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Knowledge, Attitudes, and Preventive Practices on Soil-Transmitted Helminthiasis in Rural Quezon, Philippines

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***Abstract*—** Soil-transmitted helminthiasis remains a public health concern in rural communities where sanitation, hygiene practices, and access to preventive health services are limited. This study assessed the knowledge, attitudes, and preventive practices on soil-transmitted helminthiasis among residents of selected rural barangays in Tagkawayan, Quezon, Philippines. Using a quantitative correlational research design, data were gathered from 90 purposively selected respondents through a structured survey questionnaire. Frequency, percentage, weighted mean, difficulty index, Chi-square test, Cramer's V, and Spearman's rho were used to analyze the data. Findings showed that most respondents were female, had secondary education, were unemployed, and belonged to low-income households. Respondents were generally knowledgeable about soil-transmitted helminthiasis, with an overall knowledge score of 7.74, and demonstrated strongly favorable attitudes toward prevention, with an overall weighted mean of 3.74. Preventive practices were performed often overall, although participation in clinic consultation, deworming, and health education programs was low. Demographic variables were not significantly related to knowledge. However, sex and educational attainment were significantly related to attitudes, while sex and occupation were significantly related to preventive practices. The findings highlight the need for community-based, gender-responsive, and occupation-sensitive health education programs to correct misconceptions, strengthen preventive behaviors, and increase participation in organized soil-transmitted helminthiasis control activities.

***Keywords*—** soil-transmitted helminthiasis; knowledge; attitudes; preventive practices; rural health; Quezon, Philippines.

I. INTRODUCTION

Soil-transmitted helminthiasis remains a major public health concern in many low- and middle-income countries, particularly in rural communities where sanitation, safe water access, and health service utilization remain uneven. Soil-transmitted helminths are intestinal parasitic worms transmitted mainly through contact with contaminated soil, food, water, and poor sanitation environments. The major helminths affecting humans include roundworms, whipworms, and hookworms, which may cause intestinal infection, abdominal discomfort, malnutrition, anemia, poor growth, and reduced physical well-being. The Centers for Disease Control and Prevention (2024) describes helminths as large multicellular parasitic organisms, while the World Health Organization (2023) emphasizes that the severity of infection may vary depending on worm burden, age, and immune status. In communities where poverty, poor hygiene, unsafe water, and inadequate sanitation persist, soil-transmitted helminthiasis continues to affect vulnerable populations and remains difficult to control.

Globally, soil-transmitted helminth infections are classified among neglected tropical diseases and continue to affect populations exposed to poor environmental health conditions. The manuscript notes that STH infections affect around two billion people worldwide and remain associated with factors such as lack of footwear, high-density living conditions, poor nutrition, unsafe water exposure, open defecation, inappropriate waste disposal, low socioeconomic status, and poor personal hygiene. These risk factors are not only biological but also social and environmental. Thus, STH prevention cannot rely only on treatment; it must also involve

health education, sanitation improvement, behavioral change, and sustained community participation.

In the Philippines, soil-transmitted helminthiasis remains a significant health problem, especially in communities where sanitation facilities, clean water, and preventive health services are limited. The Philippine government, through the Department of Health, established the Integrated Helminth Control Program to address helminth infections through deworming, health education, preventive chemotherapy, and sanitation improvement. This program is supported by broader public health policies, including sanitation regulations and universal health care initiatives. However, despite the existence of such programs, STH remains persistent in many localities, suggesting that program implementation must be complemented by community-level understanding, participation, and behavior change.

Recent Philippine studies have shown that soil-transmitted helminthiasis varies across regions and is influenced by socioecological conditions. Tsheten et al. (2024) reported regional differences in STH distribution in the Philippines, with Visayas having high cases of ascariasis and trichuriasis and Mindanao having high hookworm cases. These patterns suggest that STH control is shaped by geographic, environmental, and programmatic factors, including the reach of health services, access to preventive chemotherapy, and local sanitation conditions. In rural areas, the burden may be intensified by dispersed settlements, limited access to health education, low household income, and occupational exposure to soil and unsafe water.

Knowledge, attitudes, and practices are important components in understanding the persistence and prevention of soil-transmitted helminthiasis. Knowledge determines whether individuals understand the causes, transmission routes, symptoms, and prevention of STH. Attitudes reflect how people perceive the seriousness of infection and the value of preventive measures. Practices represent the actual behaviors that may reduce or increase exposure, such as handwashing, wearing footwear, washing food, drinking safe water, using sanitary toilets, joining deworming programs, and seeking treatment. A community may have general awareness of intestinal worms but still retain misconceptions that weaken prevention and compliance.

Several studies cited in the manuscript demonstrate the importance of KAP assessment in STH control. Narkkul et al. (2022) found that village health volunteers had good attitudes but poor knowledge and practices regarding STH, showing that positive perceptions do not always translate into accurate understanding or effective behavior. Nazir et al. (2021) similarly reported that misconceptions about the safety of deworming medications influenced deworming compliance despite adequate knowledge and attitude. These findings suggest that public health interventions must go beyond awareness-raising and should directly address misconceptions, access barriers, and behavioral gaps.

In the Philippine context, recent studies also point to varied levels of knowledge and preventive behavior. Lawis et al. (2025) reported that residents of Manila demonstrated a high degree of knowledge about STH transmission and prevention and were aware of health intervention programs. In contrast, Liwanagan (2025), in a study conducted in San Antonio, Quezon, found that residents had inadequate knowledge about STH signs, symptoms, biology, transmission, and epidemiology despite existing preventive actions. These contrasting findings indicate that STH-related knowledge and practices may differ between urban and rural settings and even across communities within the same province.

Preventive practices are particularly important because soil-transmitted helminthiasis is strongly associated with daily hygiene and sanitation behaviors. Kache et al. (2020) reported that males were more likely to be infected than females and identified behavioral risks such as not washing vegetables and open defecation. Chopra et al. (2022) also identified inadequate water supply, poor sanitation, low socioeconomic status, urban exposure, and animal exposure as risk factors for helminthiasis. These studies show that environmental exposure and behavior interact in shaping infection risk. Therefore,

effective prevention should include both individual behavior change and structural improvements in water, sanitation, and health access.

Education also plays an essential role in STH prevention. Madeira et al. (2024) emphasized that education is important in promoting health and reducing infection risk through proper sanitation practices. However, other studies show that education and knowledge alone are not always sufficient. Nwazulu et al. (2024) observed that teachers may demonstrate high knowledge and good attitudes but still show low preventive practices. This highlights the need to assess not only what people know and believe, but also what they actually do. In STH control, the gap between knowledge and practice can determine whether health education produces real community-level impact.

The present study is situated in Tagkawayan, Quezon, a rural municipality composed of dispersed barangays where community-based livelihoods and environmental sanitation conditions may influence STH exposure. The manuscript states that even with existing health programs, some individuals may still practice poor hygiene or hold misconceptions about soil-transmitted helminthiasis, suggesting a gap between health interventions and community practices. This local context makes it necessary to assess the actual knowledge, attitudes, and preventive practices of residents, especially in barangays where sanitary and environmental conditions may contribute to infection risk.

The problem addressed in this study is the continuing vulnerability of rural communities to soil-transmitted helminthiasis despite available control programs and health education initiatives. While deworming and sanitation programs are important, their effectiveness depends partly on residents' understanding, attitudes, and daily preventive behaviors. Misconceptions about transmission, low participation in deworming, limited health-seeking behavior, and inconsistent sanitation practices can weaken STH prevention. In rural barangays, these issues may be compounded by low income, informal occupations, unsafe water exposure, and limited access to organized health services.

Therefore, this study aimed to assess the knowledge, attitudes, and preventive practices on soil-transmitted helminthiasis among residents of selected rural barangays in Tagkawayan, Quezon, Philippines, as a basis for strengthening community-based prevention and health education interventions. Specifically, it described the respondents' demographic profile in terms of age, sex, educational attainment, monthly income, and occupation; determined their level of knowledge regarding the causes, transmission, effects, and prevention of STH; assessed their attitudes and preventive practices related to STH prevention and control; and examined the relationship between demographic profile and knowledge, attitudes, and preventive practices.

II. METHODOLOGY

This study employed a quantitative correlational research design using the survey method to assess the knowledge, attitudes, and preventive practices on soil-transmitted helminthiasis among residents of selected rural barangays in Tagkawayan, Quezon. The design was appropriate because the study aimed to describe the respondents' demographic profile, measure their knowledge, attitudes, and practices, and examine the relationships between demographic variables and STH-related factors. The quantitative approach allowed the data to be numerically measured, tabulated, and statistically analyzed in relation to the study objectives.

The respondents were 90 residents from three selected barangays in Tagkawayan, Quezon, with 30 respondents from each barangay. The barangays were selected based on sanitary and environmental conditions, including poor access to safe sanitation facilities, improper waste disposal practices, and possible exposure to unsafe water sources. A survey questionnaire adapted and modified from a previously validated study was used as the main research instrument. The first part gathered demographic information such as age, sex, educational attainment, occupation, and monthly income, while the second part measured knowledge, attitudes, and preventive practices on soil-transmitted helminthiasis. Knowledge items were answered using a True/False

format, while attitudes and practices were measured using a four-point Likert scale.

Before data collection, permission was secured from barangay officials and health authorities, and informed consent was obtained from the respondents. Physical copies of the questionnaire were distributed, retrieved, encoded in Microsoft Excel, tabulated, and analyzed according to the study objectives. Frequency and percentage were used to describe the demographic profile and knowledge responses, while weighted mean was used to interpret attitudes and preventive practices. The difficulty index was applied to assess the level of difficulty of the knowledge items, and correlation analysis was used to determine the relationship between demographic profile and knowledge, attitudes, and preventive practices. Ethical standards were observed by ensuring voluntary participation, confidentiality of responses, and protection of respondents from harm.

III. RESULTS

Demographic profile of the respondents

Table 1 presents the demographic profile of the respondents in terms of age, sex, educational attainment, occupation, and monthly income. The findings show that most respondents were aged 40–49 years old, followed by those aged 30–39 years old and 20–29 years old. This indicates that the study mainly involved adult community members who may already have household, occupational, and caregiving responsibilities.

The high participation of adult respondents is relevant because adults often make decisions related to sanitation, food preparation, child care, household hygiene, and health-seeking behavior.

Table 1. *Demographic Profile of the Respondents*

Demographic Variable	Category	f	%
Age	20–29 years old	20	22.22%
	30–39 years old	23	25.56%
	40–49 years old	26	28.89%
	50–59 years old	9	10.00%
	60–69 years old and above	12	13.33%
Sex	Male	25	27.78%
	Female	65	72.22%
Educational Attainment	Elementary	29	32.22%
	Secondary	54	60.00%
	Vocational	2	2.22%
	College	2	2.22%
	No formal education	3	3.33%
Occupation	Barangay councilor	1	1.11%
	Street sweeper	1	1.11%
	Welder	3	3.33%
	Vendor	21	23.33%
	Fisherman	8	8.89%
	Net-weaver	1	1.11%
	Cook	3	3.33%
	Tricycle driver	5	5.56%
	Businesswoman	3	3.33%
	Finance/Accountant	1	1.11%
	Laundry worker	1	1.11%
	Unemployed	42	46.67%

Monthly Income	Less than ₱10,597	86	95.56%
	₱10,597–₱21,194	3	3.33%
	₱21,194–₱43,828	1	1.11%

In terms of sex, females comprised the majority of the respondents. This may suggest that women were more available or more willing to participate in community health surveys. It may also reflect the important role of women in household-level disease prevention, particularly in maintaining hygiene, preparing food, caring for children, and participating in barangay health activities. This supports the manuscript's discussion that women are important contributors to household and community health practices.

For educational attainment, most respondents reached the secondary level, while fewer had vocational or college education. This finding is important because education can influence how individuals understand health information, adopt preventive behaviors, and respond to disease-prevention campaigns. The manuscript also notes that education is a relevant determinant of awareness and health-related decision-making, especially in public health studies.

The occupational profile shows that many respondents were unemployed, while others were vendors, fishermen, tricycle drivers, welders, cooks, and informal workers. This pattern reflects the rural and low-income context of the study area.

Occupations such as vending, fishing, and other outdoor or informal work may increase exposure to unsanitary environments, contaminated soil, unsafe water, and other conditions associated with soil-transmitted helminthiasis. Previous studies cited in the manuscript identified poor sanitation, unsafe water, open defecation, low socioeconomic status, and environmental exposure as risk factors for STH transmission.

In terms of monthly income, most respondents earned less than ₱10,597 per month. This indicates a largely low-income population, which may affect access to clean water, sanitation facilities, health services, and preventive treatment. The manuscript emphasized that low socioeconomic level and poor environmental health practices contribute to STH risk. Therefore, the demographic findings suggest that the respondents belonged to a rural population with socioeconomic and environmental vulnerabilities relevant to soil-transmitted helminthiasis prevention and control.

Respondents' level of knowledge regarding soil-transmitted helminthiasis

Table 2 shows the respondents' knowledge on soil-transmitted helminthiasis based on correct responses, difficulty index, and item interpretation. The findings reveal that many respondents correctly recognized important facts about STH. Most understood that intestinal worms can cause disease, poor hygiene can cause intestinal worms, intestinal worms can cause weight loss, and intestinal worm infections can be avoided. These results indicate that respondents had general awareness of the health risks and preventive nature of STH.

However, the table also reveals persistent knowledge gaps. The item stating that parasites can enter the intestines through the skin was difficult for respondents. This suggests limited understanding of hookworm transmission, where larvae from contaminated soil may penetrate the skin, especially when individuals walk barefoot. This finding is important because wearing footwear is one of the key preventive measures against STH. The manuscript also identified lack of shoes as a risk factor for STH transmission.

Table 2. *Respondents' level of knowledge on soil-transmitted helminthiasis*

Knowledge Statement	Correct Responses	Difficulty Index	Interpretation
Walking barefoot on soil can cause intestinal worms.	69	0.76	Easy
Parasites can enter our intestines through our skin.	32	0.36	Difficult

Parasites can enter our intestines through our mouth.	72	0.80	Easy
There is no cure for intestinal worms.	57	0.63	Easy
Intestinal worms can cause disease.	88	0.98	Very Easy
Intestinal worms are made up of parasites and bacteria.	0	0.00	Very Difficult
I may feel abdominal pain if I have a lot of worms in my intestines.	47	0.52	Moderately Difficult
Poor hygiene causes intestinal worms.	87	0.97	Very Easy
Intestinal worms can cause weight loss.	85	0.94	Very Easy
Intestinal worms can improve nutrition.	78	0.87	Very Easy
Intestinal worms are diseases that can be avoided.	82	0.91	Very Easy

Another major misconception appeared in the item about intestinal worms being made up of parasites and bacteria, which none of the respondents answered correctly. This suggests confusion about the biological nature of intestinal worms. Since helminths are parasitic worms, not bacteria, this misconception indicates the need for clearer health education using simple and scientifically accurate explanations. The manuscript's introduction defines helminths as large multicellular organisms and identifies nematodes, cestodes, and trematodes as major helminth groups that parasitize humans.

The findings are consistent with studies cited in the manuscript showing that communities may have general awareness but still retain misconceptions about STH. For example, Liwanagan reported inadequate knowledge and misconceptions among residents in San Antonio, Quezon, despite the presence of preventive measures and health education initiatives. Similarly, Narkkul et al. found that village health volunteers had good attitudes but poor knowledge and practices regarding STH.

These studies support the interpretation that awareness alone does not always mean accurate or complete knowledge.

Table 3 presents the overall knowledge level of the respondents. The weighted score of 7.74 was interpreted as "Knowledgeable." This means that, in general, respondents possessed adequate knowledge about soil-transmitted helminthiasis, particularly its health effects and basic prevention.

Table 3. *Overall Knowledge Level of Soil-Transmitted Helminthiasis*

Indicator	Weighted Score	Interpretation
Knowledge	7.74	Knowledgeable

This result may be attributed to existing health information disseminated through barangay health workers, rural health units, schools, public health campaigns, and prior deworming programs. The Philippine Integrated Helminth Control Program includes deworming activities, health education, preventive chemotherapy, and sanitation improvement. Such programs may have contributed to the respondents' overall awareness of STH.

However, being classified as knowledgeable does not mean that all areas of understanding were sufficient. As shown in Table 2, misconceptions remained regarding modes of transmission and the nature of intestinal worms. This is consistent with Nazir et al., who reported that even when parents had sufficient knowledge and proper attitudes regarding STH, misconceptions about deworming medication still influenced actual deworming practices. Therefore, health education should not only provide general information but should also directly correct misconceptions.

The result also supports the idea that knowledge should be translated into preventive behavior. Previous studies cited in the manuscript emphasized that knowledge and attitude alone do not automatically produce effective preventive practices. Nwazulu et al.

reported that even when teachers had high knowledge and good attitudes, preventive practices could still remain low. Hence, the respondents' knowledgeable status should be strengthened through practical, community-based, and behavior-focused interventions.

Respondents' attitudes and preventive practices related to soil-transmitted helminthiasis prevention and control

Table 4 presents the respondents' attitudes toward soil-transmitted helminthiasis prevention. The overall weighted mean of 3.74 was interpreted as "Strongly Agree," showing that respondents had highly favorable attitudes toward preventive measures.

They strongly agreed that washing before eating, washing hands with soap, using toilets properly, wearing footwear, drinking clean or boiled water, covering food, trimming nails, washing vegetables, and deworming help prevent intestinal worms.

Table 4. *Attitude toward soil-transmitted helminthiasis*

Attitude Statement	Weighted Mean	Interpretation
Washing before eating can help prevent intestinal worms.	3.90	Strongly Agree
Washing hands with soap after handling soil can help prevent intestinal worms.	3.71	Strongly Agree
Handwashing with soap after using the toilet can help prevent intestinal worms.	3.82	Strongly Agree
Wearing slippers or shoes when going outside can help prevent intestinal worms.	3.64	Strongly Agree
Drinking clean or boiled water can help prevent intestinal worms.	3.62	Strongly Agree
Covering food from flies can help prevent intestinal worms.	3.77	Strongly Agree
Regular nail trimming can help prevent intestinal worms.	3.77	Strongly Agree
Washing vegetables properly before cooking can help prevent intestinal worms.	3.82	Strongly Agree
Deworming can help prevent intestinal worms.	3.78	Strongly Agree
Intestinal worms can cause loss of appetite.	3.53	Strongly Agree
Overall Weighted Mean	3.74	Strongly Agree

The highest-rated attitude item was washing before eating, followed by handwashing after toilet use and washing vegetables properly before cooking. These results indicate that respondents recognized the importance of personal hygiene and food hygiene in preventing STH. This agrees with the manuscript's theoretical discussion of Germ Theory, which emphasizes that disease-causing microorganisms and parasites may be prevented through proper hygiene behaviors such as handwashing and washing food before consumption.

The favorable attitude toward wearing slippers or shoes is also important because walking barefoot on contaminated soil is a known risk factor for STH. The

manuscript identifies lack of shoes, poor hygiene, contaminated water exposure, open defecation, and inappropriate waste disposal as risk factors for STH transmission. Therefore, the respondents' positive attitude toward footwear use reflects awareness of an important preventive behavior.

The findings are supported by studies cited in the manuscript. Narkkul et al. found that village health volunteers had good attitudes toward STH prevention, although knowledge and practices were still poor. Meñe et al. also reported that respondents demonstrated positive attitudes and good practices despite insufficient knowledge, indicating willingness to reduce disease incidence. These studies suggest that positive attitudes can be a useful foundation for health promotion programs, but they must still be supported by accurate knowledge and accessible preventive services.

Table 5 presents the respondents' preventive practices toward soil-transmitted helminthiasis. The overall weighted mean of 2.69 was interpreted as "Often," indicating that respondents frequently practiced preventive behaviors, although not consistently across all areas.

Table 5. *Preventive practices toward soil-transmitted helminthiasis*

Practice Statement	Weighted Mean	Interpretation
Washing hands with soap and water	3.66	Always
Washing hands after defecation	3.92	Always
Wearing shoes when outside	3.57	Always
Nail biting/finger sucking habits	1.24	Rarely
Cutting fingernails regularly	3.66	Always
Washing fruits and vegetables before eating	3.89	Always
Drinking tap water	2.39	Often
Seeking treatment from a clinic	1.64	Rarely
Involvement in deworming	1.79	Rarely
Attending a health education program regarding STH infection	1.16	Rarely
Overall Weighted Mean	2.69	Often

The strongest practices were washing hands after defecation, washing fruits and vegetables before eating, washing hands with soap and water, cutting fingernails regularly, and wearing shoes when outside. These are important behaviors because STH transmission is associated with poor hygiene, contaminated soil, unsafe water, and inadequate sanitation. The manuscript identifies poor personal hygiene, open defecation, inappropriate waste disposal, contaminated water exposure, and low environmental health standards as risk factors for STH. Thus, the respondents' frequent practice of basic hygiene behaviors is a positive finding.

However, the table also shows weak participation in formal prevention and treatment behaviors. Seeking treatment from a clinic, involvement in deworming, and attending health education programs were rarely practiced. This indicates a gap between personal hygiene behaviors and participation in organized public health interventions. While respondents may practice household-level preventive actions, they may not fully engage with formal health services or community programs.

This finding is important because deworming and health education are major components of STH control. The manuscript states that the Philippine Integrated Helminth Control Program includes deworming, health education, preventive chemotherapy, and sanitation improvement. Mationg et al. also emphasized the need for sustainable deworming together with sanitation, hygiene improvement, health education, and nutritional interventions to manage STH infections. Therefore, the low participation in deworming and health education suggests that future interventions should

improve access, motivation, and community compliance.

The result also supports the manuscript's use of Self-Efficacy Theory. Even when people know what preventive behaviors are important, they may not consistently practice them unless they believe they can perform and sustain these behaviors. Strengthening self-efficacy through health worker support, repeated education, and community participation may help improve adherence to STH prevention.

Relationship between respondents' demographic profile and their knowledge, attitudes, and preventive practices on soil-transmitted helminthiasis.

Table 6 presents the relationship between demographic profile and knowledge on soil-transmitted helminthiasis. The results show that sex, age, educational attainment, occupation, and monthly income were not significantly related to knowledge. This means that respondents' knowledge level did not significantly differ across demographic groups.

Table 6. *Relationship Between Demographic Profile and Knowledge on Soil-Transmitted Helminthiasis*

Demographic Variable	Statistical Tool	Coefficient	p-value	Decision
Sex	Chi-square / Cramer's V	0.257	0.051	Accept H_0
Age	Spearman's rho	-0.003	0.980	Accept H_0
Educational attainment	Spearman's rho	0.063	0.556	Accept H_0
Occupation	Chi-square / Cramer's V	0.275	0.913	Accept H_0
Monthly income	Spearman's rho	-0.039	0.717	Accept H_0

This finding suggests that information about STH may be relatively widespread within the community regardless of demographic background. Health information may have reached respondents through barangay-based programs, schools, family networks, local health workers, or community discussions. Since the study was conducted in selected rural barangays where STH is a public health concern, residents may have similar exposure to basic information about intestinal worms and hygiene practices.

However, the absence of a significant relationship does not mean that knowledge was complete. As shown in Table 2, specific misconceptions remained among respondents. This indicates that while general knowledge may be shared across demographic groups, scientifically accurate knowledge may still need improvement. Previous studies cited in the manuscript support this interpretation. Liwanagan reported that residents in San Antonio, Quezon had inadequate knowledge and misconceptions about STH despite preventive initiatives.

Similarly, Punsawad et al. emphasized the role of health workers in improving community awareness, attitudes, and sanitation habits in rural communities.

The result implies that future health education should be community-wide rather than limited only to one demographic group. Since knowledge gaps were not strongly tied to age, sex, income, occupation, or education, interventions should deliver clear STH information to all residents while using simplified language, visual materials, and barangay-level communication strategies.

Table 7 presents the relationship between demographic profile and attitudes toward STH prevention. The findings show that sex and educational attainment had significant relationships with attitude, while age, occupation, and monthly income were not significantly related to attitude.

Table 7. *Relationship Between Demographic Profile and Attitudes Toward Soil-Transmitted Helminthiasis*

Demographic Variable	Statistical Tool	Coefficient	p-value	Decision
Sex	Chi-square / Cramer's V	0.518	0.007	Reject H_0
Age	Spearman's rho	-0.081	0.445	Accept H_0

Educational attainment	Spearman's rho	0.282	0.007	Reject H_0
Occupation	Chi-square / Cramer's V	0.379	0.100	Accept H_0
Monthly income	Spearman's rho	0.172	0.104	Accept H_0

The significant relationship between sex and attitude suggests that male and female respondents may differ in how they perceive STH prevention. Since females formed the majority of respondents and often perform household health and caregiving roles, they may be more exposed to hygiene-related responsibilities such as food preparation, child care, and household sanitation. These roles may influence stronger attitudes toward preventive practices.

The significant relationship between educational attainment and attitude indicates that education may shape how respondents value STH prevention. Education can improve understanding of health risks, increase receptiveness to public health messages, and strengthen positive perceptions of preventive measures. This supports the manuscript's discussion that education is an important determinant of health awareness and can influence attitudes toward STH prevention.

This finding is consistent with studies cited in the manuscript that link education and health awareness with disease prevention. Madeira et al. emphasized that education is essential for health promotion and disease prevention, and that it is closely related to reducing infection risk through proper sanitation practices. The result also supports the idea that health education programs may strengthen favorable attitudes toward STH prevention.

Since age, occupation, and monthly income were not significantly related to attitude, positive views toward STH prevention may already be common across different community groups. However, attitude alone may not be enough to ensure behavior change. As noted in the manuscript, knowledge and attitude do not automatically produce successful preventive practices. Therefore, interventions should convert positive attitudes into sustained preventive behaviors.

Table 8 presents the relationship between demographic profile and preventive practices on soil-transmitted helminthiasis. The findings show that sex and occupation had significant relationships with preventive practices, while age, educational attainment, and monthly income were not significantly related to practices.

Table 8. *Relationship between demographic profile and preventive practices on soil-transmitted helminthiasis*

Demographic Variable	Statistical Tool	Coefficient	p-value	Decision
Sex	Chi-square / Cramer's V	0.930	0.000	Reject H_0
Age	Spearman's rho	-0.049	0.648	Accept H_0
Educational attainment	Spearman's rho	0.005	0.964	Accept H_0
Occupation	Chi-square / Cramer's V	0.480	0.000	Reject H_0
Monthly income	Spearman's rho	0.190	0.073	Accept H_0

The significant relationship between sex and preventive practices suggests that males and females differed in their actual health behaviors. This may be related to gender roles in household sanitation, food preparation, caregiving, and child health monitoring. Female respondents may be more engaged in daily hygiene and sanitation routines, making them more likely to practice STH-related preventive behaviors. The manuscript's discussion similarly recognizes the role of women in household and community health activities.

The significant relationship between occupation and preventive practices suggests that work-related conditions may influence exposure and behavior. Respondents engaged in vending, fishing, tricycle driving, street sweeping, and other informal occupations may experience different levels of environmental exposure. Some occupations may

increase contact with soil, water, waste, or public spaces, affecting the consistency of preventive practices. This finding is consistent with the manuscript's discussion that occupation may influence exposure to poor sanitation and environmental risks.

Previous literature cited in the manuscript supports this interpretation. Kache et al. reported that not washing vegetables before consumption, open defecation, and sex-related differences were associated with STH infection risk. Chopra et al. also identified inadequate water supply, poor sanitation, low socioeconomic status, and environmental exposure as risk factors for helminthiasis. These findings suggest that preventive practices are shaped not only by knowledge but also by daily routines and environmental conditions.

The lack of significant relationship between age, educational attainment, and monthly income with practices may indicate that preventive behavior is influenced more by household roles and occupational exposure than by demographic characteristics alone. Therefore, future interventions should be gender-responsive and occupation-sensitive. Health programs should target both household-level hygiene practices and work-related exposure risks, especially among residents whose occupations require frequent outdoor activity or exposure to unsanitary environments.

IV. CONCLUSION & RECOMMENDATION

The study revealed that residents of selected rural barangays in Tagkawayan, Quezon were generally knowledgeable about soil-transmitted helminthiasis and showed strongly favorable attitudes toward its prevention. Respondents recognized the importance of handwashing, wearing footwear, washing food, drinking clean water, maintaining sanitation, and participating in deworming as preventive measures. However, specific misconceptions remained, particularly on parasite transmission through the skin and the biological nature of intestinal worms. Although respondents often practiced basic hygiene behaviors, participation in clinic consultation, deworming activities, and health education programs was rarely observed. The correlation results showed that demographic variables were not significantly related to knowledge, while sex and educational attainment were significantly related to attitudes, and sex and occupation were significantly related to preventive practices. These findings indicate that while basic awareness and personal hygiene practices are present, gaps in scientific understanding, health service participation, and organized prevention remain important concerns in STH control.

It is recommended that community-based health education programs on soil-transmitted helminthiasis be strengthened in the selected barangays of Tagkawayan, Quezon, with emphasis on correcting misconceptions about transmission, symptoms, prevention, and treatment. Barangay health workers, the Rural Health Unit, schools, and local government units should conduct regular, gender-responsive, and occupation-sensitive information campaigns using simple language, visual materials, and community demonstrations. Since participation in deworming, clinic consultation, and health education was low, local health authorities should improve access to deworming services, encourage routine health-seeking behavior, and integrate STH prevention into existing barangay health activities. Programs should particularly target households and occupational groups with higher environmental exposure while continuing to promote handwashing, footwear use, food hygiene, proper sanitation, and safe water practices as daily preventive behaviors. This approach may help translate knowledge and positive attitudes into sustained community-level prevention and control of soil-transmitted helminthiasis.

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