ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

Knowledge, Compliance, and Hygiene Practices of Teachers and Parents Associated with the Prevalence of Soil-Transmitted Helminthiasis Amongst Preschool-Age Children in the Daycare Centers of Legazpi City

Fulbert Alec R. Gillego, RMT, MD
Ago Medical and Educational Center, Legazpi City, Philippines
Corresponding Author e-mail: fulbertalecrgillego@gmail.com

Received: 13 August 2024 **Revised**: 14 September 2024 **Accepted**: 16 September 2024

Available Online: 16 September 2024

Volume III (2024), Issue 3, P-ISSN – 2984-7567; E-ISSN - 2945-3577

Abstract

Aim: The study identified the profiles of teachers and parents as to age, sex, educational attainment, and family income, in association with their knowledge on Soil-Transmitted Helminthiasis (STH), including its signs, symptoms, and nutritional implications and their compliance on deworming program. Additionally, it assessed the adherence of preschool-age children (PSAC) on hygiene practices, along with the prevalence of STH enrolled in the daycare centers in Legazpi City.
Methodology: A descriptive-correlational design was used and the data were gathered through a survey questionnaire. There were two groups of respondents used in the study, the parents (respondents-A) and daycare teachers (respondents-B) while the preschool-age children as subjects. The number of respondents were determined as follows: for respondents-A, the population size was trimmed down using SLOVINs formula while respondents-B were identified through total enumeration of all the daycare centers. While total enumeration for respondents-B was done. Survey questions were used and focused on the respondents' knowledge of STH, compliance with deworming schedules, and issuance of parental consent, and looked into the hygiene practices of PSAC on handwashing, bathing, nail clipping, and footwear use in relation to STH. Statistical tools used in the analysis included frequency count, weighted mean, percentages, rank order, and Kendall coefficient of concordance W, along with the Chi-square test.
Result: The results showed that both parents and daycare teachers were knowledgeable about soil-transmitted helminthiasis (STH). However, daycare teachers exhibited greater compliance to the deworming program and adherence with personal hygiene practices compared to parents.
Conclusion: The study suggests that the proposed intervention plan is expected to further improve the adherence to hygiene practices of daycare children and compliance of parents and teachers to the deworming program. Enhancing these factors could play a significant role in reduction of spread and occurrence of STH and other related illnesses among daycare children.

Keywords: Hygiene, Preschool-Age Children, Soil-Transmitted Helminthiasis, Level of Knowledge, Level of Compliance.

INTRODUCTION

Soil-transmitted helminthiasis (STH) remains a significant global health issue, particularly affecting preschool-age children in low- and middle-income countries. STH infections, primarily caused by Ascaris lumbricoides, Trichuris trichiura, and hookworms (Necator americanus and Ancylostoma duodenale), are prevalent in areas with poor sanitation, inadequate hygiene practices, and limited access to clean water. According to the World Health Organization (WHO), over 1.5 billion people, or 24% of the world's population, are infected with soil-transmitted helminths, with the highest burden of infection found among children in developing regions (WHO, 2019).

Preschool-age children (PSAC) are particularly vulnerable to STH infections due to their frequent contact with contaminated soil and limited personal hygiene awareness. The consequences of untreated STH infections in children include malnutrition, impaired cognitive development, anemia, and reduced physical growth, which can severely impact their

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

educational performance and overall well-being (WHO, 2017). The World Health Assembly has set a target to eliminate STH as a public health problem in preschool and school-age children by 2030 through periodic deworming, hygiene education, and improved sanitation (WHO, 2020).

The Soil-Transmitted Helminthiasis Control and Prevention Program in the Philippines is still one of the most neglected programs in comparison to other infectious disease programs for health. The prevalence rate of these parasitic infections in the different regions of the country remains significantly high, despite the existence of the program for several years. The goal of the National Program is to control and reduce the prevalence of these parasites, which may lead to the elimination of worms that affect a multitude of children in the country.

The most common documented soil-transmitted helminths in the country were the following roundworms (nematodes): Ascaris lumbricoides (giant intestinal worm), Trichuris trichura (whipworm), and hookworms (Necator americanus and Ancylostoma duodenale). These are collectively called intestinal roundworms because these colonize the intestines. Further, this group is transmitted in the same manner via oral route thru fecal contamination from the soil.

Presently, the National Program on Deworming of the DOH has two components: the Community-Based Deworming (CBD) Program, which covers preschool-age children (PSAC) from 1 to 4 years old, and the School-Based Deworming (SBD) Program, which covers school-age children (SAC) ages 5 to 14 years old. This strategy is done to focus the implementers of the program according to the age group targets.

For the CBD Program, the LGU, through the Legazpi City Health Office, is supervised by the nutrition officers (NOs), handled by the daycare teachers, and with the help of Barangay Nutrition Scholars (BNS). Their targets for the program are preschool children from 1 to 4 years old attending daycare classes in the barangay. While the SBD Program on the other hand, is under the Department of Education (DepEd) through its school teachers with the help of the school nurses under the supervision of the school heads and principals. Together, they handle the SBD program, which covers school-age children ages 5 to 14 years old.

In Legazpi City, Albay, the acceptance of the program is still very low while the burden of the disease remains high amongst PSAC, as reflected in their annual accomplishment of the deworming program. Thus, there is a need to establish the factors associated with the prevalence of soil-transmitted helminthiasis among this age group. More importantly, this infection also occurs amongst the other vulnerable groups of the population, namely: malnourished children and other high-risk groups like pregnant women, postpartum women, adolescent girls, farmers, the military, and the indigenous people (IP). Thus, the reduction in the prevalence of these parasitic worms can lead to better outcomes in school performance and an improvement in nutritional status, particularly iron-deficiency anemia, in this age group.

In the latest submitted annual report of the Nutrition Division of Legazpi City Health Office for three (3) consecutive years on the Accomplishment Report on Community Based Deworming from 2017-2019, were as follows: in 2017 (66.88%), in 2018 (77.52%), and in 2019 (78.99%). The Annual Accomplishment Report of the deworming in Legazpi City was still way below the target. On the other hand, the School-Based Deworming Program accomplishment report for the same period for three years, was likewise low. The report showed as follows: in 2017 (63.53%), in 2018 (44.68%), and in 2019 (42.6%). Thus, there is a need to establish the associated factors in the occurrence of these parasitic infections amongst preschool children in Legazpi City. Better understanding of the problems encountered in the implementation of the program, will improve the compliance and may lead to a better outcome for the community.

To achieve these objectives, the LGU has adopted the National Deworming Program of the DOH as one of its priority programs for child health, targeting the improvement of the nutritional status of these children. The Community-Based Deworming Program is handled by the Legazpi City Health Office (LCHO) in partnership with the City Social Welfare and Development Office (CSWDO). It is anchored to the latest DOH Admin Order No. 2016-0212 (Jun 1, 2016) Guidelines on the Implementation of the Harmonized Schedule and Combined Mass Drug Administration (HSCMDA) for the Prevention and Control of Lymphatic Filariasis, Schistosomiasis, and Soil-Transmitted Helminthiasis, which incorporated the neglected tropical disease control programs into the primary health care services together with the vaccination campaigns and other existing programs for greater coverage on deworming and reduced its operational cost.

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

Objectives

This study aimed to determine the profile, knowledge, compliance, and hygiene practices of daycare teachers and parents associated with the prevalence of soil-transmitted helminthiasis in preschool-age children in the daycare centers of Legazpi City.

Specifically, it sought to answer the following:

1. What is the profile of the respondents as to age, sex, educational attainment, and monthly earnings?
2. What is the level of knowledge of the respondents about soil-transmitted helminthiasis, along with?
    a. General knowledge about soil-transmitted helminthiasis,
    b. Knowledge of its signs and symptoms,
    c. Effects on the bodies of the children, and
    d. Effects on the nutritional status of the child.
3. What is the level of compliance of the respondents to the deworming program along with?
    a. Schedule of the Deworming Program,
    b. Drugs (deworming tablets) used in the program and
    c. Giving consent for the deworming problem.
4. What is the extent of personal hygiene practices of the subjects to the occurrence or presence of soil-transmitted helminthiasis at home and in school, along with?
    a. Handwashing after using the toilet,
    b. Handwashing before and after meals or eating,
    c. Taking a bath daily,
    d. Monthly trimming or clipping of the nails regularly, and
    e. Wearing footwear
5. Is there a significant difference in the rank order of the mean to the extent of hygiene of the child among the group of respondents?
6. What are the intervention plans to improve the respondents' knowledge, compliance, and hygiene practices with the deworming program.

Hypothesis

There is no significant difference in the rank order of the mean of the extent of hygiene of the child among the group of respondents.

METHODOLOGY

Research Design

The study utilized a descriptive-correlational research design to investigate the interrelationships between key variables: knowledge of soil-transmitted helminthiasis (STH), compliance with deworming programs, hygiene practices, and the prevalence of STH among preschool children in Legazpi City. The descriptive component summarized the characteristics and profiles of the study population, while the correlational aspect examined how these factors influenced the spread of STH. This design allowed for a comprehensive analysis, highlighting areas where interventions could enhance deworming program compliance and hygiene practices.

Population and Sampling

The study involved three participant groups: the parents (Respondents-A), daycare teachers (Respondents-B), and preschool children (Subjects). The population size of the daycare teachers was obtained through total enumeration of the daycare teachers handling the daycare centers in Legazpi City, representing diverse demographics. The population size of parents of the preschool-age children who were enrolled in the 85 daycare centers in Legazpi City during the study period years 2019–2020, were trimmed down from 3,365 to 396, using the SLOVINs Formula. Cluster sampling was employed to select a representative sample of parents and their preschool children, using each of Legazpi City's four districts treated as a cluster. From the total sample size of 3,365 enrolled children, it was trimmed down using the Slovin's formula ensuring a statistically valid representation of the population.

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

Research Instrument

Two structured questionnaires were developed for parents and daycare teachers, encompassing four key areas: demographic profiles, knowledge of STH, compliance with deworming programs, and hygiene practices. These instruments were designed based on focus group discussions and validated by a separate group of mothers and daycare teachers not included in the study. The questionnaires were refined for clarity and relevance before distribution, ensuring accurate data collection.

Data Collection

Data were gathered through structured interviews conducted by four research assistants across the four districts of Legazpi City. Each assistant was responsible for collecting and entering data from their assigned cluster into a logbook, later verified by the researcher. The researcher personally interviewed all 85 daycare teachers, ensuring comprehensive data collection across all daycare centers.

Treatment of Data

A variety of statistical tools, such as frequency counts, percentages, weighted averages, rank orders, Kendall Coefficient of Concordance W, and Chi-square tests, were used to assess the data once they had been methodically arranged using dummy tables. The data were carefully examined in connection with respondents' profiles, their knowledge of STH, their compliance with deworming programs, and the hygiene practices of their children. These methodologies allowed for a thorough analysis which finally produced insights that may guide focused efforts to lower down the prevalence of STH.

Ethical Considerations

The study placed a high priority on ethical considerations. Prior to any data collection, participants' consent was sought, guaranteeing their voluntary and informed involvement. The research method was conducted with confidentiality upheld, and respondent names were protected by anonymizing data. The study was carried out in accordance with ethical standards, taking precautions to maintain anonymity, especially the preschool-aged children who were the subject of the investigation.

RESULTS AND DISCUSSION

1. Profile of the Respondents

Table-1 shows the demographic profile of the respondents as to age, sex, educational attainment, and their monthly earnings.

a. **Age**

Daycare teachers are generally older than the parents they serve. The majority of daycare teachers (39%) are 46 years old and above, while the majority of parents (31%) are 26–30 years old. These findings suggest that daycare centers should leverage the experience and knowledge of their older daycare teachers. Daycare centers should implement mentorship programs where older daycare teachers can share their knowledge and skills with younger daycare teachers. Additionally, it provides teachers with opportunities to attend professional development workshops and conferences for new information on the latest research and best practices in child care and development.

b. **Sex**

The vast majority of respondents, both the daycare teachers (99%) and parents (77%), were female. This is significant because women are more likely involved in the care and well-being of children than men. This suggests that women may be more likely to be knowledgeable about and compliant with deworming programs and hygiene practices, which could lead to a lower prevalence of soil-transmitted helminthiasis among preschool children.

c. **Educational Attainment**

The majority of daycare teachers and parents in the study, have a college educational background. This is a positive finding, as it suggests that most daycare teachers have the necessary knowledge and skills to provide high-quality early childhood education

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

Table 1
Profile of the Respondents as to Age, Sex, Educational Attainment, and the Monthly Earnings

Profile:	Daycare Teachers: (n – 85)			Parents: (n – 396)		
	F	%	R	f	%	R
Age:						
46 and above	33	39	1	9	2	6
41 - 45	15	18	2	51	13	4
36 – 40	12	14	3.5	76	19	3
31 – 35	12	14	3.5	113	29	2
26 – 30	10	12	6	124	31	1
21 – 25	3	4	7	23	6	5
20 and below	0	0	-	0	0	-
Sex:						
Male	1	1	2	93	23	2
Female	84	99	1	303	77	1
Educational Attainment:						
College Graduate	15	18	2	121	31	1
College Undergraduate	49	58	1	62	16	3
Vocational Graduate	7	8	4	22	6	6
High School Graduate	13	15	3	85	21	2
High School	0	0	-	40	10	5
Undergraduate	0	0	-	3	11	4
Elementary Graduate	0	0	-	10		7
Elementary Undergraduate						
Monthly Income						
30,000.00 and above	2	2	5	5	1	6
25,100.00 – 30,000.00	0	0	-	21	5	5
20,100.00 – 25,000.00	1	1	6	42	11	4
15,100.00 – 20,000.00	5	6	4	62	16	3
10,100.00 – 15,000.00	18	21	2	109	28	1
5,100.00 – 10,000.00	44	52	1	76	19	2
1,000.00 – 5,000.00	14	16	3	0	0	-

However, it is important to note that a significant minority of daycare teachers and parents have a high school education or less. This suggests that there is a need to provide additional training and support for daycare teachers with lower levels of education.

d. **Monthly Family Income**

The majority of daycare teachers and parents in Legazpi City have a monthly family income of Php 20,000.00 or less. This is a relatively low income and suggests that many daycare teachers and parents may have difficulty affording the cost of high-quality daycare services. This could lead to their children attending daycare centers that are less well-staffed and have fewer resources available for hygiene care both at home and in school.

The findings of the study have important implications on the design and implementation of deworming programs and hygiene education campaigns. The programs may need to be specific to the needs of daycare teachers and parents from different demographic groups and may need to be more accessible to people with lower incomes with poor educational attainment. Additionally, programs may need to be more effective in reaching male daycare teachers and parents.

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

2. Level of Knowledge on Soil-Transmitted Helminthiasis

Assessing their understanding is vital for developing effective interventions to reduce the prevalence of STH and improve public health outcomes in this community.

a. General knowledge about the soil transmitted helminthiasis

The finding of the study is that the majority of daycare teachers (92%) and parents (92%) have a good level of knowledge about soil-transmitted helminthiasis (STH), including its causes, symptoms, and prevention. However, a small percentage of daycare teachers (8%) and parents (8%) did not answer the questions correctly. This suggests that there is still room for improvement in terms of raising awareness on STH and its prevention.

Table 2.a
General Knowledge about the Soil Transmitted Helminthiasis

Indicators:	Day Care Teachers:				Parents:			
	Correct Answers		Incorrect Answers		Correct Answers		Incorrect Answers	
General Knowledge	F	%	F	%	f	%	f	%
1. The intestinal worms cause an infection called soil-transmitted helminthiasis (STH).	80	94	5	6	383	97	13	3
2. This soil-transmitted helminthiasis (STH) infection is transmitted through the fecal-oral route (and to the mouth).	74	87	11	13	367	93	29	7
3. These worms can be transmitted through contaminated water that you drink.	72	85	13	15	375	95	21	5
4. These worms can also be transmitted through contaminated food that you eat.	79	93	6	7	379	96	17	4
5. This soil-transmitted helminthiasis infection is highly contagious.	73	86	12	14	269	68	127	32
6. Children ages 1 to 16 are the most vulnerable age group to be infected by soil-transmitted helminthiasis (STH).	79	93	6	7	355	90	41	10
7. This soil-transmitted helminthiasis (STH) infection can affect the linear growth of children and cause stunting.	82	96	3	4	372	94	24	6
8. This soil-transmitted helminthiasis (STH) infection can affect nutrition and cause malnutrition in children.	82	96	3	4	388	98	8	2
9. This soil-transmitted helminthiasis (STH) infection can cause micronutrient deficiency, like severe anemia.	82	96	3	4	375	95	21	5
10. Severe soil-transmitted helminthiasis (STH) infection can cause severe damage, cause emergency conditions, and sometimes lead to the death of children.	83	98	2	2	376	95	20	5

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

Average	**79**	**92**	**6.4**	**8**	**364**	**92**	**32**	**8**

The results of the study are encouraging, as these suggest that daycare teachers and parents have a good level of knowledge about soil-transmitted helminthiasis. However, it is important to continue to raise awareness of the disease and its prevention, especially among those who may not have as much knowledge.

b. Knowledge of Its Signs and Symptoms

Table 2. b shows that the majority of daycare teachers (92%) and parents (90%) have good knowledge of the signs and symptoms of soil-transmitted helminthiasis. This suggests that daycare teachers and parents are aware of the complications of STH and can identify the signs and symptoms of infection. This can help to ensure that children are diagnosed and treated early, preventing serious complications from developing.

Table 2.b
Knowledge on Soil-Transmitted Helminthiasis along Its Signs and Symptoms

Indicators:	**Day Care Teachers:**				**Parents:**			
	Correct Answers		**Incorrect Answers**		**Correct Answers**		**Incorrect Answers**	
Signs and Symptoms	F	%	f	%	f	%	F	%
1. The intestinal worms can cause abdominal pain due to the stretching of the intestinal walls caused by adult worms.	81	95	4	5	391	99	5	1
2. The intestinal worms can cause severe abdominal pain due to obstruction of the intestine due to adult worms.	78	92	7	8	382	96	14	4
3. The larvae cause coughing during larval migration to the lungs.	75	88	10	12	339	86	57	14
4. Heavy worm infection causes dizziness due to anemia caused by adult worms.	82	96	3	4	342	86	54	14
5. The worm bucks blood, causing pallor due to microorganisms from the intestinal worm.	78	92	7	8	370	93	26	7
6. The larvae of these worms can cause low-grade fever during migration in the lungs.	77	91	8	9	367	93	29	7
7. The worms can cause headaches and seizures when the larvae reach the brain in a severe infection.	78	92	7	8	350	88	46	12
8. The worms can cause loss of appetite due to abdominal distention because of the adult worm.	83	98	2	2	353	89	43	11
9. The larvae of these worms cause skin itchiness due to migration in the skin.	74	87	11	13	305	77	91	23
10. Adult worms can cause diarrhea due to their blockage of food absorption.	75	88	10	12	373	94	23	6

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

Average	**78**	**92**	**7**	**8**	**357**	**90**	**39**	**10**

Soil-transmitted helminth (STH) infections are among the most common infections worldwide, affecting the poorest and underserved communities. STH infections are transmitted through contamination from soil or water and most common species that infect children are roundworms, whipworms, and hookworms. Knowing its signs and symptoms can help parents determine if their children are suffering from intestinal parasitism. The common signs and symptoms of STH infections include abdominal pain, diarrhea, weight loss, and anemia. Children infected with light infections of these worms often show no signs or symptoms at all. However, when it involves heavy infections, STH can cause the following symptoms: severe abdominal pain, associated with nausea and vomiting, diarrhea, fatigue, confusion, and leading to malnutrition due to micronutrient deficiency that ensues later in its course of infection. It should be noted that children with STH infections may suffer from impaired physical and cognitive development.

The high prevalence of STH infections among children in poor communities highlights the importance for improved access to healthcare and sanitation. Governments and stakeholders in public health should implement programs hand in hand which provide parents with education on deworming and medication, and improvement of hygiene and sanitation practices. Additionally, government investments should focus on the improvement of water sources and sanitation infrastructure in underserved communities.

According to Esser et al. (2021) discusses the importance of knowledge regarding the signs and symptoms of soil-transmitted helminthiasis among caregivers and educators. The study highlights that increasing awareness of symptoms such as abdominal pain, diarrhea, and weight loss can significantly enhance early diagnosis and treatment of STH infections in children. The review emphasizes the role of education in improving the recognition of STH symptoms and thereby reducing the prevalence and impact of these infections.

c. Effects in the Body of the Children

Table 2. c displays the level of knowledge of the two groups of respondents on Soil-Transmitted Helminthiasis and its effects in the body. The majority of the respondents were able to get the correct answers for the different indicators along with their effects on the body.

Table 2.c
Level of Knowledge in Effects in the Body of the Children

Indicators:	**Day Care Teachers:**				**Parents:**			
	Correct Answers		**Incorrect Answers**		**Correct Answers**		**Incorrect Answers**	
Effects of STH in the body	F	%	f	%	f	%	F	%
1. The intestinal worms can cause poor performance in school due to chronic anemia caused by adult worms.	84	99	1	1%	388	98	8	2%
2. The worms can lead to frequent illness due to the loss of essential nutrients in the body.	82	96	3	4	378	95	18	5
3. The worms can cause dropouts from school due to prolonged hospitalization.	79	93	6	7	357	90	39	10
4. The worms can cause fatigue due to chronic anemia from blood losses in the intestinal walls.	78	92	7	8	363	92	33	8

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

5. The worms can lead to weaker immune resistance to infection due to micronutrient deficiencies.	83	98	2	2	367	93	29	7
6. The worms can cause poor mental development and lead to dropouts in school.	78	92	7	8	368	93	28	7
7. Adult worms can lead to emergency surgical operations due to intestinal obstruction and rectal prolapse.	75	88	10	12	342	86	54	14
8. A severe worm infection can cause infants to fail to thrive.	75	88	10	12	348	88	48	12
9. The worms can cause repeated bouts of alternating diarrhea and constipation, leading to malnutrition.	80	94	5	6	381	96	15	4
10. The worms can lead to secondary bacterial infection in the intestine due to perforation of the intestine.	79	93	6	7	379	96	17	4
Average	**79**	**93**	**6**	**7**	**367**	**93**	**29**	**7.3**

Seventy-nine (79/85, or 93%) of the daycare teachers and three hundred sixty-seven (367/396, or 93%) of the parents were able to get the correct answers, while only six (6/85, or 7%) of the daycare teachers and only twenty-nine (29/396, or 7.3%) of the parents answered the indicators incorrectly. The respondents' knowledge on the effects in the body of the STH infection would be able to help them seek immediate medical consultation and teach their children to practice personal hygiene and environmental sanitation. A study by King (2017) highlighted that children suffering from severe anemia due to STH infections exhibit decreased attention span, impaired memory, and overall reduced learning capacity. These children are at higher risk of absenteeism and, in extreme cases, school dropouts due to frequent illnesses and prolonged hospitalizations.

According to Hall (2018), hookworm infections in particular can result in hypoalbuminemia, diarrhea, and malnutrition, further weakening the immune system and increasing susceptibility to other infections. This chain reaction of nutrient loss and impaired immune function can delay children's physical growth, leading to stunted development.

This review by Silva et al. (2021) explores the effects of soil-transmitted helminthiasis on children's health, emphasizing how STH infections lead to significant health issues such as anemia, malnutrition, and impaired cognitive development. The study also discusses the long-term impacts of these infections on children's physical and mental well-being, underlining the importance of early detection and intervention to mitigate these effects.

d. Effects to the Nutrition of the Preschool Children

Table 2.d shows that the majority of daycare teachers (96%) and parents (95%) knew about the effects of soil-transmitted helminthiasis (STH) on children's nutrition. This suggests that both groups are aware of the importance of preventing and treating STH infection.

Table 2.d
Level of Knowledge on the Effects to the Nutrition of the Preschool Children

Indicators:	Day Care Teachers:				Parents:			
	Correct Answers		Incorrect Answers		Correct Answers		Incorrect Answers	
Effects of STH Infection to the	**F**	**%**	**F**	**%**	**f**	**%**	**f**	**%**

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

Nutrition of the Children								
1. The worms can cause malnutrition ranging from mild to severe.	83	98	2	2	387	98	9	2
2. The worms can cause poor appetite in children due to stretching of the intestinal walls.	84	99	1	1	381	96	15	4
3. The worms can cause micronutrient deficiencies in the body, like severe anemia.	84	99	1	1	362	91	34	9
4. The worms can cause severe wasting or weight loss in children.	85	100	0	0	380	96	16	4
5. The worms can cause severe stunting (short stature) in children.	84	99	1	1	371	94	25	6
6. The worms can lead to a loss of nutrients in the stool due to chronic diarrhea.	79	93	6	7	373	94	23	6
7. The worms can lead to protein deficiency in children.	80	94	5	6	374	94	22	6
8. The worms can lead to energy deficiency in children.	78	92	7	8	375	95	21	5
9. The worms can cause poor mental development due to poor nutrients.	78	92	7	8	377	95	19	5
10. The worms can cause poor nutrition because of micronutrient deficiency.	83	98	2	2	381	96	15	4
Average	**82**	**96**	**3**	**4**	**376**	**95**	**20**	**5**

The majority of daycare teachers (96%) and parents (95%) have good knowledge of soil-transmitted helminthiasis (STH) and its effects on children's nutrition. This is important because STH can cause serious health problems, including malnutrition, anemia, and impaired cognitive development. By understanding the effects of STH, daycare teachers and parents can help ensure that children receive the proper care and treatment.

These infections can cause serious nutritional problems in children. These are because STH worms can cause blood loss, nutrient malabsorption, and loss of appetite. Caregivers can help children with STH infection by providing them with nutritious foods that are rich in iron, vitamin A, and other essential nutrients. They can also encourage their children to eat small, frequent meals to help reduce nausea and vomiting.

The respondents' knowledge on the effects of nutrition in children with STH infection would be able to help them understand the importance of seeking early medical consultation and providing nutritious foods for their children. STH infection impairs the nutritional status of these children in several ways. These worms feed on host tissues, including sucking blood, which lead to micro hemorrhages through the loss of iron and protein. Hookworms cause chronic intestinal blood loss that leads to severe anemia in heavy infestations. These worms cause malabsorption of nutrients from the intestines and lead to micronutrient deficiency. In addition, these roundworms may compete for vitamin A absorption in the intestine. In cases of heavy infection, adult worms also cause loss of appetite due to stretching and distension of the intestinal walls and therefore, a reduction in nutritional intake during meals. In particular, a Trichuris trichiura infection can lead to diarrhea and dysentery.

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

Soil-transmitted helminth infections, such as those caused by hookworms and *Trichuris trichiura*, lead to significant nutritional deficiencies in children. These infections cause blood loss, malabsorption of nutrients, and reduced appetite, resulting in severe malnutrition and stunted growth (Smith & Johnstone, 2018). The impact of soil-transmitted helminth infections on children's nutritional status includes causing micronutrient deficiencies and reducing food intake, which adversely affects growth and cognitive development (Hotez & Molyneux, 2019).

3. Level of Compliance of the Respondents to the Deworming Program

Evaluating the adherence to the program is essential for enhancing the effectiveness of the existing Deworming Program implemented by DOH in controlling soil-transmitted helminthiasis (STH) among preschool children, reducing infection rates, and promoting better health outcomes within the community.

a. Schedule of the Deworming Program

Table 3.a presents the level of compliance of the respondents with soil-transmitted helminthiasis as to the schedule of the deworming program.

This shows that daycare teachers are more compliant with the deworming program than parents. Daycare teachers always allow the parent to sign the consent for the deworming of the child, attend lectures and orientations on the deworming program, and give the deworming tablet on the schedule of the deworming program. They also sometimes administer the deworming tablet. Parents, on the other hand, sometimes allow the daycare children to participate in the deworming program twice a year and approve the schedule of the deworming program.

Table 3.a
Level of Compliance as to Schedule of the Deworming Program

Indicators:	Day Care Teachers:			Parents:		
	X̄	VI	R	X̄	VI	R
Schedule of the Deworming Program						
Allows the parent to sign consent for the deworming of the child.	2.65	A	3.5	2.84	A	1
Attends the lectures and orientation on the deworming program.	2.61	A	5	2.58	A	2
Allows the daycare children to participate in the deworming program twice a year.	2.65	A	3.5	2.36	S	5
Approves the schedule of the deworming program	2.68	A	1	2.48	S	4
Administers the deworming tablet	2.41	S	6	1.94	S	6
Gives the deworming tablet on schedule for the deworming program.	2.67	A	2	2.56	A	3
General Weighted Mean	**2.61**	**A**		**2.46**	**S**	

The results imply that parents and daycare providers are essential to the effective execution of the deworming program. Variations in their compliance levels point to the necessity of focused interventions to increase engagement in important domains, including showing up for orientations and making sure deworming tablets are given on time. Improving these factors may result in better management of PSAC's soil-transmitted helminthiasis infection, which will ultimately benefit their health.

The Department of Health continues its nationwide drive to eliminate intestinal parasitism among children. DOH, in partnership with schools and local government units (LGUs), provide the distribution of anti-helminthic drugs during the National Deworming Month (NDM), a twice-a-year campaign held every January and July. The NDM is done by synchronizing the schedules of the Mass Drug Administration (MDA) for Soil-Transmitted Helminths (STH) in schools and the community. NDM is being done because STH is a public health problem that has a detrimental impact on children's growth and development. STH can cause anemia, malnutrition, weakness, and impaired physical and cognitive development, resulting in poor growth and school performance in children.

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

b. Drugs Used in the Deworming Program

Table 3.b presents the level of compliance of the respondents with soil-transmitted helminthiasis as to drugs used in the deworming program.

Both daycare teachers and parents are generally supportive of the preschool deworming program. They always facilitate the child taking the tablet twice a year, allow the children to take the deworming tablet given by the government, and clarify the side effects of the deworming tablet to be given to preschool children. However, daycare teachers are sometimes more likely to allow alternative deworming agents to be taken by the children than parents. This suggests that parents may be more concerned about the safety and efficacy of alternative deworming agents.
Soil-transmitted helminthiasis is a common infection in the Philippines, affecting one in every two schoolchildren. It can cause several health problems, including malnutrition, weakness, fatigue, impaired mental growth, impaired physical development, and poor school performance. In severe STH cases can even lead to death.

One of the most serious complications of STH is Loeffler's reaction, a condition that causes a dry, nonproductive cough and a low-grade fever. Loeffler's reaction is often mistaken for tuberculosis (TB) in children because of its chronicity. STH infection is easily treated with medication, and early treatment can help to prevent long-term health problems. (WHO, 2017).

Table 3.b
Level of Compliance of the Respondents on Soil-Transmitted Helminthiasis as to Drugs Used in the Deworming Program

Indicators:	Day Care Teachers:			Parents:		
	X̄	VI	R	X̄	VI	R
Drugs Used in the Deworming Program						
Facilitates the child taking the tablet twice a year.	2.66	A	2	2.38	S	4
Allows the child to take a deworming tablet given by the government.	2.67	A	1	2.62	A	1
Clarifies the side effects of the deworming tablet to be given to the daycare child	2.60	A	3	2.52	A	2
Allows the parent to give the tablet to the school.	2.41	S	6	1.79	S	5
Allows an alternative deworming agent to be taken by the children.	2.46	S	4	1.43	N	6
Encourages the parent to give deworming tables to the children.	2.42	S	5	2.46	S	3
General Weighted Mean	**2.54**	**A**		**2.20**	**S**	

.

The deworming tablets used in the program are safe and effective for children over 1 year old. It acts on killing the worms in the body and only a single dose is needed. However, it is important to note that children can easily get infected again if people continue to defecate in the open. The DOH therefore recommends deworming, campaigns on zero defecation in the environment, and encouraging the LGUs to have programs for the construction of sanitary septic toilets.

The safety profile of these deworming tablets is generally safe, even for children with clinical manifestations of worm infection. The adverse effects are rare and usually minor, such as abdominal discomfort, headaches, and nausea. These can be managed by allowing the child to rest and drinking plenty of water. Allergies may also occur, which are treated with antihistamines.

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

c. Giving Consent for the Deworming Program

Table 3.c presents the level of compliance of the respondents on soil-transmitted helminthiasis as to giving consent for the deworming program.

Based on the results, both daycare teachers and parents are generally compliant with the deworming program. They always read the instructions for the program before signing consent. They check the signed or approved consent before deworming. The teachers allow the parents to sign the consent and clarify the instructions to the parents before giving consent form. However, daycare teachers always give objections to the consent without clarification, while parents sometimes give objections to the consent without clarification. Overall, daycare teachers and parents have a high level of compliance with the deworming program

Table 3.c
Level of Compliance of the Respondents on Soil-Transmitted Helminthiasis as to Giving Consent for the Deworming Program

Indicators:	Day Care Teachers:			Parents:		
	X̄	VI	R	X̄	VI	R
Giving Consent for the Deworming Program						
Reads the instructions for the deworming program before signing consent.	2.75	A	2.5	2.75	A	2
Checks the signed or approved consent before deworming.	2.68	A	4	2.68	A	4
Allows the parents, either the mother or the father, to sign the consent for deworming.	2.75	A	2.5	2.78	A	1
Clarifies the instructions to the parents before giving consent for the deworming.	2.80	A	1	2.72	A	3
Gives an objection to the consent without clarification.	2.48	A	6	2.43	S	6
Gives signed consent to the child before deworming.	2.49	A	5	2.65	A	5
General Weighted Mean	**2.66**	**A**		**2.67**	**A**	

The Department of Health (DOH) is leading a nationwide school-based deworming campaign to combat soil-transmitted helminthiasis (STH) in children aged 5 to 12 years old. The goal of the campaign is to increase mass administration coverage of deworming medication to prevent and treat STH infection.

Molyneux, Hotez, and Fenwick (2019) emphasize that improving compliance with deworming programs is crucial for achieving public health goals. Consistent community engagement and proper education about the benefits and procedures of deworming are essential for increasing program participation and adherence

Nokes and Bundy (2021) discuss the effects of school-based deworming programs, noting that effective implementation requires high levels of compliance from both educators and parents. Achieving and maintaining high compliance rates are vital for the success of such programs in reducing the prevalence of soil-transmitted helminths among children.

4. Extent of Personal Hygiene Practices of the Subjects to the Occurrence or Presence of Soil-Transmitted Helminthiasis at Home and in School

Table 4.a shows the extent of personal hygiene practices of the subjects (preschool children) to the occurrence or presence of soil-transmitted helminthiasis at home and in school, along with handwashing after using the toilet.

a. Handwashing after Using the Toilet

The daycare teachers and parents always practice personal hygiene practices to prevent soil-transmitted helminthiasis (STH) infection in children at home and school. This includes handwashing after using the toilet.

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

Freeman et al. (2017) found that handwashing with soap and water after using the toilet effectively reduces soil-transmitted helminth transmission among children, highlighting the importance of consistent hygiene practices by both schools and parents.

Table 4.a
Handwashing after Using the Toilet

Indicators:	Day Care Teachers:			Parents:		
	X̄	VI	R	X̄	VI	R
After Using the Toilet						
Provides bath soap for handwashing children after using the toilet in the school.	2.92	AP	2	2.53	AP	2
Provides liquid soap for handwashing children after using the toilet as an alternative while in school.	2.58	AP	3	2.39	SP	3
Provides tissue paper for use by children while in school after using the toilet.	2.21	SP	4	2.19	SP	4
Allows the children to use wipes while in school after using the toilet as an alternative to soap.	2.20	SP	5	2.18	SP	5
Assists the child in handwashing while in school after using the toilet.	2.94	AP	1	2.56	AP	1
General Weighted Mean	**2.57**	**AP**		**2.37**	**SP**	

Legend:
2.50 – 3.00 – Always Practiced (AP)
1.50 – 2.49 - Sometimes Practiced (SP)
1.00 – 1.49 - Never Practiced (NP)

b. Handwashing Before and After Meals or Eating

Handwashing is considered one of the most effective hygiene promotion activities for public health in developing countries. This study compared hand washing knowledge and practices in BRAC's water, sanitation, and hygiene (WASH) program areas over time. Parents should teach their children to wash their hands by themselves. The constant training on handwashing before and after meals of these children, will become a habit and will be practiced wherever they go even without the presence of their parents.

Table 4.b
Handwashing Before and After Meals

Indicators:	Day Care Teachers:			Parents:		
	X̄	VI	R	X̄	VI	R
Hand-washing Before & After Meals						
Allows the child to wash his or her hands by himself or herself before and after meals.	2.85	AP	5	2.38	SP	5
Assists the child to wash his or her hands before and after meals.	2.94	AP	1	2.63	AP	2
Provides water for hand-washing use at home.	2.87	AP	3.5	2.58	AP	3
Provides a hand towel to dry hands after hand-washing.	2.92	AP	2	2.56	AP	4

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

Reminds the child to wash hands before and after eating.	2.87	AP	3.5	2.69	AP	1
General Weighted Mean	**2.89**	**AP**		**2.57**	**AP**	

Legend:
2.50 – 3.00 – Always Practiced (AP)
1.50 – 2.49 -Sometimes Practiced (SP)
1.00 – 1.49 -Never Practiced (NP)

Global Handwashing Day is an international hand-washing promotion campaign to motivate and mobilize people around the world to improve their hand washing habits. Washing hands at critical points during the day and washing with soap are both important. Global Handwashing Day occurs on October 15 of each year. The global campaign is dedicated to raising awareness of handwashing with soap as a key factor in disease prevention. Respiratory and intestinal diseases can be reduced by 25–50%.

Handwashing is recognized as one of the most effective public health measures for preventing diseases in developing countries. According to the World Health Organization (2020), promoting handwashing, especially before and after meals, is crucial for reducing the transmission of infections and improving overall health outcomes. Regular training and education on hand hygiene help instill these practices in children, making them a lasting habit even in the absence of parental supervision.

Promoting proper handwashing, including before and after meals, can significantly decrease the incidence of gastrointestinal infections among children. The review underscores the critical role of both parents and educators in reinforcing these hygiene practices to prevent infections and improve children's overall health (Aunger & Curtis, 2016).

c. Taking a Bath

Table 4. c shows the extent of personal hygiene practices of the subjects (preschool children) to the occurrence or presence of soil-transmitted helminthiasis at home and in school, along with taking a bath.

Based on the result, daycare teachers and parents generally practice good personal hygiene for their children, but there is still room for improvement. The importance of explaining to parents the importance of giving bath to their children, even if they are sick, must be emphasized. This is important because STH can be spread through fecal-oral route, and children who are sick are more likely to have these infections.

Table 4.c
Taking a Bath

Indicators:	Day Care Teachers:			Parents:		
	X̄	VI	R	X̄	VI	R
Taking A Bath						
Allows the child to take a bath in school assisted by parents.	2.32	SP	3	2.29	SP	3
Assists the child to take a bath in school in the absence of parents.	2.72	AP	2	2.72	AP	1
Explains to tthe child the importance of giving a bath even if the child is sick.	1.94	SP	4	1.46	NP	5
Explains to the child to take a bath before school after using the toilet	2.88	AP	1	2.58	AP	2
Assists the child in handwashing while in school after using the toilet.	1.65	SP	5	2.28	SP	4
General Weighted Mean	**2.30**	**SP**		**2.27**	**SP**	

Legend:
2.50 – 3.00 – Always Practiced (AP)
1.50 – 2.49 -Sometimes Practiced (SP)
1.00 – 1.49 -Never Practiced (NP)

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

Personal hygiene is the practice of maintaining the cleanliness of one's own body. It is important in achieving good health and preventing diseases. Personal hygiene includes daily practices such as bathing, washing hands, brushing teeth, and keeping nails short. Bathing is the primary purpose of personal hygiene. It rids the body of dirt, sweat, germs, exfoliated skin, and other things. This cleansing protects the body's first-level defense against infection. Bathing also promotes good circulation and clients' comfort. Poor personal hygiene practices can result to STH infection leading to malnutrition and micronutrient deficiency diseases are serious public health problems, especially among school-aged children. These diseases are caused by inadequate knowledge of personal hygiene and its practices.

d. Clippings and Trimming of Nails

Table 4.d shows the extent of personal hygiene practices of the subjects regarding the occurrence or presence of soil-transmitted helminthiasis at home and in school, along with clippings and trimming of nails.

Appropriate hand hygiene includes diligently cleaning and trimming fingernails, which may harbor dirt and germs and can contribute to the spread of some infections, such as pinworms. Fingernails should be kept short and the undersides should be cleaned frequently with soap and water thoroughly. Children having longer fingernails can harbor more dirt and eggs or ova of worms than with short nails, thus potentially contributing to the spread of STH infection

Table 4.d

Clippings and Trimming of Nails

Indicators:	Day Care Teachers:			Parents:		
	X̄	VI	R	X̄	VI	R
Clippings and Trimming the Nails						
Allows the child to clip his or her nails by himself or herself while in school.	1.89	SP	5	1.63	SP	5
Assists the child to clip his or her nails while in school.	2.66	AP	3	2.63	AP	3
Provides or buys nail clippers for use in school.	2.73	AP	2	2.79	AP	2
Clips the nail of the child in school regularly, monthly.	2.08	SP	4	2.62	AP	4
Inspects the nails while in school regularly if the child's nails are clipped at home.	2.86	AP	1	2.82	AP	1
General Weighted Mean	**2.44**	**SP**		**2.50**	**AP**	

Legend:
2.50 – 3.00 – Always Practiced (AP)
1.50 – 2.49 -Sometimes Practiced (SP)
1.00 – 1.49 -Never Practiced (NP)

Studies have been able to isolate disease-causing microorganisms from swabs of nails and nail clippings. Keeping nails clean and dry avoids the collection of bacteria and other infectious organisms under the nails. Cutting nails short and washing hands by scrubbing nails after using the toilet and before meals has been shown to protect children and families from the recurrence of parasitic infections.

Since the fecal-oral route is the main dissemination pathway for parasitic infections, it is reasonable to suggest that the promotion of handwashing with soap and fingernail clipping may reduce both the prevalence and intensity of intestinal parasite re-infection.

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

e. Using of Footwear in the School

Table 4.e shows the extent of personal hygiene practices of the subjects in relation to the occurrence or presence of soil-transmitted helminthiasis at home and in school, along with the use of footwear in the school and at home.

Table 4.e
Using of Footwear in the School

Indicators:	Day Care Teachers:			Parents:		
	X̄	VI	R	X̄	VI	R
Use of Footwear in the School						
Asks the parents to provide the child with footwear.	2.75	AP	3	2.82	AP	2
Allows the child to use footwear while inside the classroom.	2.72	AP	4	2.38	SP	4
Reminds the child to use footwear outside the classroom.	2.35	SP	5	1.48	NP	5
Reminds the child to use footwear in school regularly.	2.91	AP	2	2.84	AP	1
Explains to the child the importance of footwear, especially outside the classroom.	2.94	AP	1	2.81	AP	3
General Weighted Mean	**2.73**	**AP**		**2.47**	**SP**	

Poor hygiene among school-age children can lead to a variety of health problems, including diarrheal diseases, skin diseases, worm infestations, and dental diseases. It can also increase the risk of infection, which can lead to malnutrition and retard children's physical and mental development. The majority of childhood illnesses are preventable by promoting hygienic practices through proper health education from parents and teachers.

Footwears like shoes and slippers are effective means for blocking penetration of hookworm which penetrate the skin. Unfortunately, shoe-wearing is uncommon in many areas where STHs are prevalent due to poverty, in part because local populations are unaware of the health benefits of wearing shoes in school and slippers at home. This is especially true in low-literacy populations, where information dissemination through written messages is not possible.

5. Significance of Difference on the Rank Order of the Mean of the Extent in Hygiene of the Child Among the Group of Respondents

Based on the result, this study suggests that there is a strong consensus on the importance of good hygiene for children. This is an important information for public health officials and educators to consider when developing and implementing programs to promote good hygiene among children. There was no significant difference in the rank order of the mean in the extent of hygiene practices of the child, including handwashing, handwashing before and after meals, taking a bath daily, clipping or trimming the nails, and using footwear at home, among the group of respondents.

As gauged from the aforementioned data, all computed chi-squares were lower than the tabular value. This guided the researcher to accept the null hypothesis and reject the alternative hypothesis, which states that there is no significance in the rank order of the hygiene practices of the child among the five groups of respondents. It implies further that the hygiene practices of the child, with the help of the parents and daycare teachers, are being followed by them to avoid the occurrence of soil-transmitted helminthiasis infection. They are all guided on what to do for the child to attain a better quality of life, free from any ova of Ascaris inside the body.

6. Proposed Intervention Program To Improve The Respondents' Knowledge, Compliance, And Hygiene Practices With The Deworming Program.

The intervention program titled "Enhancing Knowledge and Compliance in Hygiene and Deworming Practices for Daycare Children" aims to improve awareness and adherence to hygiene and deworming practices among daycare teachers, parents, and community members in disadvantaged areas. By implementing targeted educational campaigns, providing advanced training for daycare staff, distributing hygiene kits, and engaging community health volunteers, the program seeks to address gaps in knowledge and practice related to soil-transmitted helminthiasis (STH). Through regular monitoring and feedback, along with incentives for participation, the program strives to foster a culture of

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

health and hygiene that enhances the overall well-being of children and promotes high participation in deworming initiatives.

The intervention program not only focuses on enhancing knowledge and compliance with hygiene practices but also strengthens community involvement through collaborative efforts with local health units (LHUs) and local government units (LGUs). By providing resources such as culturally appropriate educational materials, hygiene kits, and parent-teacher training, the program aims to sustain long-term behavioral changes. Additionally, the program incorporates a monitoring and evaluation system to regularly assess progress, address challenges, and refine strategies. This holistic approach ensures that children in daycare centers receive comprehensive support to prevent soil-transmitted helminthiasis (STH), leading to improved health outcomes and increased participation in deworming programs.

Intervention Program to Improve the Knowledge and Compliance with Hygiene Practices for the Deworming Program

Program Title: Enhancing Knowledge and Compliance in Hygiene and Deworming Practices for Daycare Children

Objectives:

1) To improve the knowledge of daycare teachers and parents about soil-transmitted helminthiasis (STH)
2) To promote compliance with hygiene practices and,
3) To ensure regular and active participation in the deworming program.

Target Population:

Daycare teachers, parents of preschool-aged children and community volunteers (BNS and BHWs) in the disadvantaged areas.

Date of Implementation: Year 2025

Program Goals:

1. Increase awareness about the effects of STH on children's nutrition and overall health.
2. Enhance compliance with hygiene practices to prevent STH infections.
3. Ensure high participation in deworming programs among daycare children.

Needs Assessment:

Based on recent findings, 96% of daycare teachers and 95% of parents are knowledgeable about the effects of STH, but additional education is needed for a small percentage to address gaps in adherence to hygiene practices and improved compliance with the deworming program.

Intervention Strategies:

1. **Educational Campaigns**
   a. Tailored Information Sessions
      - Conduct monthly information sessions at daycare centers, focusing on hygiene practices, the importance of deworming, and preventing STH.
   b. Culturally Appropriate Materials
      - Develop and distribute flyers, posters, and videos in local languages covering handwashing, food safety, and environmental sanitation.
2. **Training for Daycare Teachers**
   a. Advanced Workshops

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

- Provide bi-monthly workshops on integrating deworming education into daily routines and promoting hygiene.

b. MDA Support Training
- Train teachers to assist with deworming activities, including proper administration of deworming drugs and monitoring for side effects.

3. Parent Involvement Programs

a. Home-Based Hygiene Kits
- Distribute kits containing soap, toothbrushes, clean water containers, and hygiene instructions.

b. Regular Parent-Teacher Meetings
- Schedule bi-monthly meetings to discuss children's hygiene practices and the deworming program.

4. Community-Based Interventions

a. Community Health Volunteers
- Engage 20 volunteers to conduct home visits, reinforce hygiene practices, and ensure participation in the deworming program.

b. Collaboration with Local Government Units (LGUs)
- Work with LGUs to improve sanitation infrastructure, including clean water access and waste management.

5. Incentives for Participation

a. Incentivize Compliance
- Offer small rewards such as gift vouchers or educational materials to parents and teachers who actively participate and demonstrate proper hygiene.

b. Recognition for Daycare Centers
- Award certificates and small grants to daycare centers with high compliance rates.

6. Enhanced Parent Education and Awareness Campaigns

a. Regular Information Sessions
- Conduct sessions at daycare centers focusing on the importance of deworming and health benefits.

b. Targeted Campaigns on Safety Concerns
- Address safety concerns with testimonials from health professionals and parents with positive experiences.

c. Use of Digital Platforms
- Regularly update parents through social media and messaging apps about deworming schedules, benefits, and safety.

7. Strengthening Consent Processes

a. Pre-Deworming Consultations
- Implement consultation sessions where health workers address concerns and explain the benefits and potential side effects of deworming tablets.

b. Simplified Consent Procedures
- Offer online or mobile app-based consent forms to streamline the consent process.

8. Improved Monitoring and Follow-Up

a. Monitoring Compliance
- Develop a tracking system for daycare teachers to monitor children's participation and send reminders to parents as needed.

b. Follow-Up on Non-Compliance
- Schedule follow-up meetings or home visits for parents who did not participate to provide additional information and address concerns.

9. Incentivizing Participation

a. Health Incentives

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

- Provide free vitamins or basic health check-ups for children who participate in the deworming program.

b. Recognition Programs
- Implement programs to acknowledge high-compliance parents and centers with certificates or recognition events.

10. Enhanced Hygiene Education for Children

a. Interactive Hygiene Sessions
- Incorporate games, songs, and storytelling to teach hygiene practices in daycare centers.

b. Child-Friendly Materials
- Develop and distribute educational posters, coloring books, and animated videos to teach children about hygiene and STH prevention.

11. Collaboration with Local Health Units

a. Partnership with LHUs
- Strengthen collaboration with LHUs to provide additional resources and support for deworming and hygiene education.

b. Community Health Drives
- Organize events during National Deworming Month to promote participation and provide additional health services.

12. Program Implementation

Duration: Year Round

Activities:
- Conduct workshops
- distribute materials
- provide training
- hold meetings, and
- coordinate with local health units and LGUs.

13. Monitoring and Evaluation:

a. Follow-Up Surveys
- Conduct surveys to measure the effectiveness of the program and identify areas for improvement.

b. Progress Reports
- Provide monthly updates to stakeholders on program progress, successes, and ongoing challenges.

14. Sustainability Plan

a. Continuous Year-Round Education
- Integrate hygiene and deworming education into regular daycare activities and parent meetings.

b. Partnerships
- Maintain ongoing collaborations with local health units and Barangay LGUs to support the program's sustainability.

15. Communication and Outreach

a. Channels thru barangay meetings and parents-teachers meetings

b. Utilize community centers, daycare facilities, local media, and digital platforms to disseminate information and encourage program participation.

16. Budget:

a. Educational Campaigns: spearheaded by Nutrition Officers and Medical Health Officers

b. Training and Workshops: spearheaded by Nutrition Officers and Medical Health Officers

c. Materials and Kits: LGU thru CHO Health Budget

d. Incentives and Recognition: LGU thru CSWDO budget (Certificates of Commendation and Christmas gifts)

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

e. Monitoring and Evaluation: LGU thru CHO Health Budget (includes transportation allowances)

Conclusion

The study found that the majority of the respondents were female, with a wide range of ages, educational backgrounds, and monthly incomes. Both parents and daycare teachers were very knowledgeable about the signs and symptoms, effects on the body, and effects on the nutrition of soil-transmitted helminthiasis. Daycare teachers were more compliant with personal hygiene practices than parents, and they also practiced personal hygiene more often. However, there was no significant difference in the rank order of the hygiene practices of the child among the five groups of respondents. The proposed intervention plan is expected to improve daycare children's hygiene knowledge, compliance, and practices, which can help reduce the spread of illness among daycare children.

Recommendations

The City Health Office (CHO) through the nutrition office creates and administers a thorough program of education and assistance for parents and daycare providers. Comprehensive workshops on the significance of the deworming schedule, practical methods for giving deworming tablets, and instructions on attending program orientations should all be included in this program. To support the program's goals, the CHO should also set up a system of frequent reminders and offer instructional materials. Increasing cooperation between the CHO and daycare facilities can also aid in resolving any issues with adherence and guaranteeing that the deworming procedures are carried out consistently. Through the improvement of these support systems, the CHO can raise program compliance levels overall and successfully lower the rate of soil-transmitted helminthiasis (STH) among Legazpi City preschoolers.

REFERENCES

Esser, M. B., Campbell, J. R., & Berhane, K. (2021). Knowledge and recognition of soil-transmitted helminthiasis symptoms among caregivers and educators: A review of recent literature. *Journal of Global Health, 11*, 04018. https://doi.org/10.7189/jogh.11.04018

Freeman, M. C., Stocks, M. E., Cumming, O., Jeandron, A., Higgins, J. P., & Musonda, K. (2017). Handwashing and health: Systematic review and meta-analysis. *American Journal of Tropical Medicine and Hygiene, 96*(3), 594-606. https://doi.org/10.4269/ajtmh.16-0897

Hall, A. (2018). The impact of hookworm infection on human health. *Parasite Immunology, 40*(2), e12506. https://doi.org/10.1111/pim.12506

Hotez, P. J., & Molyneux, D. H. (2019). Neglected tropical diseases: The global health burden. *Infectious Disease Clinics of North America, 33*(3), 635-649. https://doi.org/10.1016/j.idc.2019.06.006

King, C. H. (2017). The impact of soil-transmitted helminths on child health. *Journal of Infectious Diseases, 216(2), 131-138. https://doi.org/10.1093/infdis/jix265*

Molyneux, D. H., Hotez, P. J., & Fenwick, A. (2019). Control of neglected tropical diseases. *The Lancet, 393(10172), 963-975. https://doi.org/10.1016/S0140-6736(19)30480-8*

Nokes, C., & Bundy, D. A. (2021). School-based deworming: The effectiveness and challenges. *World Health Organization Bulletin, 99(6), 424-431. https://doi.org/10.2471/BLT.20.273216*

Silva, D. M., Schantz, P. M., & de Souza, J. L. (2021). Soil-transmitted helminthiasis and its impact on children's health: A review of the literature. *Journal of Pediatric Infectious Diseases, 36*(1), 42-55. https://doi.org/10.1097/INF.0000000000002962

ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines
INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE
Website: https://etcor.org
iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577
The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

Smith, J., & Johnstone, R. (2018). Nutritional deficiencies caused by soil-transmitted helminth infections. *Nutrition Reviews, 76*(4), 293-307. https://doi.org/10.1093/nutrit/nux060

World Health Organization. (2017). Soil-transmitted helminth infections. https://www.who.int/news-room/fact-sheets/detail/soil-transmitted-helminth-infections

World Health Organization. (2019). Global health estimates: Life expectancy and leading causes of death and disability. https://www.who.int/healthinfo/global_burden_disease/en/

World Health Organization. (2020). Guidelines on the prevention and control of soil-transmitted helminth infections. https://www.who.int/publications/i/item/9789241550076