**PARENTS’ KNOWLEDGE, ATTITUDE AND PRACTICES ABOUT SOIL TRANSMITTED MINTHIASIS FOR SCHOOL CHILDREN IN SHINYANGA DISTRICT COUNCIL, TANZANIA**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION ADMINISTRATION, PLANNING AND POLICY STUDIES (MED-APPS) OF THE OPEN UNIVERSITY OF TANZANIA**

**2019**

# CERTIFICATION

The undersigned certifies that she has read and hereby recommends for acceptance by the Open University of Tanzania a dissertation titled: ***“Parents’ Knowledge, Attitude and Practices about Soil Transmitted Minthiasis for School Children in Shinyanga District Council, Tanzania”*** submitted in partial fulfilment of the requirements for the degree of Masters of Education Administration Planning and Policy Studies of the Open University of Tanzania.

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Dr. Magreth Bushesha

**(Supervisor)**

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Date

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…………………………….

Signature

……………………………

Date

# DEDICATION

I dedicate this dissertation to my awesome wife Mariam Yusuph Ngunila and my son Mrisho Saleh and to my daughter Aisha Saleh and Khairaath Saleh whom I love and respect immensely. Your love, patience, support, words of encouragement and belief in my ability enabled me to complete this program. Thank you all.

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# ABSTRACT

This study focused to investigate, knowledge, attitude and practices about soil transmitted minthiasis among Primary school children in Shinyanga Rural district council. A cross-section research design was used to collect data at a single point in time.Purposive sampling technique was employed to select pupil respondents and key informant interview. This study employed 120 parents as entire sample size. The mixed data collection was applied..Data reduction technique was used to analyze data from key informant interview while SPSS was used to analyze data through descriptive statatistic. From the findings indicated that, majority of the respondents reveal that female were aware of STH disease compared to their counterpart males where a chi-square test revealed that there was statistical significant influence of sex on awareness on STH disease at (χ2=27.348) and (p<0.001). Also, a chi-square test show that there was no statistical significant relationship between the age of respondents and awareness on STH disease, at (χ2=5.462) and (p>0.05). Furthermore, the finding reveal that eating without washing hand, contaminated food and walking through bare feet found to be main causative of STH in the study. The study concluded that women parents are still overwhelmed with responsibilities of taking care of hearth of children in their household while male parents enjoy life. The study recommends that both parents should ensure acceptable health environments at their home so that reduce and eventually alleviate STH in their surroundings. Government and other stakeholders should also ensure regular health education in local community especially in rural areas.

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# LIST OF ABBREVIATIONS

DED District Executive Director

DEO District Education Officer

FED Faculty of Education

MED APPS Masters of Education in Administration and Policy Studies

NGOs Non-Governmental Organizations

OUT Open University of Tanzania

SRDC Shinyanga Rural District Council

SPSS Statistical Package for Social Science

STC Shinyanga Teachers Collage

STH Soil Transmitted Helminthiasis

URT United Republic of Tanzania

WHO World health Organization

# CHAPTER ONE

# INTRODUCTION AND BACKGROUND OF THE STUDY

# 1.1 Introduction

This chapter introduces the study on the effects of soil-transmitted helminthiasis for primary school children in Shinyanga Rural District Council, Tanzania. It presents the background information for the study, statement of the problem, objective of the study, research questions of the study, significance of the study, limitations of the study, delimitations of the study and organization of dissertation.

# 1.2 Background to the Study

Intestinal parasitic infections are highly prevalent in developing countries, mainly due to deficiency in sanitary facilities, unsafe human waste disposal systems, inadequacy and lack of safe water supply and low socio-economic status (Savioli, *et al*., 1992). It is estimated that soil-transmitted helminthiasis and schistosomiasis present more than 55% of the disease burden due to all tropical diseases, excluding malaria.

Most morbidity is seen in pre-school children, school-age children and women of child-bearing age (WHO, 1999). Soil transmitted helminthes (STH) are intestinal nematodes whose part of their development take place outside the body of the host. The organisms make soil as their intermediate host before they infect the individual (Grang, et al., 2003). The most common STH are the large intestinal roundworm (Ascaris lumbricoides), whipworm (Trichuristrichiura) and the anthropophilic hookworms (Necatoramericanus and Ancylostomaduodenale). Trichuris and Ascarisinfections often found together and they have similar mode of transmission. Adult worms live in the lumen of the small intestine. A female may produce eggs, which are passed with faces. Unfertilized eggs may be ingested but are not infective. Fertile eggs embryo ate become infective after several weeks depending on the environmental conditions (optimum: moist, warm, shaded soil) then after infective eggs are swallowed, the larva hatch, invade the intestinal mucosa, and are carried via the portal, then systemic circulation to the lungs. Upon reaching the small intestine, they develop into adult worms. The ingestion of the infective eggs to ovipositor by the adult female requires two to three months. Adult worms can live 1 to 2 years.

The life cycle of Hookworm is quite different from that of Trichuri and Ascaris. Eggs passed with the feaces develop to rhabditiform larva in most shaded soil and feeds on bacteria, moulds to filariform larva. The identified situation took place under favourable conditions (shade, moist soil & warmth 250 C – 350 C, filariform larva can survive for 3 – 6 weeks. Filar larva ascends vertically around 60 mm – 90 mm & laterally about 30 mm in sandy loamy soils. Therefore wet type earthen floor pit latrines or shallow pits for defecation allow penetration of Hookworm to the top. Moreover, Filariform larvae penetrate human skin and are carried by blood circulation to the lungs. They travel and reach the trachea and through coughing they are swallowed and reach the small intestines and they develop to adult worms and female lay eggs.

Prevalence of these intestinal worms varies according to the hygienic conditions and socio-economic status of the area and it may occur in all age groups and sex but it is highest among children. Furthermore, in areas where feaces are used as agricultural fertilizer, infection is common in farm workers. It has been estimated that almost two billion people are infected with one or more of the soil–transmitted helminthes, which account for up to 40% of the universal morbidity (Hotez, et al., 2003). STH infections rarely cause death instead; the burden of disease is related less to mortality than to the chronic on the hosts’ health and nutritional status (Stephenson et al., 2000). It has been noted that, hookworms have long been recognized as an important cause of intestinal blood loss leading to iron deficiency and protein malnutrition. The iron deficiency anemia that accompanies moderate and heavy hookworm burdens is sometimes referred to as hookworm disease (Hotez et al., 2004).

Historically, Tanzania has been having high prevalence of soil-transmitted helminthes infections. The first report of STH was published in Tanga in 1917 by the civil medical services. Since that time and subsequent years, the civil medical services continued to give information in the annual report of STH (Kihamia, 1977), and in 1998 the Tanzania Partnership for Child Development carried out an extensive operational research, training teachers to administer Albendazole to treat intestinal nematodes. The Government is committed to the control by setting up a National Schistosomiasis and STH Control Program (NSSCP). Since Transmission is most common among school-age children who bear the heaviest burden of disease, the implementation strategy using large-scale Mass Drug Administration (MDA) focused on them.

# 1.3 Statement of the Problem

Historically, Shinyanga Rural District council has been having high prevalence of soil-transmitted helminthes. This is due to poor sanitation, favourable climatic and soil conditions. The mass chemotherapy intervention started in 2006 and the implementation was administration of Albendazole twice per year to primary school children. This intervention has been carried out regularly but in some years it was not biannual although every year new pupils start primary school. To date there are few literatures explaining the extent to which the intervention has successes or not succeeded and none of these has focussed in Shinyanga District Council. There has been different effort made to alleviate soil-transmitted helminthiasis in primary school children annually.

# 1.4 Research Objectives

# 1.4.1 General Research Objectives

This study investigated,Parents’knowledge,attitude and practices about soil transmitted helminthiasis for school children in Shinyanga District council.

# 1.4.2 Specific Research Objectives

To determine the prevalence of soil transmitted helminthes among primary school children in Shinyanga District Council.

1. To determine the prevalence of soil-transmitted helminthes among Primary School children in Shinyanga District Council.
2. To explore distribution of soil transmitted helminthes pills among primary school pupils in Shinyanga District Council.
3. To assess knowledge on soil-transmitted helminthes in Shinyanga Rural District council.
4. To identify the risk factors associated with STH infection among Primary School children in Shinyanga District Council.

# 1.5 Research Questions

# 1.5.1 General Research Questions

What are the Parents’ knowledge, attitude and practices about soil-transmitted helminthiasis for school children in Shinyanga District Council?

# 1.5.2 Specific Research Questions

The research questions used to seek answer in the completion of this study were as follows:

1. How do the Parents’ attitude and practices can reduce the prevalence of soil-transmitted helminthes for School children in Shinyanga District Council?
2. How do the soil transmitted helminthes pills can be distributed to school children in Shinyanga District Council?
3. What do Parents know about children soil-transmitted helminthes can be determined?
4. How do the risk factors caused by parents due to the STH infection for School children can be identified?

# 1.6 Significance of the Study

The study has availed information’s which can be used by various environmentalists as well as educational and health stakeholders. For example the expected results may be useful to students and community members to enforce and put more efforts on environmental preservation and conservation against soil-transmitted helminthiasis application in their real life. Environmental educators and other related stakeholders such as Ministry of Health, Ministry Education and Vocational Training, Tanzania Institute of Education, policy makers, planners, administrators and societies as a whole may benefit from the results as they can use the research results to evaluate their responsibility to identify what has been achieved and what has not. This can help them to find out ways of rectifying the situation where things went wrong and maintain the situation where they went well. On the other hand, the findings from this study may be useful to other researchers who can use the revealed information’s of the study as a base to establish another research study.

# 1.8 Limitations of the Study

First Limitation was shortage of time during data collection and report writing since the researcher did a study while attending employer’s work; this made a study.

Second, limitation was shortage of funds during data collection and consultation fee especially during data analysis.

Third, limitation was reluctance of respondents; some of the respondents were reluctant to participate in the study. However, researcher had to create a rapport to convince them to accept to participate in the study.

# 1.9 Delimitation of the Study

The study assessed Primary school pupils, teachers and parents in five selected primary schools which were located in Shinyanga District council and their respective Head teachers/Head Mistress. Five wards education officers and the District education officer, Hence a number of parents and some people in the community around the selected schools visited to see the magnitude of the problem around the Schools. The findings from this study can be generalized to reflect the situation with similar favourable condition to these soil parasitic worms in Tanzania, though the level of knowledge, Attitude and Practices on parents may differ.

# 1.10 Definitions of Key Terms

The study used several terms which each intended to bring the same meaning across the study. Indeed the meaning of the term that has been used depended upon the theoretical context in which it occurs and circumstances within which it was applied. The following terms commonly used in the study were hereby defined for the sake of giving their specific common interpretation for the area whenever they have been used.

# 1.10 1Attitude

Refer to a way of feeling, thinking or behaving (Oxford University Press, 2005).

# 1.10.2 Soil-transmitted Helminthesis

This is a soil, infected diseases caused by different species of parasitic worms, caught easily by walking bare foot on the contaminated soil or eating contaminated food (Grang et al., (2003); Jurg Utzinger & Jenifer Keisera (2005).

# CHAPTER TWO

# LITERATURE REVIEW

# 2.1 Introduction

This chapter presents the studies reviewed, which to a large extent provides a base for the new research and several theories to support the study. The researcher used the existing knowledge from different sources with the acknowledgement to enrich a new research so as to achieve the stated objectives.

# 2.2 Theories Supporting the Study

The study on investigation of the contribution of parental support to children’s altitudes knowledge and practice on STH could be understood using different theoretical perspectives including. Vygotsky (1978), Socio cultural theory, Bronfenbrenner (1979), ecological theory and Jean Piaget(), conceptual change theory, developed as explained below:

# 2.2.1 Socio Cultural Theory

Socio-cultural theoretical perspectives to Altitude, knowledge and practice skills development suggests that every function in the child’s development takes place in two levels, which are at social level (inter-psychological) and at the individual level (intrapsychological) (Vygotsky, 1979). According to Vygotsky, in learning the child’s mental development takes places through apprenticeship learning whereby a child relies much on the assistance of parents, brothers and sisters, peers, neighbours, and teachers which occurs through interaction (Scott & Palinesar 2009). As defined by Vygotsky through interaction, it is possible to transform knowledge and construct problem-solving activities. It is also argued that learning can occur through collaboration with other knowledgeable people around the environment/society who will be responsible in one way or another to support children to acquire the intended knowledge, (Lantolf, 2000).

For example, when children interact with people who acquired certain attitude in the society it is likely that children can develop their attitudinal skills by imitations. Vygotsky argued further that in the society we live in, there are certain norms, beliefs, attitudes, customs symbols, signs or tools are object (relic) which guide the way we act and live, hence bear the features of a particular society’s culture. Therefore, parents as representatives of the society culture have a task to transform those culture of the children since they are the ones who are close to children and responsible for taking care of them (Lantolf & Thorne, 2006).

# 2.2.2 Ecological Theory

A study on the investigation of contribution of the parental support to children’s acquisition of attitude, knowledge and other skills could also informed by Bronfenbrenner (1979), ecological theoretical perspective which focuses on the contribution of different contexts to children’s development, specifically this theory suggests that, child’s development can be influenced by different systems around the environment in which he/she exists. The theory came up with five systems, namely, Microsystem, mesosystem, exosystem, macro system and the chronosystem (Ryan & Paquette, 2001).

As suggested in this theory, the microsystem involves the environment in which a child interacts with, such as at home or at school where the child is staying or operating with different people such as family, friends, neighbours’ and others. As Bronfenbrenner (1979), suggests, in order for a child’s development to occur in a micro system, there must be two conditions namely primary context and secondary context.

It is argued further, in this theoretical perspective that the primary context in which learning takes place effectively, could only happen if there is a proper guidance of a person (s) who is knowledgeable at a certain field. In such an environment a child is likely to gain new things he/she has not experienced before and starts to internalize them (Bronfenbrenner, 1994). Secondary development context as a second condition suggests that a child should be provided with opportunity, resources and encouragement so that can participate effectively at the first condition of primary context.

Therefore, it is believed that a child’s development can occur as a result of the interaction between different people within the context. In relation to children’s acquisition of attitude, knowledge and practice skills the system is very essential as both primary and secondary development condition can be applied. For instance, primary development condition allows shared activity between parents and the children such as a habit of washing hands and fruits before eating them. Thereafter, a parent has to encourage a child to practice what he/she has oriented to the child so that can master the skills where it is termed as secondary condition.

Therefore, children’s acquisition of attitude, habit and knowledge can be contributed by the nature of parents’ activities and relationship to children in the micro system. The other system is Ecosystem, which involves the relationship between two setting and the activities taking place regarding to the human development (Rosa & Tudge, 2013). For instance, the relationship between home and teachers at school to see children’s academic progress. The nature of relationship may take place through communication and parents’ participation in different school activities. Ryan & Paquette (2001) argue that in ecological theory human development can be affected by changes that occur throughout person’s life and the environment where he/she lives (Chronosystem). For example, denied the changes that occurred in family structure, socioeconomic status, employment as well as place of residence could positively or negatively affect children’s learning or acquisition of attitude, knowledge and practice on STH and other inter related leaning behaviours.

Moreover, Bronfenbrenner (1979) suggests in the macro system that individual cultural context has an impact to his/her development. The cultural context involves things like person’s family socio economic status, ethnicity or race. With regard to the study about the contribution of parental support to children acquisition of attitude and habit it is important to observe the macro system specifically on parents’ socio economic status.

The reason behind is that children acquisition of learning behaviour could be influenced by the parents’ income and educational level. It is clear that a child from higher socioeconomic status was likely to be supported by being provided with proper sanitation, a frequently medical check-up enough learning materials and needed school contribution when compared to those from low socioeconomic status who are likely to lack a support.

# 2.2.3 Conceptual Change Theory

This theory illustrated on the Learning that changes an existing conception (that is; belief, idea or way of thinking) According to Jean Piaget approach to conceptual change has focused on describing the modification in domain geared cognitive structure that affects the process of knowledge acquisition in all matters. The modification in domain here denied a child to cope with adaptation, association, and socialization toward the family members where he/she is living and the teachers.

In an attempt to clarify the concept of conceptual change various theorists have offered competing views of the central process. Posner et al., (1982) suggests that if children are going to change their ideas, they must become dissatisfied with that existing condition (behaviour, attitude) or must be intelligible, appear plausible, or must be useful in a variety of new situation. To vosniadou (2002) conceptual change as a process that enable children to synthesize models in their minds beginning with their existing explanatory frameworks, that is change for attitude should associate home environment.

Chi and Roscoe (2002) conceived the conceptual change as repair of misconceptions. In this view, misconceptions are miscategorizations of concepts to correct attitude and behaviours on knowledge and practices on STH. Furthermore conceptual change to Disessa (2002) is the reorganization of diverse kinds of knowledge into complex systems in children’s minds. Here the concept insists the guider, the parents and teachers to put out together the theory and practices. That is the instructions should be in line with what they are doing. This also strengths the concept of learning by doing.

# 2.3 The Nature and Forms of Parental Support towards Children’s Acquisition and Development of Attitude, Knowledge and Practice on STH

The parental support towards attitude and practices is essential in developing children’s learning skills (National Institute for Literacy, 2009). With regard to the role of parents, Martini (2004) noted a number of potential areas in which parents can contribute leaning skills acquisition and development, including teaching and monitoring learning actives of the children to ensure that skills are acquired early before they join formal school. According to Martini, such a support can help in laying down a solid foundation for better education achievement of the children. As noted from literature, the forms of support given to children may include good parenting style at home; parent-children shared learning activities and parent’s communication with the school in order to know children’s progress (Desforges & Abouchaar, 2003).

Parent – school engagement in supporting knowledge development can also take a form of inviting parents to participate in school meeting or conferences aimed at sharing ideas on how they can collaborate in bringing desired positive changes in the school (Epstein, 1995). Parents can also support learning of attitude and desirable behaviour at home during early childhood. In this mode parents start to familiarize their kids with wearing shoes, washing hands, proper use of toilet and other healthy skills. For example children can be taught on how dangerous washing in ponds, eating without washing hands and how to avoid STH.

A study conducted by Borkowski, Ramey and Power (2009) recommends strategies such as independence, self-regulation and cooperation schedules to be adopted by parents to boost the acquisition of attitudes proficiency at the early stages of learning. Furthermore, children who are supported by their parents at home are likely to perform better compared to those who lack support from their parents or family members (Borkowski et al., 2009). It is further argued that if children are exposed to adequate knowledge at home, they are likely to develop self awareness quickly and when independent and issue consign on taking risk such as swimming in ponds and bear walking, eating fruits without washing, eating without washing hands and other behavioural acquisition are favourable much with learning skills. This is because knowing them at an early age can help in achieving the expected goals at school, Barnett,2006).

Furthermore, literature also suggests that children who receive parents’ assistance in attitude and behavioural change have better acquisition of different skills at school. Parents’ involvements in assisting their children acquisition of skills can take place through a variety of settings including school-based involvement, home-school conferencing and home-based involvement. Evidence in literature thus indicates a positive effect of involvement of parents. With regard to the effect of parental involvement, a study by Seneschal (2006) with 14 intervention studies, which represented 117 families, indicates that parents’ involvement can positively impact children’s learning development.

A study by Seneschal (2006) emphasizes further that reading to a child can produce positive results to children reading achievement. It is argued further that parents towards the acquisition attitude, knowledge and practice on STH. For example, such parents are more likely to attend their children at limit or Medical laboratory for check up monthly or for a specific period of time before engaging them into stomach illness and become school absentees. Regarding this, Adekola (2007) noted that children whose parents are well educated enough they have a higher chance of performing better at school. It is concluded in this study that parents’ education has positive contribution to the children leaning progress (Ngorosho, 2011).

With regard to the effects of socio-economic status, some studies also indicate that children coming from families with socio-economic status might have better development of language and literacy skills while those from low socio-economic status perform poorly on the aspect of print knowledge, experience delay of self awareness and are likely to face difficulties in achieving leaning skills (Heath et al., 2014). As noted in those studies, poor performance on studying skills may occur if family members fail to provide proper sanitation, good health and materials that can be used by the children as well as preparing conducive home leaning environment due to their poverty (Heath et al., 2014; Waldfogel, 2012).Contrary to the above arguments, however, Gadsden et al., (2003) show that frequent parents’ involvement on issues related to their children education has a positive contribution to the children’s academic achievement regardless of the education level that is possessed by a parent.

On the other hand, it is important for schools to sensitize parents regarding proper ways that can be used at home to support children with proper sanitation and on how they can work collaboratively with schools. By doing so, it can help children to improve their knowledge on STH, Increase self-awareness and academic achievement (Glasgow & Farrell. 2007).

# 2.4 Learning Environment and Children Acquisition and Development of Attitudes, Knowledge and Practice on STH

The concept of learning environment refers to a setting in which there is learning supportive scene such as print, reading and writing materials, a place where learning will take place (at home or school), an environment where adults or other facilitators are responsible to guide children to acquire desirable behaviour and other skills. As explained above a good learning environment refers to a setting in which there are supportive learning materials and family members who are frequently engaging in facilitating demonstrating and guiding with desirable attitude (Center for Early Literacy Learning, n.d.).

# 2.5 The Impact of Technology on Developing a Child

Reminiscing about the good old days when we were growing up is a memory trip well worth taking when trying to understand the issues facing the children of today. A mere 20 years ago, children used to play outside all day, riding bikes, playing sports and building forts. Masters of imaginary games, children of the past created their own form of play that didn’t require costly equipment or parental supervision.

Today’s families are different. Technology’s impact on the 21st century family is fracturing its very foundation, and causing a disintegration of core values that long ago were the fabric that held families together. Juggling school, work, home, and community lives, parents now rely heavily on communication, information, and transportation technology to make their lives faster and more efficient. Entertainment technology (TV, Internet, video games, iPads, cell phones) has advanced so rapidly, that families have scarcely noticed the significant impact and changes to their family structure and lifestyles. A 2010 Kaiser Foundation study showed that elementary aged children use on average 7.5 hours per day of entertainment technology.

Children now rely on technology for the majority of their play, grossly limiting challenges to their creativity and imaginations, as well as limiting necessary challenges to their bodies to achieve optimal sensory and motor development. Sedentary bodies bombarded with chaotic sensory stimulation are resulting in delays in attaining child developmental milestones, with subsequent negative impact on basic foundation skills for achieving literacy. Hard-wired for high speed, today’s young are entering school struggling with self-regulation and attention skills necessary for learning, eventually becoming significant behaviour management problems for teachers in the classroom.

It’s important to come together as parents, teachers and therapists to help society “wake up” and see the devastating effects technology is having not only on our child’s physical, psychological and behavioural health, but also on their ability to learn and sustain personal and family relationships. While technology is a train that will continually move forward, knowledge regarding its detrimental effects, and action taken toward balancing the use of technology with critical factors for development, will work toward sustaining our children. While no one can argue the benefits of advanced technology in today’s world, connection to these devices may have resulted in a disconnection from what society should value most, children. Rather than hugging, playing, rough housing, and conversing with children, parents are increasingly resorting to providing their children with more TV, video games, and the latest iPads and cell phone devices, creating a deep and irreversible chasm between parent and child. Technology always build its own culture quit different from what the family or society need a child to mould such as the attitude of using water in the toilet and washing hands after toilet, and other respective culture which furnishes their healthy lives. In a situation where there’s no these technological devises, children tend to escape their home and have a distant walk to sick for such a service but in absence of parental care.

# 2.6 Empirical Studies

# 2.6.1 Worldwide Studies

The updated global distribution of soil-transmitted helminthes revealed that the tropics and sub-tropics have widespread infection of all three soil-transmitted helminthes. Estimates suggest that A. lumbricoides infects 1.221 billion people, T. trichiura 795 millions and hookworms 740 million worldwide (Silva, *et al* 2003). The greatest numbers of geohelminths infections occur in the America, China and East Asia and Sub-Saharan African. Strongyloidesstercoralis is also a common STH in some of these regions, although detailed information on the prevalence of strongyloidiasis is lacking because of the difficulties in diagnosing human infection. Also it has been estimated that over one billion people who are infected with Ascarislumbricoides worldwide and the school children are the mostly affected (Ogbe, *et al.,* 2002). Moreover the study conducted in south India to 3706 children show that the prevalence of STH is 7.8% across schools. A study conducted in Himalaya region of Nepal found that 294 out of 474 women 61.5% were affected with ovu. The study further revealed that Hook worm was found the most common STH to women by 53% (Kunwar, Chapagain, Subba, Shrestha, Subedi, Blangero, William-Blangero, 2006).

# 2.6.2 Studies in African Countries

The study World health Organization (2006) report shows that the prevalence of STH is high among children in Sub-Saharan African and other rural areas of developing countries whereby 400 million school-age children who are infected are physically and intellectually affected by malnutrition, leading to cognitive deficits, learning disabilities and high school absenteeism (WHO, 2006).

In most countries where soil-transmitted helminthes are endemic, school-age children experience the highest prevalence and intensity of infection, particularly with Ascarislumbricoides and Trichuristrichiaura (Hall, *et al*, 1997). Morbidity has been traditionally considered a result of heavy geo-helminth infections; children with light infections were thought to suffer no ill effects. There is increasing evidence however, that even low or a moderate intensity infection significantly retards childhood growth and development (Hall, 1993; Stephenson, 1994).

Furthermore, it is believed that Chronic STH infections resulting from Ascaris, Trichuris and hookworm can dramatically affect physical and mental development in children (WHO, 2002). Studies have also shown that the growth and physical fitness deficits caused by chronic STH infections are reversible following treatment with anthelmintic drugs (Stephenson, *et al*., 2000).In Rwanda community the disease is mainly contracted by families who fetch water from Lake Ruhondo and those who use the stagnant water from the former banks of the Mukungwa River (Jason Zimmerman, 2007). It was further revealed that people are drinking contaminated water and using it to wash their hands, dishes and fruits.

The study further shown that there are some people still defecate in the bush instead of using pit latrines (Jason Zimmerman, 2007). The study further indicate more that in Rwanda, the children at schools are administered with preventive medicine such as, albendazole and mebendazole under Deworming Campaign which reaches more than 395 million children in 2014 and marked to be among the largest global public health intervention (Jason Zimmerman, 2007).

Furthermore, Christopher Harerimana, a school teacher for more than 20 years in Musanze district in Rwanda, became worried about STH diseases in recent years (Montresor, 2015). Many of his students were coming to class ill and were having trouble and fail to concentrating with studies, and when sent to the Dispensary with their class teachers’ their diagnosis revealed the presence of a worms. The incidence made them difficult to follow the study. The Head Teacher took a follow up and later discovered that many of the children had soil-transmitted helminth infections, which impair long-term physical and cognitive development.

In 2007, nearly 95% of school-aged children in the Musanze district in Rwanda were infected, one of the highest rates in the country (Montresor, 2015).Moreover, a study conducted in Nigeria found that the prevalence of STH according to age group show that children from 7-10 years were highly affected by STH at 25.3% (Ojurangbe, Oyesiji, Odewale, Aefioye, Olowe, Opaleye, Bolaji, Ojurongbe, 2014).

# 2.6.3 Empirical Studies in Tanzania

The effect of soil-transmitted helminthes was seen in Tanzania since colonial government (Kihamia, 1977). The first report of intestinal helminthes was published in Tanga in 1917 by the civil medical services, which showed that soil-transmitted helminthes are prevalent in Tanzania. Since that time and subsequent years, the civil medical services continued to give information in the annual report of STH (Kihamia, 1977). Prevalence of soil-transmitted helminthes in Tanzania is high in some of the regions with favourable environmental conditions for growth and multiplication.

In some parts where regular chemoprophylaxis admission has being done the prevalence has being decreasing day after day. Study done by Kihamia, (1977) conducted to four communities in Kilimanjaro region showed that the prevalence of A. lumbricoides was 27.8%, T. trichuris was 23.1% and Hookworm was 3.88%. Moreover, Killewo, *et al*., (1991) studied patterns of Hookworm and Ascaris infection in Dar es Salaam and they reported that the prevalence of Hookworm was at 4% and Ascaris was at 7.1%. The study further revealed that the Prevalence of soil-transmitted helminthes is also high among primary school children. A study by Senkoro (1999) to school age children in rural areas of Kinondoni district in Dar es Salaam found that the prevalence of Hookworm, Ascaris and Trichuris were at 25.8% and 3.5% respectively.

Moreover, a study by Tarimo (1999), on the prevalence and intensity of soil-transmitted helminthes among primary school children and related factors in Temeke district, showed that the prevalence of Hookworm was 22.4%, Ascaris was 4.1%, Trichuris was 0.7%, while Strongyloides and E. vermicularis was at 1.7%. Also, a study by Dahoma (2000) in Zanzibar showed the prevalence of at least one species of soil-transmitted helminthes infection before treatment was 62%. A Study by Tatal, *et al*., (2008) in Tanga region shows that the prevalence of Hookworm in school children was at 68%. Another study by Mazigo, *et al,* (2010) who studied co-infections with Plasmodium falciparum, Schistosomamansoni and intestinal helminthes among school children in endemic areas of north western Tanzania found the prevalence of hook worm infection to be 38%. Jukes, *et al.,* (2002) did the study among primary school children in Bagamoyo and Kibaha district to find if heavy schistosomiasis is associated with poor short term memory and slower reaction times. Among other things they also examined the prevalence of Hookworm and other helminthes. The prevalence of Hookworm was found to be 12.4%.

Tarimo (1999) examined the soil samples in Temeke district and among 60 samples about 45% were found with STH larvae. The same study assessed knowledge of the children, 72.4% of them knew at least one transmission mode of soil-transmitted helminthes. Awareness increased with age, and it was not statistically significant difference between male and female school children in the awareness of geohelminths transmission. In some district the prevalence of STH was found to be 0.9%.5 out of 549 children who were tested, were found infected with STH in which most of them were affected by ascaris, lumbricoides and hook worm (Munisi,2012).

# 2.7 Knowledge Gap

From the literature reviewed so far, it show that although some studies exist such as those of Silva (2008), Ogbe (2002), Kunwar, Chapagain, Subba, Shrastha, Subeli, Blangero, William-Blangero (2006), WHO (2006), Hall (1993), Stephenson (1994), Stephenson (2000), Montresor (2015), Ojurangble, Oyesiji, Odewale, Aefioye, Olowe, Opaleye and Bolaji (2014); Kihamia (1977), Kilewo (1991), Senkoro (1999), Tarimo (1999), Dahoma (2000), Tatal (2008), Mazigo (2010), Jukes (2002) as well as Munisi (2012), most of these studies are not focused on developing countries. However studies in Tanzania and Shinyanga District Council in particular. No study has been concluded on Parents’ knowledge, attitude and practices about Soil, Transmitted, Helminthes. Therefore the present study intend to fill the identified gap by looking on the knowledge, attitude and practices among children about soil-transmitted helmianthiasis for school children in Shinyanga District Council.

# CHAPTER THTREE

# RESEARCH METHODOLOGY

# 3.1 Introduction

This section gives details on the methods and materials that used in the study as well as the instrumentation for data collection. It explained the research design, study area, methods of data collected and procedure of obtaining and analyzing data from the area of study.

# 3.2 Research Approach

This study used qualitative approach as the main method, which, investigated the why and how the problem existed, and quantitative approach in a number of contexts. However, quantitative techniques applied in this study to show the magnitude of the problem as well as some responses presented in terms of numbers and percentage. Therefore this research study adopted a mixed approach.

# 3.3 Research Design

According to Kothari (2004), a research design refers to systematic arrangements and strategies of investigation in order to collect and analyze data. Best and Khan (1993) also assert that a research design helps in structuring and collecting, analyzing and interpreting data. The research design employed for this study was descriptive survey. Frankel and Allen (2000) define descriptive survey as a research study, which describes existing conditions without analyzing the relationship among the variables. However there are some characteristics of descriptive survey as identified by Jones and Moore (1995) such as it often employs method of randomization so that error may be estimated when population characteristics are inferred for observation principles; it uses the logical methods of inductive-deductive reasoning to arrive at generalization and it deals with phenomenon as they exist and does not attempt to alter anything documentary.

# 3.4 Study Area

Shinyanga rural district Council is one of the four districts in the Shinyanga region. Other’s including Shinyanga Municipal, Kishapu and Kahama. Shinyanga rural district Council was selected because it is one among the districts in Tanzania with history of high prevalence of soil-transmitted helminthes (STH). For instance Shinyanga district council was found with highest prevalence of STH at 30.3% (Parasitol, 2015). According to the 2012 census, Shinyanga district council has a population of 334,417 people with an annual growth rate of almost 2%. The district is relatively large covering an area of 4,212 sq. kms and has 16 wards.

# 3.5 Study Population

The study population will include all standard I – V primary school children, all school head teacher, all standard 1-V teachers, all ward educational officers, all parents around the schools and district educational officer in Shinyanga rural district. Standard I-V children were chosen because of their age since soil transmitted helminthes reach its maximum intensity at the age of 5-10 years and from school records most of the children falling in that range are those in standard I-V.

# 3.6 Sample and Sampling Procedure

# 3.6.1 Sampling Procedures

Sampling technique defined as a process of selecting a number of respondents for a study in such a way that respondents presented the larger group from which they were selected (Kumar, 1999). This study involved both purposive sampling to have an intended appropriate sample of the study and simple random sampling in specifically selecting students the chosen schools to avoid bias.

# 3.6.2 Sample

The sample for this study was include five (5) schools and 100 participants, constituting of parents (n= 40), district primary educational officer (*n*=1), ward educational officer (*n*= 03), standard I-V teachers (*n*=10), as well as school head teachers (*n*=05). Moreover, the sample for the present study was also involved standard 1-V pupils (*n= 42*). Parents was considered in the study since they were the one living with children therefore they could have enough information about STH in relation to their children. The Shinyanga district council educational officer (DEO) included in the present study due to his /her role of administering all educational matters in the district particularly on primary education. Moreover, the ward educational officers (WEOs) were included in the study because of their roles as supervisor of ward education matter, including different issues that took place in the schools within the ward. Standard I-V pupils were included in the sample so as to get information on how they have affected by STH.

# 3.6.3 Selection of Villages

The study used simple random sampling to select five villages out of nine villages, which are Isela, Ishinabulandi, Samuye, Singita, Tinde, Kituli, Didia, Kaselya, Bugogo. In order to get the expected number of villages pieces of paper with names of villages was prepared and divided into nine equal pieces. After names of the villages have been written in each small piece of paper, each paper folded and then assembled together in a box. Then after, the box was shaken thorough and one piece of paper picked from the box at random and a name of the village was identified and noted. There after the procedure continued until the required number of required village for the study obtained.

# 3.6.4 Selection of Schools

The simple random sampling was applied during the selection of the schools where by the required number of schools was picked randomly from the list of schools that were obtained from the Shinyanga rural district education office.

# 3.6.5 Selection of Standard I-V Pupils

In this stage the study employed purposive sampling to select standard I-V pupils from each school and then after simple random sampling was applied in order to get the required number of pupils that represented the targeted population. The reason for considering the indicated pupils was that soil transmitted helminthes infection reaches its maximum intensity at the age of 5-10 years (Grang *et al.,* 2003) and from the school records, the age of standard I-V fall under the noted range.

# 3.7 Data Collection Methods

This research study will use a semi-structured interview and self-administered questionnaire as well as Focus group discussion as a research instruments for data collection.

# 3.7.1 Interviews

The open and closed question was used to collect data from Shinyanga district council educational officer (n=1), Ward educational officer (n=03), School head teachers (n=05), Standard I-V teachers (10) and standard I-V pupils (n=10). The interview took an average of 15 minutes for every respondent and the information obtained recorded using digital voice recorder and some of them was noted in the researcher’s field notes.

# 3.7.2 Questionnaires

In this study, questionnaires used to obtain data from parents (n=42). Parents’ questionnaires involve closed and open ended questions so as to obtain information with regard to the study.

# 3.8 Pre-Testing of Research Tools

Prior to the data collection, pre-testing of questionnaires did in one of the Primary School in Shinyanga District Council so as to check the clarity and authentistic of questions suitable for collecting the required information from the field. Thereafter, amendments of the questionnaire made in order to remove some doubt that appeared in the questions and make more understandable to the respondents.

# 3.9 Data Analysis Procedures

The qualitative data was analysed by using content analysis. On the other hand, the quantitative data collected through questionnaire analysed through Statistical Package for Social Science (SPSS) version (22.0). Hence the collected data was edited during and encoding. The intention of using SPSS was to enable the researcher to come up with frequencies and percentage from the analysed data.

# 3.10 Validity and Reliability of Instruments

According to Knortz (2009) Validity and Reliability are the common terms used to designate test accuracy and consistence. According to Yin (1994) refers to measurement of what is supposed to be measured in the conformity to research objectives, Moonga (2007) considered as the correctness of the measurement as intended.

Reliability on other hand concerned with making sure the method of data gathering like, Questionnaire that lead to consistence results Yin (1994) were used in the study were tested for validity and reliability at Ilobashi Primary Schools. This was found in the same area where the study was conducted. The process helped to make modifications in the questionnaire and modality of the interviews as well. This institution used in the testing of instrument were not included in the sample of the study.

# 3.11 Ethical Consideration

In ensuring ethics, the clearance letter obtained from the Research and Publication Committee of the Open University of Tanzania. Moreover, Permission to conduct the study at Shinyanga District Council also obtained from District Executive Director, and District education Officer. Furthermore, all information that obtained from the participants treated confidentially. Never the less, before conducting interview and FGD the researcher asked permission from the respondents to obtain their details so to be used when the researcher is seeking for more explanation. Also, the respondents assured that informations collected, were used for the intended research purposes (Academic matters) and not otherwise. Furthermore, the researcher did not use the real names of the respondents and areas where the study took place like schools and wards but letters and number codes used so as to show their identity.

# CHAPTER FOUR

# RESULTS AND DISCUSSION OF FINDINGS

# 4.1 Characteristics of the Respondents

This chapter presents the results analysis and interpretation of data based on the background characteristics of respondents such as age, sex, marital status, education level and occupation; to assess the knowledge, attitude and practices among children about soil-transmitted helminthiasis for school children in Shinyanga Rural District.

# 4.1.1 Age of the Respondents

Results as presented in (Table 4.1) shows that highest proportion of the respondents (40%) were aged between 15 and 25this indicates that majority of respondents were teenage mother who one way or the other lack health education, (30%) of respondents were between 26 and 35years, on the other hand, (20.8%) of the respondents were aged between 36 and 45 and (8.3%) were between 46-65 years of age.

# 4.1.2 Sex of the Respondents

Result from the study further reveals that majority (75.1%) of the respondents was female and (24.9%) was male.

The fact that majority of women were involved in this study is attributed by the number of reasons such as `women are more aware of soil-transmitted helminthiasis compared to their counterpart also a lot of men were not at home during enumeration scheduled time and some men refused to participate in the study and insist that their wives should enumerated.

# 4.1.3 Marital Status of the Respondents

Results from this study provide marital status of the respondents. The finding in Table 1 indicates that majority (43%) of the respondents were single, (39.2%) were married,(6.8%) were widow/widower, (11%) were separation and divorced respectively.

# 4.1.4 Main Occupation of the Respondents

The results on the main occupation of the respondents also shows that majority (63.3%) of the respondents were engaging in farming activities and animal husbandry while (30.8%) were in business and petty traders and only (6.9%) of the respondents were formally employment.

# 4.1.5 Education Level of the Respondents

Majority (48.3%) of the respondents had primary level of education, (35%) completed secondary education, (11.6%) were post secondary education and very few (5%) had attained not attended school.

Table 4.1: Characteristics of Respondents (N=120)

|  |  |  |
| --- | --- | --- |
| **Respondents characteristics** | **Frequency** | **Percentage** |
| **Age** |  | |
| 15-25 | 48 | 40 |
| 26-35 | 36 | 30 |
| 36-45 | 25 | 20.8 |
| 46-65 | 11 | 9.2 |
| **Sex** |  | |
| Female | 91 | 75.8 |
| Male | 29 | 24.2 |
| **Marital status** |  | |
| Single | 52 | 43.3 |
| Married | 47 | 39.2 |
| Widow/widower | 8 | 6.7 |
| Separation/Divorced | 13 | 10.8 |
| **Occupation** |  | |
| Farmer/animal husbandry | 74 | 61.7 |
| Business/petty traders | 37 | 30.8 |
| Formal employment | 9 | 7.5 |
| **Education level** |  | |
| Primary | 58 | 48.3 |
| Secondary | 42 | 35 |
| Illiterate | 6 | 05 |
| Post-secondary | 14 | 11.6 |

# 4.2 Prevalence of soil-transmitted Helminthes in Primary School

In the objective number one the study required to determines the prevalence of soil-transmitted helminthes in Primary School children in Shinyanga Rural District.

# 4.2.1 Awareness of Soil-transmitted Helminthes

The findings in Table 4.2 reveals that (49.2%) of the female respondents were aware of STH disease compared to their counterpart males (16.7%) while (21.7%) of female respondents were not aware while (12.7%) of male respondents were also not aware. This implies that women are more aware on STH services compared to men. Regardless of this a chi-square test revealed that there was statistical significant influence of sex on awareness on STH disease at (χ2=27.348) and (p<0.001).That is to say, from the point of study male were still dominating with the cultural belief that they are less concerned to handle care as their children.

This result implies that the men have left all responsibility of health condition to their wife and if this trend continues for long time, women will be overwhelmed with many responsibilities. Therefore, men should be informed that both men and women have equal responsibility to take care of the health conditions of children in their family.

The results further indicates that (21.7%) of the respondents aged between 15 and 25 years were aware of STH while (18.3%) were not aware of STH disease under this age category. Very few (0.8%) of the respondents aged between 46-55 were aware while (8.3%) this age category were not aware of STH disease. However, a chi-square test show that there was no statistical significant relationship between the age of respondents and awareness on STH disease awareness at (χ2=5.462) and (p>0.05).

The finding reveal that (25%) of married respondents were aware of STH disease while (25%) of single family respondents were not aware. This imply that respondents who are married get support of health services from their partners and hence create the level of aware in STH disease. Furthermore, chi-square test indicate that there is statistical significant influence of marital status on awareness on STH awareness at (χ218.99) and (p<0.01).

Finding in Table 4.2 show that (30.8%) of the respondents who completed primary school education were aware of STH, (2.5%) of illiterates respondents also were aware,(10.8%) of the post secondary education were not aware of STH disease. Nevertheless, a chi-square test reveal that there is no statistical significant influence of educational level of the respondents on STH awareness at (χ27.024) and (p>0.05).

Table 4.2: Awareness of Soil-transmitted Helminthes (N=120)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Demographic characteristics | | Aware | | Not Aware | | Χ2 | p-value |
| n | % | n | % |
| Sex | Male | 20 | 16.7 | 15 | 12.5 | 27.438 | 0.001\*\*\* |
|  | Female | 59 | 49.2 | 26 | 21.7 |  |  |
| Age | 15-25 | 26 | 21.7 | 22 | 18.3 | 5.642 | 0.141 |
|  | 26-35 | 24 | 20 | 12 | 10 |  |  |
|  | 36-45 | 15 | 12.5 | 10 | 8.3 |  |  |
|  | 46-55 | 01 | 0.8 | 10 | 8.3 |  |  |
| Marital Status | Married | 30 | 25 | 17 | 14.2 | 18.996 | 0.000\*\*\* |
|  | Single | 22 | 18.3 | 30 | 25 |  |  |
|  | Widow/Widower | 5 | 4.2 | 3 | 2.5 |  |  |
|  | Divorce/Separation | 09 | 7.5 | 04 | 3.3 |  |  |
| Education Level | Illiterate | 03 | 2.5 | 03 | 2.5 | 7.024 | 0.071 |
|  | Primary Ed | 37 | 30.8 | 21 | 17.5 |  |  |
|  | Secondary Ed | 32 | 26.7 | 10 | 8.3 |  |  |
|  | Post Secondary Ed | 01 | 0.8 | 13 | 10.8 |  |  |
| Occupation | Farmer | 57 | 47.5 | 17 | 14.2 | 9.465 | 0.009 |
|  | Business | 28 | 23.3 | 9 | 7.5 |  |  |
|  | Formal Employed | 08 | 6.7 | 01 | 0.8 |  |  |

The findings show that (47.5%) of the respondents engaged in farming are aware of STH while (14.2%) were not aware, (23.3%) of respondents engaged in business were aware and (7.5%) were aware not aware while (6.7%) were aware and very few (0.8%) were not aware of STH disease. These findings are in line of chi-square test show that there was no statistical significant influence of occupation of the respondents on awareness of STH at (χ2 9.465) and (p>0.05). This imply that some of parents who are involve in agricultural activities.

# 4.3 Means of Knowledge about Soil-Transmitted Helminthes

The findings in Figure4.1 show that about half (45.8) of the respondents get to know about Soil-Transmitted Helminthes through neighbours, (43.3%) of the respondents through mass media, very few (5.8%) through health centres and (5%) through seminars. This implies that neighbors and mass media are the main source of awareness of soil-Transmitted Helminthes in surveyed villages.

Figure 4.1: Means of Knowledge about Soil-Transmitted Helminthes (N=120)

This study corroborate with Jean and Chris (2011) who were in view that mass media to the most tool for community awareness in terms of causes, signs, effects, prevention and cure of particular disease hence the effect of media coverage cannot be underestimated as a tool which create community awareness.

# 4.4 Age Most Affected by Soil-Transmitted Helminthes

The study in Table 4.2 show that majority (66.7) of the respondents between 7 and 10 years old were found to be victim of Soil-Transmitted Helminthes, (18.3%) of the respondents affected were between 10 and 15 age, (10%) were above 15 years and (6%) of respondents were less than 7 years old. This implies that most children in standard I and II are the victim of STH based on the study results.

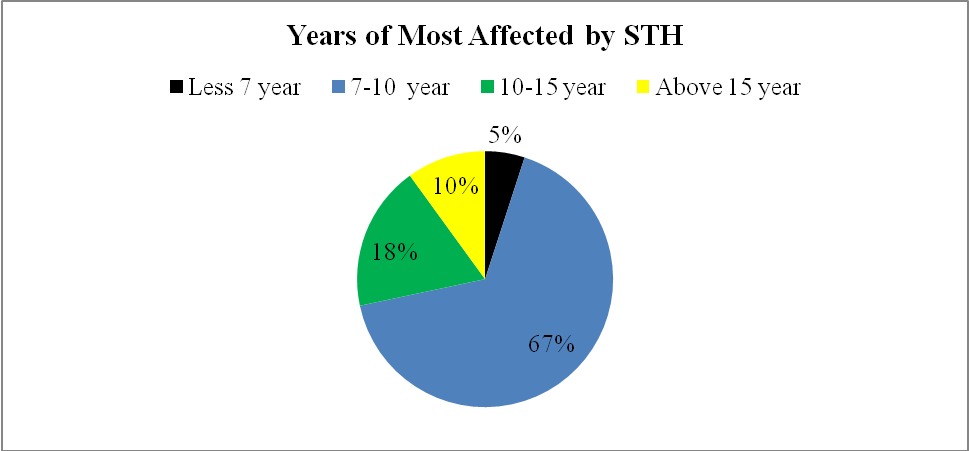
****

Figure 4.2: Age Most Affected by Soil-Transmitted Helminthes (N=120)

# 4.5 Cause of Soil-Transmitted Helminthes

The finding in Table 4.3 shows that almost half (42.5%) of the respondents reported eating contaminate food, (25%) of the respondent reported eating without washing hands, (25%) walking through bare feet and very few (7.5%) drinking un boiled water.

The majority come up with a statement that Children are very troublesome in terms *of maintaining hygien, they normally insisted them to wash hands before eating and wash some fruits before eating them but it has become very hard for them to follow.*

The result in Table 4.3 reveals(25%) that eating without washing hand and walking with bare feet are equal contributing to Soil-Transmitted Helminthes in surveyed village and schools. This finding corroborate with the study by Grang *et al*., (2003); Jurg, U and Jenifer, K, (2005) that parasitic worms normally caught easily by walking bare foot on the contaminated soil or eating contaminated food. Due to shortage of safe water, poor economic status and poverty the disease affect much individual with such life standard found into the area.

This study is in line with the study by Shumbej, *et al,* (2015) who reported that Soil-transmitted helminths (STH) are among the most common chronic infections affecting poor people whereas most of the victims suffer from severe morbidity attributed to STH infections.

Table 4.3: Cause of Soil-Transmitted Helminthes Disease(N=120)

|  |  |  |
| --- | --- | --- |
| **Causes of STH** | **Frequency** | **Percent** |
| Contaminated food | 51 | 42.5 |
| Eating without washing hands | 30 | 25.0 |
| Un boiled water | 9 | 7.5 |
| Bare feet | 30 | 25.0 |

In Table 4.4 the finding show that very few (7.5%) of the respondents reported that un boiled water to be the causative for Soil-Transmitted Helminthes infection in surveyed villages and schools. This implies majority of the people in this study do not use clear safe water and the water sources are contaminated with pollutants.

# 4.6 The Extent of Diseases among Primary School Pupils

The result in Table 4.5 indicate that about half (47.50%) of the respondents argue that the infection of STH is moderate in surveyed school, (30%) argue that the infection is high and (27%) of the respondents argue that the infection of Soil-Transmitted Helminthes were found low.

Table 4.4: Extent of Diseases among Primary School Pupils (N=120)

|  |  |  |
| --- | --- | --- |
| **The extent of Diseases** | **Frequency** | **Percent** |
| Highly | 36 | 30.0 |
| Moderate | 57 | 47.5 |
| Low | 27 | 22.5 |

# 4.5 Medicine for Soil-Transmitted Helminthes

In Table 4.5 the study show that majority (59.3%) of the parents use Albendazole, (28.3%) were not aware of the treatment and very few (12.5%) Soil-Transmitted Helminthes in the treatment of Soil-Transmitted Helminthes. This implies that Albendazole is the famous medication for Soil-Transmitted Helminthes infection in surveyed school and villages compared to other medicine.

Table 4.5: Medicine for Soil-Transmitted Helminthes (N=120)

|  |  |  |
| --- | --- | --- |
| **Medication** | Frequency | Percent |
| Albendazole | 71 | 59.2 |
| Mebendazole | 15 | 12.5 |
| not aware | 34 | 28.3 |

# 4.7 Risk Factors Associated STH Infection among Primary School

In the objective number four the study needed to identify risk factors associated with soil-transmitted helminthes infection among Primary School children. The finding in Table 4.6 indicate that (35.8%) of the respondents were in view that physical growth was one of the associated risk factor of STH infection in primary school, (32.5%) of the respondents argue that cognitive development is also one of the risk factor associated with STH in primary school. This implies that children will perform poorly in school because of physical and cognitive development of children. This study concurs with the study by WHO (2012). Who were in view that Soil-transmitted helminths are a major public health problem in tropical and sub-tropical countries, affecting the physical growth and cognitive development in school to school children.

Table 4.6: Risk Factors Associated STH Infection among Primary School (N=120)

|  |  |  |
| --- | --- | --- |
| **Risk Associated STH** | **Frequency** | **Percentage** |
| Physical growth | 43 | 35.8 |
| Cognitive development | 39 | 32.5 |
| Death | 5 | 4.2 |
| Sickness | 16 | 13.3 |
| Dropout | 4 | 3.3 |
| Absenteeism | 13 | 10.8 |

# 4.8 The Collaborative Effort between Researchers and the Government

Several researches did in Rwanda including the research did by Christopher Hererimana, the Government resulted to Deworming campaign that is the supplying of mebendazole to school children annually.

In Tanzania the study made by The Tanzania Partnership for Child Development (1998),extensive operational research and teacher training to administer albendazole to treat intestinal nematodes in the Country.

Through that effort the Tanzania Government engaged to the campaign known as National aschistomiasis and Soil Transmitted Helminthiasis (NSSP),by the implementation strategy using large scale Mass Drug Administration (MDA) (2006). From all these studies and efforts people seen to continue with their attitude and behaviours. Behaviours like defecating in the bush drinking un safe water and so on aas the major agent to the disease.

The current study which intended to harmonise Parents with knowledge, the element which insist on the change of behavior, Attitude and Practices building and the use of pit latrines it is going to be possible. A restriction from the culture on sharing a toilet with un related daughter or mother in law to some beliefs.

The effort from the Government I expect these villages may be furniture’s with safe water supply, Electricity and other infrastructures for the betterment of the living standard. Also a study by Dahoma (2000) in Zanziba showed that the prevalence of STH before treatment was 62% so it justifying that when a research is done then the Government took measures to fight against the disease.

# CHAPTER FIVE

# SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

# 5.1 Summary of the Study

The summary presented, explaining the research problems, review of the related literatures to the problem, methodology and the major findings of the study. The study was conducted to assess the parental knowledge, Attitude and practices about STH infection for School children in Shinyanga district Council, the disease caused by STH seen from developed countries like America, China, Asia and elsewhere. African countries and in Tanzania. In Tanzania reported since colonial time by civil medicine services, justified by Kihamia 1977.

At schools, 10 boys and 10 girls 4 pupils from each class from Std I to 5 were randomly selected for interview. Few selected teachers were engaged in interview and asked to explain how they addressed students’ awareness, on STH infection e.g. swimming in ponds and knowledge and skills explored by the teachers’ on the way of distributing the pills during vaccinating students.

The risk factors shown from the study is poor physical growth, poor cognitive development, severe aenemia and eventually death. From the above statement teachers were informed to bring patient teaching and learning to the mixed class.

The study investigated condition favourable to spreading of worms are poor sanitation, Attitude, poor practising, drinking water from the poor sources of water like ponds and without boiling themal so defecating in the bushes.

The study concluded by giving out conclusions and recommendations for policy makers to formulate favourable policies to solve the problems. A framework for further researches which the study could be the source. Education stakeholders for curriculum contents, and Planners for the construction and reconstruction of different infrastructures.

A qualitative research approach was employed with little quantitative aspects. The studied population was a school community and some nearby community members in Shinyanga District Council, Purposive sampling, stratified sampling, simple random, systematic and convenience sampling were the techniques used to obtain a sample of this study. The sample included231 respondents which constituted 100 students, 20 teachers, 5 WEO,1 DEO, parents of students and 2 environmental officers in Korogwe district. The instruments used in data collection were questionnaire, interview guides, observation guides and. Data was analyzed using SPSS content analysis and descriptive analysis while summarized information were presented through tables and figures.In a family especially those who are married, the women seen to be more aware with STH compared to their husband.

# 5.2 Conclusions

The overall conclusions are based on the objective of the study which is;*to assess the knowledge, attitude and practices about Soil-transmitted Helminthiasis among primary school children in Shinyanga District* Council The findings of the study indicate that some variables of the study affect the knowledge as well as attitude of the community. These included; age, sex, marital status, education and occupation.The empirical findings which are necessary inputs to policy makers and being used by private organizations and government to use them to design and implement programs that can address the infection of STH in schools and household level. This chapter presents, conclusion from the findings, recommendations and suggestions for further research.

Based on the empirical finding of this study it shows that about half of parents are aware of STH diseases infection. It is concluded that if mass media and local community continue to offer the information about STH, in long run majority of the parents and other community members will be informed about diseases infection.

Based on the result implies that the men have left all responsibility of health condition to their wife. This study concludes that if trend continues for long time, women will be overwhelmed with many responsibilities. Therefore, men should be informed that both men and women have equal responsibility to take care of the health conditions of children in their family.

Based on the finding, which shows that almost half of the respondents reported that contaminate food and eating without washing hands were the main causes of the STH infection. This study conclude that if parents will not take responsibility of children care STH disease will continue take it pace. This study conclude that the STH infection will continue disturbing most parents since the responsibility taking for the children in most household has been left to house helper who are sometimes not serious with the well being of the children.

Based on the finding Soil-transmitted helminths (STH) are among the most common chronic infections affecting poor people whereas most of the victims suffer from severe morbidity attributed to STH infections. This study concludes that poor family are being affected by STH because of income poverty in their household.

Based on the results that physical growth and cognitive development were among associated factor of STH infection in primary school. This study concludes that if these challenges are not eliminated soon, most children affected by STH will be facing learning difficulty because of regular sickness.

# 5.3 Recommendations

# 5.3.1 Recommendations for Action

In the right of the conclusion, this study recommends the following to the various relevant stakeholders for action.

1. Regarding the conclusion that mass media and local community continue to offer the information about STH. This study recommends that government ministry to create more awareness of STH infection through seminars and public announcement in the health centres to allow majority of community members to be aware of disease infection.
2. Based on the conclusion that the disease sometimes is associated with poor hygiene. This study recommends that, school teachers in their respective school to ensure the environment are properly kept accordingly. The toilets should be regular checked if their clear to avoid the disease contamination.
3. Based on the conclusion that if parents do not take responsibility of children care and STH disease will continue take it pace. This study recommends that, parents should teach children on the proper hygiene to their children so that to prevent pupils from eating and drinking contaminate food in their household level.
4. This study recommends that further research should be conducted on the contribution of annual STH vaccination in primary school children in Tanzania.

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# APPENDICES

Appendix I: Structured Questionnaire for Parents

**Dear Parents**

I am Saleh Mrisho Sizya pursuing Masters of Education Planning and Policy Studies (MED APPS) at The Open University of Tanzania. Your has been chosen randomly to provide information about the knowledge, attitude and practices among children about soil-transmitted helminthiasis for school children in Shinyanga Rural District. Your opinions will help Government ministries, Researcher, Educational stakeholders, and Policy maker to find identify the priority problem on pupils school progress and come out with some strategies to enhance pupil’s school progress in Tanzania. This is just a survey, there is no right or wrong answer, and furthermore it’s not a test. All information you give will be treated with **STRICT CONFIDENTIAL**. Please do not write your name in this questionnaire.

**Fill the blank, circle or tick where appropriate**

Personal Characteristics of Respondents

|  |  |
| --- | --- |
| **Respondents characteristics** | **TICK** |
| **Age** |  |
| 15-25 |  |
| 26-35 |  |
| 36-45 |  |
| 46-65 |  |
| **Sex** |  |
| Female |  |
| Male |  |
| **Marital status** |  |
| Single |  |
| Married |  |
| Widow/widower |  |
| Separation/Divorced |  |
| **Occupation** |  |
| Farmer/animal husbandry |  |
| Business/petty traders |  |
| Formal employment |  |
| **Education level** |  |
| Primary |  |
| Secondary |  |
| Illiterate |  |
| Post-secondary |  |

**A: Prevalence of soil-transmitted Helminthes in Primary School**

1. What is your awareness of Soil-transmitted Helminthes?

|  |  |  |  |
| --- | --- | --- | --- |
| **Demographic characteristics** | | **Aware** | **Not Aware** |
|  |  |
| Sex | Male |  |  |
|  | Female |  |  |
| Age | 15-25 |  |  |
|  | 26-35 |  |  |
|  | 36-45 |  |  |
|  | 46-55 |  |  |
| Marital Status | Married |  |  |
|  | Single |  |  |
|  | Widow/Widower |  |  |
|  | Divorce/Separation |  |  |
| Education Level | Illiterate |  |  |
|  | Primary Ed |  |  |
|  | Secondary Ed |  |  |
|  | Post Secondary Ed |  |  |
| Occupation | Farmer |  |  |
|  | Business |  |  |
|  | Formal Employed |  |  |

**B: Means of Knowledge about Soil-Transmitted Helminthes**

1. **What is the cause of Soil-Transmitted Helminthes (N=120)**

|  |  |  |
| --- | --- | --- |
| Causes of STH | Yes | No |
| Contaminated food |  |  |
| Eating without washing hands |  |  |
| Un boiled water |  |  |
| Bare feet |  |  |

## The Extent of Diseases among Primary School Pupils

1. In your view what is the extent of disease in your village?

|  |  |
| --- | --- |
| **The extent of Diseases** | **Tick** |
| Highly |  |
| Moderate |  |
| Low |  |

**4.5 Medicinefor Soil-Transmitted Helminthes**

**i. What is frequent medication does your children takes normally?**

|  |  |
| --- | --- |
| **Medication** | **Tick** |
| Albendazole |  |
| Mebendazole |  |
| not aware |  |

**C: Risk Factors Associated with STH Infection among Primary School Children**

1. **What are the associated STH Infection among Primary School Children**

|  |  |  |
| --- | --- | --- |
| **Risk Associated STH** | **Yes** | **No** |
| Physical growth |  |  |
| Cognitive development |  |  |
| Death |  |  |
| Sickness |  |  |
| Dropout |  |  |
| Absenteeism |  |  |

**THANK YOU FOR COOPERATION!**

Appendix II: Checklist for Key Informant

1. Do you know the meaning of STH?

2. Are you aware of STH in your village?

3. What do you think is the causes of STH your village?

4. How did you know the presence of STH in your village?

5. What measures do you take to alleviate this disease?

6. Is there any governmental or NGOS support about STH diseases infection in your village?

7. In your view what measures do you suggest to be taken by difference stakeholders to address STH diseases in your village?

**THANK YOU FOR COOPERATION!**