are dependent unproductive but has great potential. The formative years of adult has greater risk for morbidity and mortality. In most cases, the manifold adult problems are interrelated and after the growth development of adults, the most common ones being infections, parasitic infection and malnutrition.[2]

Hookworm infestations have a close relationship with the socio demographic and ecological factors like poverty, illiteracy, poor personal and environmental hygiene. Adult are at special risk due to their activities life play and lack of importance to personal hygiene from the adult. The entire family may eventually get hookworm and suffer. Hookworm infestations are generally not noticed, but can sometimes lead to significant problems, which affect many organ systems. Most of these are a result of unsanitary living conditions and poor food preparation. In countries like India, these constitute an important public health problem, as anemia is caused y hookworm infestation in a significant number of adults.[3]

Hookworm infestation is a major public health problem in adult of developing countries because of poor socio economic conditions of lack of good hygiene livings. Helminthes infection contributes significantly to global burden of disease in adult especially in the tropical and subtropical regions. Intestinal hookworm infestation can result in impaired nutrition and development. Handling food and drinks with unclean and hand and dirty fingers is one of the causes. Hookworm enters the body through when one walks with bear foot on an infected land. This is how the hygiene living conditions lead to infection. Heavy hookworm burden is the major etiology for iron deficiency anemia in young.[4]

Need for the study

Hookworm it has been estimated that more than 200 million people are infested in India alone.

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Hookworm enters the body through skin, commonly through bear feet. It may also be acquired by food such as carrots, beetroot when consumed without washing. The larva migrates to the small intestine, where they may live for several years taking nutrient from the intestinal walls. Hookworm infestation caused chronic blood loss and depletion of iron which is stored in body learning to iron deficiency anemia. This can lead to retarded growth, the eggs that are excreted in feces, if contaminate soil, the cycle repeats [5]. Ascariasis is a common helmenthic infection in man characterized by vague or no intestinal symptoms. It is found in almost all parts of the world even in some parts of USA. Some 15 to 20 percent of the population has been found infected [6].

A cohort study to identify incidence and risk factors of hookworm infection was conducted in a rural community, central Thailand from November 2016 to February 2017. Stool specimens were examined for hookworm eggs using wet preparation, Kato thick smear, and water-ethyl acetate sedimentation technique. The incidence rate of hookworm infection was 7.5/100 person-years. The independent risk factors for acquiring hookworm infection were barefoot walking (incidence rate ratio [IRR] = 4.2, 95% confidence interval [CI] = 1.2–14.5) and raising buffaloes around the house (IRR = 4.8, 95% CI = 1.9–11.8). Necator americanus was the most common hookworm identified in this population. Ancylostoma duodenale and A. ceylanicum were also detected.[7]

Hookworm infection was found in the slum area of Eluru, West Godavari District, A.P. which has scheduled caste population. Infection is related to different climatic conditions and socio-economic status of the population. The inhabitants are coolies in agricultural fields and household workers with a poor level of hygiene and sanitation. All the infected positive cases showed ancylostoma duodenale infection. The prevalence of hookworm infection was 15.6, 17.9 and 14 % in children, 23.5, 27.9 and 20.5 % in adults during summer, rainy and winter seasons respectively. Single species infection was studied in three periods. Out of 264 faecal samples, 128 children (40 males, 32.5 %) and 136 adults (64 men, 25 % and 72 women, 30.5 %) showed helminthic infection in rainy season. Much variation is seen in the prevalence of disease in rainy and winter seasons in all the age groups. The infected individuals were treated with albendazole just after rainy season. Three weeks after antihelminthic treatment, the infection rate among them was lowered; health education also plays a role in reducing the % of infection.[8]

WHO reported that worm infestation is one of the common health problems worldwide speacially among children. WHO estimated that about 1400 million people worldwide are infected with at least one type of intestinal worm. Hook worm, Pin worm and, Tape worm commonly acquired orally or parentally or both routs.[9]

Problem statement
A study to assess the knowledge on causes and complications of hookworm infection among adults.

Objectives
- To assess the knowledge on hookworm infestation among adults in Dakkilivaripalem, Nellore.
- To associate the knowledge and attitude on their practices knowledge on hookworm infection with selected socio demographic variables in Dakkilivaripalem, Nellore.
- To correlated the knowledge and attitude of adults on their practices knowledge on hookworm infection in Dakkilivaripalem, Nellore.

Delimitations
The study is limited to;
- Adults living in Dakkilivaripalem, Nellore
- Sample size was limited to 50 only
- Duration of collected is 1 week.

Methodology
Research Approach
A quantitative approach was adopted to determine the research study.

Research Design: The present study was conducted by using descriptive research design

Setting of the Study: The setting of the study was conducted in Dakkilivaripalem, Nellore.

Target Population: The target population was all adults

Accessible Population
The accessible population of the study comprised of adults living in Dakkilivaripalem.

Sample: The sample for the present study includes adults in Dakkilivaripalem, Nellore.

Sample Size: The sample size was 50 samples in Dakkilivaripalem, Nellore.

Sampling Technique: Non-probability convenience sample technique was adopted.

Criteria for sample collection
Inclusion criteria
- Adults living in Dakkilivaripalem, Nellore.
- Adults who can read and speak English or Telugu
- Adults who are willing to participate in study.

Exclusion Criteria
- The adults who are not interested to participated in the study.
- The adults who are not attained hookworm infection.

Variables of the Study: Variables of the study are research variables and demographic variables

Research Variable: Knowledge on causes and complications of hookworm infection among adults.

Demographic Variables
Age, gender, education, occupation, family monthly income in rupees, residence and religion.

Description of the Tool
Part-I: Socio Demographic Data
Deals with demographic variables it consists of demographic data which include age, gender, education, occupation, family income in rupees, residence and toilet facilities of home.

Part-II
It consists of self structured questionnaires to assess the knowledge on causes and complication of hookworm infection among adults.

Score Interpretation
The tool consists 30 questions each correct answer will be rewarded '1' and wrong answer given '0' mark based on the total score the knowledge level was categorized as follow.

Grade	Score	Percentage
A+	28-30	More than 85%
A	25-27	More than 75%
B+	22-24	More than 65%
B	19-21	More than 55%
C	16-18	More than 50%
D	<15	Less than 50%

Data Analysis

Table 1: Level of knowledge regarding on causes and complications of hook worm infection among adults. (N=50)

Level of Knowledge	Frequency (F)	Percentage (%)
A	4	8
B+	5	10
B	24	48
C	7	14
D	10	20

Table No -1: shows that, knowledge of adults regarding hook worm infection, 4(8%) had A grade, 5(10%) had B+ grade, 24(48%) had B grade, 7(14%) had C grade and 10(20%) had D grade.
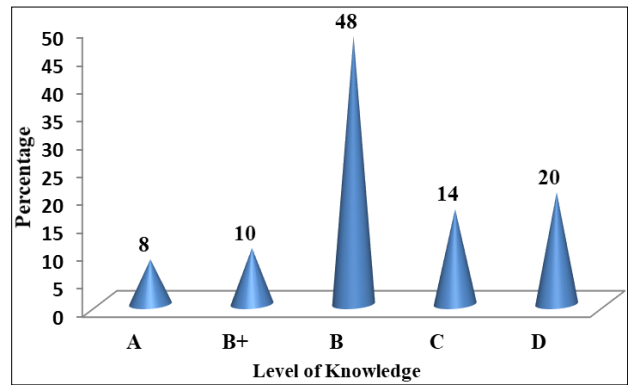

Fig 1: Percentage distribution of adults based on level of knowledge.

Table 2: Mean and standard deviation of level of knowledge on among adults. (N=50)

Criteria	Mean	Standard Deviation
Level of knowledge	17.24	3.21

Table 2: Shows that with the mean knowledge see was 17.24 and standard Deviation is 3.21.

Table 3: Association between level of knowledge on causes among adults with their selected socio demographic variables. (N=50)

S. No	Demographic Variables	A		B+		B		C		D		Chi-Square
		F	%	F	%	F	%	F	%	F	%	
1.	**Education**											C=28.3689
	a. Primary	1	2	1	2	9	18	2	4	8	16	T=18.03
	b. Secondary	2	4	1	2	10	20	3	6	1	2	Df=12
	c. Graduate	1	2	1	2	3	6	1	2	1	2	P<0.05
	d. Post Graduate	-	-	2	4	2	4	1	2	-	-	S*
2.	**Occupation**											C=28.460
	a. Unemployed	1	2	4	8	16	32	4	8	6	12	T=26.22
	b. Business	-	-	-	-	3	6	1	2	2	4	df=12
	c. Private employee	2	4	1	2	4	8	2	4	2	4	P<0.01
	d. Govt. Employee	1	2	-	-	1	2	-	-	-	-	S**
3.	**Income**											C=26.634
	a. Rs.5000-7000	-	-	3	6	17	34	3	6	8	16	T=26.22
	b. Rs.7001-9000	2	4	1	2	4	8	3	6	2	4	df=12
	c. Rs.9001-11,000	1	2	1	2	3	6	1	2	-	-	P<0.01
	d. Rs.>11,000	1	2	-	-	-	-	-	-	-	-	S**

Major findings of the study
- Regard to knowledge level of adults regarding hook worm infection, 4(8%) had A grade, 5(10%) had B+ grade, 24(48%) had B grade, 7(14%) had C grade and 10(20%) had D grade.
- The mean knowledge score of adults was 17.24 and standard Deviation is 3.21.
- Regarding association between level of knowledge and demographic variables, education, occupation and income had significant association at P<0.05 & P<0.005.level.

Conclusion
The study concluded that, half of the adults (48%) had poor knowledge regarding worm infestation.

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