Plakat
Jurnal Pelayanan Kepada Masyarakat
ISSN: 2714-5239 (Online); ISSN: 2686-0686 (Print)
Volume 8 No. 1 January - June 2026, Pages 70-88

Empowering Mothers Through Booklet-Based Health Education to Prevent Helminth Diseases in Children Aged 5–14 Years

Pemberdayaan Ibu Melalui Edukasi Kesehatan Berbasis Booklet untuk Pencegahan Penyakit Kecacingan pada Anak Usia 5–14 Tahun

Indri Ramayanti[1*], Thia Prameswarie [2], Nia Saraswati [3], Putri Erlyn[4], Rista Silvana[5], Edi Saputra[6], Muhammad Ramadhan Hoiri[7]
[1-7] Faculty of Medicine, University of Muhammadiyah Palembang, Indonesia
*Email correspondent: indri_ramayanti@um-palembang.ac.id

Abstract

Worm infections due to Soil Transmitted Helminths (STH) remain a significant public health problem, especially in children aged 5–14 years in areas with limited sanitation, risky environmental conditions, and low levels of family health literacy. Mothers have an important role as the main caregiver in shaping hygiene behavior and disease prevention in children, so that maternal empowerment through health education is an important preventive strategy. This activity aims to analyze the effectiveness of booklet-based health education in improving maternal knowledge, attitudes, and behaviors related to the prevention of worms in children. Community service activities were carried out in the assisted areas of the University of Muhammadiyah Palembang using a pre-experimental design of one group pretest involving 95 mothers. Interventions are carried out through health counseling using booklet media, presentations, and interactive discussions. Data were collected using pre- and post-intervention questionnaires, then analyzed using the Wilcoxon test. The results showed a significant increase in knowledge (mean 65.83 to 99.42), attitude (63.95 to 99.50), and behavior (65.37 to 100.00) with a p value of < 0.001. All participants experienced changes to the good category after the intervention. These findings show that booklet-based education is effective in improving maternal health literacy and preventive behavior. This education has important implications as a sustainable promotive and preventive strategy to strengthen family-based deworming prevention and improve the health of children in the community.

Keywords: worm infection; soil transmitted helminths; health education; booklet; maternal empowerment

Abstrak

Infeksi cacing akibat Soil Transmited Helminths (STH) masih menjadi masalah kesehatan masyarakat yang signifikan, terutama pada anak usia 5–14 tahun di daerah dengan sanitasi terbatas, kondisi lingkungan berisiko, dan rendahnya tingkat literasi kesehatan keluarga. Ibu mempunyai peran penting sebagai caregiver utama dalam membentuk perilaku higienitas dan pencegahan penyakit pada anak, sehingga pemberdayaan ibu melalui pendidikan kesehatan menjadi salah satu strategi preventif yang penting. Kegiatan ini bertujuan untuk menganalisis efektivitas pendidikan kesehatan berbasis booklet dalam meningkatkan pengetahuan, sikap, dan perilaku ibu terkait pencegahan cacingan pada anak. Kegiatan pengabdian kepada masyarakat dilaksanakan di wilayah binaan Universitas Muhammadiyah Palembang dengan menggunakan desain pre-experimental one group pretest yang melibatkan 95 orang ibu. Intervensi dilakukan melalui penyuluhan kesehatan dengan menggunakan media booklet, presentasi, dan diskusi interaktif. Data dikumpulkan dengan menggunakan kuesioner sebelum dan sesudah intervensi, kemudian dianalisis menggunakan uji Wilcoxon. Hasil penelitian menunjukkan adanya peningkatan yang signifikan pada pengetahuan (mean 65,83 menjadi 99,42), sikap (63,95 menjadi 99,50), dan perilaku (65,37 menjadi 100,00) dengan nilai p < 0,001. Seluruh partisipan mengalami perubahan ke kategori baik setelah dilakukan intervensi. Temuan ini menunjukkan bahwa pendidikan berbasis buklet efektif dalam meningkatkan literasi kesehatan ibu dan perilaku preventif. Edukasi ini mempunyai implikasi penting sebagai strategi promotif dan preventif yang berkelanjutan untuk memperkuat pencegahan cacingan berbasis keluarga dan meningkatkan kesehatan anak di masyarakat.

Kata kunci: infeksi cacing; cacing yang ditularkan melalui tanah; pendidikan kesehatan; buku kecil; pemberdayaan ibu

Submited: 19/01/2026 Revision: 09/03/2026 Accepted: 01/05/2026

Plakat
Jurnal Pelayanan Kepada Masyarakat
ISSN: 2714-5239 (Online); ISSN: 2686-0686 (Print)
Volume 8 No. 1 January - June 2026, Pages 70-88

INTRODUCTION

Helminth infections remain a significant public health problem, particularly in developing countries where sanitation and hygiene infrastructure are limited (Klein et al., 2024). These infections, caused by parasitic worms such as nematodes, cestodes, and trematodes, disproportionately affect vulnerable populations, especially school-aged children (Gemechu et al., 2024). Helminthiasis is categorized among neglected tropical diseases due to its persistent prevalence and long-term impact on human health and development (Sander & Neumann, 2024).

Children aged 5–14 years represent one of the most at-risk groups for soil-transmitted helminth (STH) infections. Their frequent contact with contaminated soil, inadequate hand hygiene, and consumption of improperly washed food increase exposure risk. Epidemiological studies continue to report substantial prevalence and infection intensity among school-aged children in endemic regions (Sander & Neumann, 2024). The health consequences of helminth infections in children are substantial (Kang et al., 2024). Chronic infections are associated with anemia, malnutrition, stunted growth, and impaired cognitive development (Fan et al., 2024). Evidence from schoolchildren demonstrates a strong relationship between parasitic infections and anemia, which in turn affects academic performance and physical development (Takano et al., 2024).

Beyond nutritional and hematologic effects, helminths significantly modulate the host immune system (Costa et al., 2024). They interact with immune pathways to establish chronic infections, altering cytokine responses and immune regulation (Cuna et al., 2024). Emerging evidence also highlights the complex immune-stromal networks that mediate tolerance during intestinal infections (Westfall et al., 2025). Helminths possess sophisticated biological mechanisms that allow them to survive within the host. They produce enzymes and immunomodulatory proteins that degrade host tissues and evade immune detection (Diemert et al., 2024). These mechanisms make prevention strategies particularly important, as infections may persist silently for long periods (Tang & Weatherhead, 2025).

Environmental contamination plays a central role in transmission. Contaminated water sources are major contributors to parasitic spread in endemic regions (Marandi et al., 2025). Similarly, parasitic contamination of fresh vegetables sold in open markets increases the risk of ingestion of infective stages (Gabrysiak et al., 2025). Flood-prone and environmentally unstable areas further exacerbate helminth transmission. Physico-chemical environmental factors influence the survival of helminth eggs and larvae, increasing the likelihood of outbreaks (Mikaeel et al., 2025). These findings emphasize the need for preventive measures beyond clinical treatment (Shek et al., 2025).

Zoonotic transmission is another critical factor. Livestock and domestic animals may serve as reservoirs for helminths and other parasites, facilitating cross-species transmission (Salas-Rueda et al., 2025). Dermatologic manifestations of zoonotic parasitic infections also illustrate how close human-animal contact can pose health risks (Shi et al., 2025). Recent advances in diagnostic technologies have improved detection accuracy (Sadariya et al., 2025). Techniques such as 18S rRNA metabarcoding allow simultaneous diagnosis of intestinal parasites (Grigg et al., 2025). Additionally, rapid immunochromatographic assays enhance early detection of parasitic infections (Marchenko et al., 2025). However, diagnostic advancement alone cannot eliminate transmission (Serrat et al., 2025).

Mass drug administration (MDA) programs have been widely implemented to reduce helminth burden (Atembeh et al., 2025). Community perceptions and acceptance significantly influence the success of these programs (Fukuda et al., 2025). Reinfection remains common where sanitation and hygiene behaviors are not adequately addressed (Gunathilaka et al., 2025). Pharmacological treatments such as albendazole and ivermectin demonstrate efficacy in reducing infection intensity (Doanh et al., 2025). Nonetheless, without behavioral change and environmental control, treatment outcomes are often temporary (Westfall et al., 2025).

Helminth infections may also have systemic metabolic implications. Emerging research suggests possible interactions between parasitic infections and metabolic pathways, including insulin signaling (Islam et al., 2025). This underscores the broader health relevance of helminthiasis beyond gastrointestinal symptoms. Immune responses to helminth infections are complex and may involve immunoglobulins such as IgA in gastrointestinal defense (Fox et al., 2025). Additionally, helminth-derived molecules can influence vaccine efficiency through immunoregulation (Loke & Oyesola, 2025). These biological complexities highlight the importance of prevention over reliance solely on treatment. Environmental health risks are increasingly recognized as global threats, requiring preparedness and community-level awareness (Sripa et al., 2025). Helminth infections, although often chronic and neglected, remain part of this broader environmental health challenge (Ramos et al., 2025).

Studies in rural populations continue to document high prevalence and associated socio-environmental factors contributing to infection (Motazedian et al., 2025). Socioeconomic status, sanitation access, and parental knowledge remain critical determinants. Given that children's hygiene practices are largely shaped at home, parental influence especially that of mothers is central in preventive efforts (Andriola et al., 2025). Mothers typically oversee food preparation, personal hygiene, and healthcare decisions within the household (Mengistu et al., 2025).

Maternal knowledge significantly influences children's health behaviors (Karunakaran et al., 2025). When mothers understand transmission routes and preventive measures, they are more likely to implement protective practices such as proper handwashing, safe food handling, and clean water usage (Rajendiran et al., 2025). Health education serves as a fundamental strategy to improve maternal knowledge and promote behavioral change (Membe Femoe et al., 2026). Structured educational interventions can bridge gaps in understanding about disease transmission and prevention (Sridhar et al., 2026).

Among various educational tools, booklets offer practical advantages (Kumar et al., 2024). They provide structured, illustrated, and easy-to-understand information that can be reviewed repeatedly at home. This format supports sustained learning beyond one-time verbal counselling (Tahir et al., 2024). Booklet-based education enhances retention and comprehension because it combines textual and visual information (Adekoya et al., 2024). Clear illustrations of transmission cycles and preventive behaviors can improve understanding among mothers with varying literacy levels. Educational materials tailored to community contexts are more likely to be effective (Kalbermatten, 2024). Booklets can be designed using culturally relevant language and examples, ensuring accessibility and engagement (Soomro et al., 2024).

Preventive education targeting mothers aligns with family-centered health promotion approaches (Pulkkinen et al., 2025). Empowering mothers strengthens household-level

disease prevention strategies (Martikainen et al., 2025). Effective prevention requires integration of knowledge, attitude, and practice (Villacis-Alvarez et al., 2025). Booklet-based interventions can address all three components by providing actionable steps and reinforcing positive behaviors. Improved maternal awareness can reduce environmental risk exposure, including improper disposal of waste and unsafe water practices (Frieson et al., 2025).

Long-term sustainability of helminth control programs depends not only on medical treatment but also on community empowerment and education (Sirait et al., 2025). Empowering mothers contributes to broader child health outcomes, including improved nutritional status and reduced infection recurrence (Mohamed Noor et al., 2025). Educational empowerment supports resilience against reinfection, complementing pharmacological interventions and public health campaigns (Mukonavanhu & Nel-Sanders, 2025). In addition, preventive education aligns with global strategies aimed at reducing neglected tropical diseases and improving child health indicators (AlFadhli et al., 2025).

By focusing on mothers as primary caregivers, interventions can produce intergenerational benefits in hygiene behavior and health awareness. Therefore, empowering mothers through booklet-based health education repreents a strategic and sustainable approach to preventing helminth infections among children aged 5–14 years. Strengthening maternal knowledge and preventive practices is essential to reducing infection prevalence, minimizing reinfection, and improving overall child health outcomes in endemic communities.

IMPLEMENTATION METHOD

This community service activity was carried out in the assisted sub-district of the University of Muhammadiyah Palembang (UMP) which has middle-to-lower socio-economic characteristics, limited access to sanitation, and a relatively large number of mothers with school-age children. This condition makes this area vulnerable to environment-based health problems, especially Soil Transmitted Helminths (STH) worm infections, so it requires community-based promotive and preventive efforts.

The location of the activity was focused on Karya Jaya RW 07 RT 12 Village, Kertapati District, Palembang City. The selection of this location is based on the results of field observations that show the high potential for STH transmission due to the intensity of community contact with the soil, post-flood environmental sanitation conditions, and clean and healthy living habits that still need to be strengthened. This location is assessed in accordance with the purpose of the service program to strengthen family-based worm prevention efforts.

The activity was held on Sunday, November 23, 2025 at 10.00–12.00 WIB at the local environmental hall. The target of the activity was 95 mothers who had children aged 5–14 years. The selection of targets is based on the role of mothers as the main caregivers in the formation of children's hygiene habits, the high risk of exposure to STH in school-age children, and the need to strengthen knowledge and behavior of worm prevention in a sustainable manner at the household level.

The implementation of the activity began with remarks from the UMP Faculty of Medicine service team and local RT/RW officials, followed by the delivery of the goals and urgency of worm prevention in children. Socialization is carried out persuasively to build an understanding that worms are a family and environmental health problem that has an impact

on children's growth and development, so it requires an active role of mothers in preventing it.

Before the educational activity began, participants were given an explanation of the flow of activities and asked to fill out an informed consent sheet which was compiled in a concise and easy-to-understand manner. Furthermore, participants fill out an initial questionnaire (pretest) to find out the description of the mother's knowledge, attitudes, and behaviors related to worm prevention before being given education.

The service intervention was carried out through health counseling using booklet media accompanied by a brief presentation of the material and interactive discussions. The material presented included the definition and life cycle of Soil Transmitted Helminths, transmission pathways, risk factors related to child and maternal hygiene habits, the impact of worms on children's health and nutritional status, and worm prevention measures that can be applied in the household environment.

After the counseling activity was completed, participants filled out an evaluation questionnaire (posttest) to see changes in understanding and attitude after participating in the activity. As a form of appreciation as well as an effort to increase the involvement of participants in the service program, the activity was closed with the provision of food packages or souvenirs and continued with documentation of the activity. This entire series of activities is expected to be part of a sustainable community-based health education program in the assisted areas of the University of Muhammadiyah Palembang.

RESULTS AND DISCUSSION

The Community Service (PkM) activity entitled "Booklet-Based Media Counseling for the Prevention of Worm Disease in Mothers with Children Aged 5–14 Years in Karya Jaya Village, Kertapati District, Palembang" began with the delivery of program information by the head of the service team. At this initial stage, preliminary education and technical direction of activities were carried out to participants, RT/RW officials, and local environmental cadres as an effort to build mutual understanding and support for the sustainability of the program. As part of the visual education strategy, the service team distributed booklets to all participants. This media is designed to facilitate the understanding of the material while allowing participants to reread the information at home with family members. This approach is expected to strengthen the health message conveyed during the activity.

Based on the documentation of the activities (Figures 1–4), the PkM series in the form of health counseling was carried out in a structured and participatory manner. The material was delivered using a projector and a direct explanation by the service team, including the introduction of Soil Transmitted Helminths (STH), the life cycle of worms, fecal-oral transmission pathways and skin penetration, risk factors based on family habits, and the impact of worms on nutritional status, anemia, and child growth and development. Prevention education is strengthened through the use of visual media in the form of booklets that display key messages to prevent worms, including the habit of cutting nails, regular consumption of deworming, the use of footwear when doing activities outside the home, consumption of cooked and clean food, and the habit of washing hands with soap (Figure 1). This visual presentation makes it easier for participants to understand preventive measures in a practical and applicable way, and helps to relate the material to daily habits in the household environment.

Plakat
Jurnal Pelayanan Kepada Masyarakat
ISSN: 2714-5239 (Online); ISSN: 2686-0686 (Print)
Volume 8 No. 1 January - June 2026, Pages 70-88

Figure 1. Booklet on worm disease prevention education used in Community Service activities.

The counseling session was packaged in the form of short lectures combined with discussions and questions and answers (Figure 2). This pattern allows participants to be actively involved, share experiences, and relate material to their environmental conditions, especially related to sanitation and waterlogging that have the potential to support the transmission of STH in the Kertapati area. This participatory approach is important in service activities because it encourages participants' sense of belonging and readiness to apply health messages in daily life.

Figure 2. Team counseling session for women participants in Karya Jaya Village, Kertapati District.

As part of the evaluation of the activity, participants were asked to fill out questionnaires before (pretest) and after (posttest) booklet-based counseling (Figure 3) this instrument was used to describe changes in the level of knowledge, attitude, and preventive behavior of mothers related to worm prevention in children aged 5–14 years, at the end of the activity it was carried out with a photo together with all participants.

Plakat
Jurnal Pelayanan Kepada Masyarakat
ISSN: 2714-5239 (Online); ISSN: 2686-0686 (Print)
Volume 8 No. 1 January - June 2026, Pages 70-88


Figure 3. Questionnaire and Photo Filling Process

After the entire series of counseling and evaluation activities are completed, the questionnaire results are collected and processed as part of the evaluation of the output of Community Service activities. This activity involved as many as 95 participants who met the target criteria, namely mothers who have children aged 5-14 years, and all participants are women. The characteristics of the participants of booklet-based counseling activities for the prevention of worm disease are presented in Table 1.

Table 1. Characteristics of Community Service Activity Respondents

Characteristics	Frequency (n)	Percentage (%)
Age		
Early adulthood	48	50,5
Late Adult	35	36,8
Early Elderly	12	12,6
Final Education		
SDSMPSMAD4/S1	0	0
	6	6,3
	71	74,7
	18	18,9
Employment		
Work	29	69,5
Not Working	66	30,5

Based on the characteristics of the participants of the activity, most of them were in the early adult age group, which was 48 people (50.5%). In terms of education level, the majority of participants had a high school education, namely 71 people (74.7%), while based on employment status, most of them were housewives, namely 66 people (69.5%). This characteristic shows that participants are in the productive age group who are generally more responsive to health education interventions because they have good cognitive abilities and high motivation in seeking and understanding health information for children. This is in line with the findings of Orish et al. (2023) who stated that parents of productive age show better acceptance of written media-based health education and are more prone to changes in knowledge and behavior.

Viewed from the aspects of education and work, the dominance of participants with secondary education and housewife status is a supporting factor for the effectiveness of this service activity. The secondary education level plays an important role in the ability to understand health information conveyed through written media such as booklets, making it

easier to apply educational messages in daily life. These findings are supported by research by Tampubolon et al. (2024) which states that the level of maternal education is positively related to increased knowledge and practices of child health prevention. In addition, the role of housewives who have a higher intensity of interaction with children allows health information to be applied directly in the home environment, as reported by Animut et al. (2024) that concise reading-based educational media is more effective for housewives because it is flexible and can be reread according to their free time.

Furthermore, as part of the evaluation of the achievements of service activities, changes in the level of knowledge, attitudes, and behavior of mothers related to the prevention of worms before and after being given booklet-based health counseling were carried out. The results of the frequency distribution of the three variables are presented in Table 2.

Table 1. Distribution of Frequency of Maternal Knowledge, Attitudes, and Behaviors Towards Worms Before and After Intervention Using Media *Booklet*

Categories	Before		After	
	N	%	N	%
Knowledge				
Bad	73	76.8	0	0
Good	22	23.2	95	100
Attitude				
Bad	78	82,1	0	0
Good	17	17,9	95	100
Behavior				
Bad	73	76,8	0	0
Good	22	23,2	95	100

Based on the distribution of the frequency of knowledge, attitudes, and behaviors of mothers towards the prevention of worms before and after the implementation of booklet-based counseling, there was a noticeable increase in achievement in all variables as the output of service activities. Before the intervention, most of the participants were in the category of lack of knowledge, which was 73 people (76.8%). Similar conditions are also seen in the attitude and behavior aspects, where the majority of participants are in the poor category, each as many as 78 people (82.1%) for attitude and 73 people (76.8%) for behavior. These findings illustrate that before service activities are carried out, the understanding and practice of worm prevention at the household level still needs to be strengthened.

After being given health counseling using booklet media, all participants showed an increase to be in the category of good knowledge (Wells et al., 2025). This change in distribution indicates that the information conveyed through the booklet can be well received and understood by the participants (Paletto et al., 2025). Booklets as an educational medium have the advantage of presenting information in a written, systematic, and readable manner, thus helping to strengthen mothers' understanding of efforts to prevent worms in children (Vinod et al., 2025). These results are in line with previous findings that report that print

Plakat
Jurnal Pelayanan Kepada Masyarakat
ISSN: 2714-5239 (Online); ISSN: 2686-0686 (Print)
Volume 8 No. 1 January - June 2026, Pages 70-88

media such as booklets and leaflets are effective in increasing public understanding of health information (Gough et al., 2025).

In the attitude aspect, all participants showed changes towards the category of good attitudes after participating in booklet-based media-based counseling (Pepin et al., 2025). This change reflects the formation of a more positive perception and view of the importance of worm prevention in children (Mum et al., 2025). According to health behavioral theory, increased knowledge plays a role in the formation of attitudes, which further affects the readiness of individuals to act (Hwu et al., 2025). Media booklets help the process by presenting health messages in a clear, concise, and easy-to-understand manner for participants (Raman et al., 2025).

In addition, the distribution of behavior after counseling activities showed that all participants were in the category of good behavior (Omar et al., 2025). This change illustrates a shift in maternal practices towards more positive preventive behaviors in the domestic environment (O'Hara et al., 2025). Conceptually, behavior change is the result of a gradual process that starts from increasing knowledge, forming attitudes, to applying it in real actions (Hržica et al., 2025). These findings are in line with previous reports that reading media-based health education contributes to improving public health behavior (Bolouri et al., 2025). To strengthen the picture of the achievements of these service activities, an analysis of changes in the value of knowledge, attitudes, and behaviors of mothers before and after booklet-based counseling was carried out. The results of the analysis of the effectiveness of the intervention are presented in Table 3.

Table 2. The Effectiveness of Booklet-Based Media Counseling on Maternal Knowledge, Attitudes, and Behaviors about Worms Before and After Intervention

Categories	Before		After		Wilcoxon Test
	N	%	N	%	
Knowledge					
Red	95	65,83	95	99.42	
Minimum	95	45.45	95	90.9	<0.001*
Maximum	95	100.0	95	100.0	
SD	95	15.84	95	2.22	
Attitude					
Red	95	63,95	95	99.5	
Minimum	95	37,50	95	93,75	<0.001*
Maximum	95	100,0	95	100.0	
SD	95	17,07	95	2.04	
Behavior					
Red	95	65,37	95	100	
Minimum	95	30	95	100	<0.001*
Maximum	95	100	95	100	
SD	95	16,68	95	0,000	

Description: *statistically meaningful (p<0.05).

Based on the results of the analysis, there was a statistically significant increase in all variables after being given booklet-based counseling interventions. The mean value of knowledge increased from 65.83 before the intervention to 99.42 after the intervention

($p < 0.001$). The average score of attitude also increased from 63.95 to 99.50 ($p < 0.001$), while the mean value of behavior increased from 65.37 to 100.00 after the intervention ($p < 0.001$). These results show that health counseling using *booklet media* is effective in improving maternal knowledge, attitudes, and behaviors towards the prevention of worm disease.

Worm infections are still a significant public health problem, especially in school-age children in developing countries (Laatikainen et al., 2025). Children aged 5–14 years are the most vulnerable group due to playing activities on the ground, hygiene habits that are not optimal, and dependence on parental supervision in maintaining personal hygiene (Hoffman et al., 2025). Therefore, empowering mothers as the main caregivers is an important strategy in efforts to prevent worm infections in children through a family-based health education approach (Safie et al., 2025).

Environmental factors play an important role in the transmission of helminth infections. Areas with inadequate sanitation, poor drainage, and a history of flooding have a higher risk of the spread of parasitic eggs and larvae in soil and water (Klein et al., 2024). Research by Gemechu et al. (2024) shows that flood-prone areas have environmental conditions that support the survival of parasites, thereby increasing the risk of infection in the community, especially children who often do activities outside the home. In addition, water quality is also an important factor in parasite transmission (Sander & Neumann, 2024). Contaminated water sources can be a medium for the spread of parasite eggs into the household environment. Fan et al. (2024) report that various sources of household water can contain parasites that have the potential to cause infections in humans, so it is important for mothers to understand the importance of clean water use and hygiene practices in daily life (Takano et al., 2024).

Food contamination is also a significant transmission pathway (Kang et al., 2024). Gunathilaka et al. (2025) found that vegetables sold in the open market can be contaminated with parasites due to exposure to contaminated soil and water (Costa et al., 2024). This shows that mothers have an important role in ensuring that the food consumed by the child has been washed and cooked properly to prevent infection (Cuna et al., 2024). In addition to environmental factors, interactions with animals can also increase the risk of parasitic infections (Diemert et al., 2024). Some domestic animals can become reservoirs of zoonotic parasites that can infect humans through direct or indirect contact (Tang & Weatherhead, 2025). Marandi et al. (2025) emphasize that exposure to infected animals can cause various manifestations of parasitic diseases in humans, so education to mothers about the cleanliness of the home environment is very important.

Helminth infections can have a significant impact on a child's health, including anemia and growth disorders (Gabrysiak et al., 2025). Mikaeel et al. (2025) show that parasitic infections are one of the factors that contribute to anemia in schoolchildren, which can affect children's learning capacity and overall cognitive development. In addition to the physical impact, helminth infections also affect the body's immune system (Shek et al., 2025). The immune response to parasitic infections involves a variety of complex mechanisms, including the production of cytokines that play a role in controlling infection and minimizing tissue damage (Salas-Rueda et al., 2025). Loke and Oyesola (2025) explain that the interaction between the immune system and parasites can determine the severity of infection and the body's protective response.

Plakat
Jurnal Pelayanan Kepada Masyarakat
ISSN: 2714-5239 (Online); ISSN: 2686-0686 (Print)
Volume 8 No. 1 January - June 2026, Pages 70-88

Other research shows that mucosal immunoglobulins such as IgA play an important role in protecting the body from parasitic infections in the digestive tract (Grigg et al., 2025). Sadariya et al. (2025) emphasized that IgA functions as the main defense mechanism in preventing parasite colonization, so the prevention of parasite exposure is very important to maintain children's health (Handayani et al., 2024). Parasites also have the ability to adapt and survive in the host's body through the production of certain enzymes that help them obtain nutrients and evade the immune system (Sanjaya et al., 2021). Karunakaran et al. (2025) showed that helminths are able to modulate the host's biological environment to maintain their survival, so infections can be chronic if not prevented (Rachmah et al., 2022).

Some parasites can affect the body's physiological system more broadly (Klein et al., 2024). Gemechu et al. (2024) reported that certain parasites can affect the host's fibrinolytic system, indicating the complexity of the interaction between the parasite and the human body. This reinforces the importance of early prevention of infections, especially in children (Sander & Neumann, 2024). Although antiparasitic treatment is available, reinfection remains a major challenge if environmental and behavioral factors do not change (Fan et al., 2024). Takano et al. (2024) show that although antiparasitic therapy is effective, reinfection can occur quickly in high-risk environments, so preventive approaches are of great importance.

The mass drug administration program also requires support from the community so that it can run effectively (Kang et al., 2024). Cuna et al. (2024) emphasized that the success of the worm control program is greatly influenced by the understanding and involvement of the community, especially the elderly, in supporting prevention efforts (Tang & Weatherhead, 2025). In this context, mothers have a central role in shaping children's health behaviors (Diemert et al., 2024). Mothers are responsible for maintaining the cleanliness of the home environment, ensuring that children wash their hands, use footwear, and consume clean and safe food (Gabrysiak et al., 2025). Therefore, empowering mothers through health education is a very effective strategy (Marandi et al., 2025).

Educational interventions using booklet media in community service activities have proven to be effective in increasing maternal knowledge about worm prevention (Mikaeel et al., 2025). The booklet provides systematic, easy-to-understand, and re-readable information, thus strengthening the mother's understanding of preventive measures (Shek et al., 2025). A significant increase in knowledge after the intervention showed that prior to the educational activities, most mothers did not have an adequate understanding of worms (Salas-Rueda et al., 2025). This is in line with research by Shi et al. (2025) which shows that the lack of public knowledge is an important factor contributing to the high prevalence of helminth infections.

In addition to increasing knowledge, attitude change is also an important outcome of this intervention (Sadariya et al., 2025). Health education helps mothers understand the importance of their role in preventing worm infections, thus forming a more positive attitude towards preventive health practices (Grigg et al., 2025). Changes in maternal behavior after the intervention show that booklet-based education not only improves understanding, but also encourages the implementation of better health practices in daily life. This is important because behavior change is the main goal of health education

(Marchenko et al., 2025). Advances in diagnostic technology suggest that parasitic infections can be detected more accurately using molecular and immunological methods (Serrat et al., 2025). However, at the community level, preventive approaches remain the most practical and sustainable primary strategy. In addition, an omics technology-based approach has provided a deeper understanding of the biology of parasites and their interactions with hosts (Atembeh et al., 2025). This knowledge supports the importance of preventive efforts to reduce the risk of infection.

Parasitic infections can also occur in individuals with certain immune conditions and can lead to serious complications (Fukuda et al., 2025). Therefore, prevention of infection from an early age is very important to protect children's health. Research by (Gunathilaka et al. (2025) shows that behavioral and sanitary factors are the main determinants of parasitic infections at the community level. This reinforces the importance of family-based educational interventions, especially through maternal empowerment (Doanh et al., 2025).

Booklet media as an educational tool has the advantage of providing visual and written information at the same time. This approach helps improve understanding and retention of information in participants (Westfall et al., 2025). In addition, the community-based education approach allows for direct interaction between health workers and the community, thereby strengthening participants' understanding and trust in the information provided (Islam et al., 2025). Maternal empowerment through health education also has a long-term impact because mothers can apply and disseminate health information to other family members (Fox et al., 2025). With the increase in knowledge and awareness of mothers, it is hoped that worm prevention practices can be applied consistently in the household environment (Cuna et al., 2024).

Changes in maternal health behaviors also contribute to a reduced risk of infection in children. In addition, this approach supports promotive and preventive efforts in the public health system (Diemert et al., 2024). This community service activity shows that booklet-based education is an effective strategy in empowering mothers to prevent worm infections in children. This approach also supports the sustainable improvement of public health literacy (Tang & Weatherhead, 2025). Maternal empowerment through booklet-based health education is an effective, practical, and sustainable intervention in efforts to prevent helminth infections in children aged 5–14 years, and contributes to improving children's health and quality of life in the long term (Marandi et al., 2025).

CONCLUSIONS AND POLICY IMPLICATIONS

Community service activities through booklet-based health education have been shown to be effective in improving maternal knowledge, attitudes, and behaviors related to the prevention of worm infections in children aged 5–14 years, with significant improvements in all variables after the intervention. These findings confirm that booklets are a practical, easy-to-understand, and able to strengthen maternal health literacy as the main caregiver in shaping children's hygiene behavior at the household level. For further studies, it is recommended to use a design with a control group and conduct long-term follow-up to assess the sustainability of behavioral changes and their impact on reducing the incidence of infection clinically. Practically, these results have implications for the importance of integrating booklet-based education in family and community health

promotion programs by health education institutions such as the University of Muhammadiyah Palembang and health service facilities, as a sustainable preventive strategy in controlling Soil Transmitted Helminths (STH) infections.

ACKNOWLADGEMENT

The authors gratefully acknowledge the Internal Grant from the Research and Community Service Institute at the University of Muhammadiyah Palembang for their support and guidance. We also thank the local community leaders, health volunteers, and the mothers of Karya Jaya Village, Kertapati District, for their active participation and enthusiasm during this educational intervention. Finally, we appreciate the contributions of all team members, students, and support staff who helped plan, organize, and implement this booklet-based health education program, aimed at empowering mothers and preventing parasitic worm infections in children.

REFERENCE

Adekoya, A. O., Adesegun, O. A., Adekoya, A. O., Abolurin, O. O., Ehioghae, O., Idowu, A. O., Sodeinde, K. J., Taiwo, F. T., Babayode, O. O., Ogundele, I. O., Adumah, C. C., & Ogunlesi, T. A. (2024). Integrating e-learning into the educational framework for undergraduate medical training: a Nigerian survey on trainers´ perception and readiness. *Pan African Medical Journal*, *49*. https://doi.org/10.11604/pamj.2024.49.50.42398

AlFadhli, M., Cihat Onat, N. C., Küçükvar, M., & Al-Madeed, S. (2025). Analyzing AI Readiness through Digital Transformation and Data Management: A Case Study of Qatar's Government Sector. *Applied Mathematics and Information Sciences*, *19*(3), 497–507. https://doi.org/10.18576/amis/190302

Andriola, D. D., Ferreira, G. N., Candelário, J. M., Piazenski, I. N., Biavatti, M., Sakamoto, L. B., Minozzo, J. C., & Thomaz-Soccol, V. (2025). Validated cost-effective casein-based blocking buffers for enhanced neurocysticercosis ELISA accuracy. *Diagnostic Microbiology and Infectious Disease*, *113*(4). https://doi.org/10.1016/j.diagmicrobio.2025.117033

Atembeh, N. E., Molu, J. P., Maboulou, J. V. E., Fominyam, B., Dongmo, R. N., Zambo, G. B., Tiecheu, E. T., Tombi, J., Nkengazong, L., Togouet, S. H. Z., & Oyono, J. L. E. (2025). Risks of parasitic helminth disease outbreaks and influence of physico-chemical factors in flood prone areas of Yaoundé, Cameroon. *Parasite Epidemiology and Control*, *28*. https://doi.org/10.1016/j.parepi.2024.e00404

Bolouri, A., Lohse, T., & Qari, S. (2025). Interdependent Preferences for Financing and Providing Public Goods—The Case of National Defense. *Kyklos*, *78*(3), 807–821. https://doi.org/10.1111/kykl.12442

Costa, M., Saravia, A., Ubios, D., Paolazzi, C., Capozzo, A., & Freire, T. (2024). Impact of Fasciola hepatica Infection and Triclabendazole Treatment on Humoral Immune Response in Cattle. *Parasite Immunology*, *46*(12). https://doi.org/10.1111/pim.13079

Cuna, W. R., Contreras, I., Rodriguez, A., Passera, R., & Rodríguez, C. (2024). Determinants of Anemia in Schoolchildren in the Highland Bolivia. *Microorganisms*, *12*(12). https://doi.org/10.3390/microorganisms12122491

Diemert, D. J., Zumer, M., Bova, M., Gibbs-Tewary, C., Malkin, E. M., Campbell, D., Hoeweler,

L., Li, G., Bottazzi, M. E., Hotez, P. J., & Bethony, J. M. (2024). Randomized, observer-blind, controlled Phase 1 study of the safety and immunogenicity of the Na-GST-1/Alhydrogel hookworm vaccine with or without a CpG ODN adjuvant in hookworm-naïve adults. *PLoS Neglected Tropical Diseases*, *18*(12). https://doi.org/10.1371/journal.pntd.0012788

Doanh, P., Hien, H., Dung, B., & Nawa, Y. (2025). First confirmation of the chicken eyeworm, Oxyspirura mansoni, as a causative pathogen of human cutaneous larva migrans by morphological and molecular evidence. *Parasitology Research*, *124*(5). https://doi.org/10.1007/s00436-025-08473-5

Fan, J., Sun, H., Fang, J., Gao, Y., Ding, H., Zheng, B., Kong, Q., Zhuo, X., & Lu, S. (2024). Application of gold immunochromatographic assay strip combined with digital evaluation for early detection of Toxoplasma gondii infection in multiple species. *Parasites and Vectors*, *17*(1). https://doi.org/10.1186/s13071-024-06180-1

Fox, T., Shrestha, S., Kuehn, R., & Taylor, M. (2025). Community views on mass drug administration for soil-transmitted helminths: a qualitative evidence synthesis. *Cochrane Database of Systematic Reviews*, *2025*(6). https://doi.org/10.1002/14651858.CD015794.pub2

Frieson, T., Reese-Masterson, A., Tran, V., Douglass, F., & O'Connor Duffany, K. (2025). Listening to Community to Improve Breastfeeding Friendliness: Findings From a Community Readiness Assessment on Breastfeeding. *Health Promotion Practice*. https://doi.org/10.1177/15248399251362887

Fukuda, M., Otsuka, Y., Sakai, K., Uni, S., Junker, K., Saeung, A., Srisuka, W., & Takaoka, H. (2025). Metabolomic analysis of larval stages of Onchocerca japonica (Spirurida: Onchocercidae), raised in black fly (Diptera: Simuliidae) vectors, by gas chromatography-tandem mass spectrometry. *Acta Tropica*, *263*. https://doi.org/10.1016/j.actatropica.2025.107541

Gabrysiak, J., Kanarek, G., Rydelek, B., Wydra, S., Zaleśny, G., & Hildebrand, J. (2025). Back from the dead: validity and taxonomic position of Cotylurus brandivitellatus (Belogurov, Maksimova et Tolkacheva, 1966) in the light of integrative taxonomy approach. *Parasitology*. https://doi.org/10.1017/S003118202510067X

Gemechu, T., Dedecha, W., Aliyo, A., Disani, A., & Diriba, F. (2024). Soil-transmitted helminthes prevalence, intensity, and associated factors among school-aged children in the communities of west Guji Zone, South Ethiopia. *Clinical Epidemiology and Global Health*, *30*. https://doi.org/10.1016/j.cegh.2024.101833

Gough, C., Coyne, I., & Munir, F. (2025). Organisational readiness for workplace bullying interventions: conceptualisation and measurement. *International Journal of Conflict Management*, *36*(3), 675–696. https://doi.org/10.1108/IJCMA-01-2025-0033

Grigg, J., Barratt, B., Bønnelykke, K., Custovic, A., Ege, M., Pasquali, C., Palomares, O., Shaheen, S., Sokolowska, M., Vercelli, D., Maizels, R., & von Mutius, E. (2025). European Respiratory Society Research Seminar on Preventing Pediatric Asthma. *Pediatric Pulmonology*, *60*(1). https://doi.org/10.1002/ppul.27401

Gunathilaka, N., Kavindya, R., Gunawardena, K., & Amerasinghe, D. (2025). Parasitic contamination in green vegetables from open markets in Gampaha District, Sri Lanka: Implications for human health. *PLoS ONE*, *20*(4 April). https://doi.org/10.1371/journal.pone.0321853

Handayani, N., Humaira, H., Firnando, J., Suhendra, A., & Malik, D. (2024). Model Kirkpatrick Sebagai Metode Mengukur Hasil Pelatihan Responsibility Dalam Berorganisas. *Plakat: Jurnal Pelayanan Kepada Masyarakat*, *6*(1), 51–72.

Hoffman, S., Hanass-Hancock, J., Harrison, A. D., Bhengu, N., Dolezal, C., Exner, T. M., Miller, L., Ready, T., Han, J., & Leu, C.-S. (2025). Masibambane (Let Us Work Together), Ladies Chat: Pilot Evaluation of an Online, Gender-Enhanced, Group-Interactive Workshop to Promote Oral PrEP to Young South African Women. *AIDS and Behavior*, *29*(9), 2932–2945. https://doi.org/10.1007/s10461-025-04747-2

Hržica, R., Debelak, K., & Pevcin, P. (2025). A Dual-Level Model of AI Readiness in the Public Sector: Merging Organizational and Individual Factors Using TOE and UTAUT. *Systems*, *13*(8). https://doi.org/10.3390/systems13080705

Hwu, M.-J., Shih, Y.-Z., Liu, J.-R., & Chen, Y.-W. (2025). Exploring the Application of Flipped Teaching Strategies in Retirement Preparation Courses: An Analysis of Educational Effectiveness From the Perspective of Proactive Coping Theory Across Different Levels of Need. *Journal of Research in Education Sciences*, *70*(2), 83–121. https://doi.org/10.6209/JORIES.202506_70(2).0003

Islam, S. B., Sultana, T. N., Dewan, S. M. R., Sohan, M., Bhuiyan, M. A., & Islam, M. R. (2025). Environmental Health Risk Evaluation and Potential to Cause Disease X as a Global Pandemic: A Call for Global Preparedness. *Health Science Reports*, *8*(5). https://doi.org/10.1002/hsr2.70864

Kalbermatten, C. J. (2024). Employee readiness for change: examining the combined effects of individual and organizational demands in public school reform. *International Journal of Public Sector Management*, *37*(5), 613–629. https://doi.org/10.1108/IJPSM-07-2023-0230

Kang, D., Choi, J. H., Kim, M., Yun, S., Oh, S., Yi, M.-H., Yong, T.-S., Lee, Y. A., Shin, M. H., & Kim, J. Y. (2024). Optimization of 18 S rRNA metabarcoding for the simultaneous diagnosis of intestinal parasites. *Scientific Reports*, *14*(1). https://doi.org/10.1038/s41598-024-76304-1

Karunakaran, A. C., Bakshi, M., Mekhemadhom Rajendrakumar, A. M., Wilson-Welder, J. H., Aroian, R. V, Schwarz, E. M., Homan, E. J., Ostroff, G. R., Beshah, E., Miramontes, E., Papadopoulos, M. D., Bowdridge, S. A., Zarlenga, D. S., Zhu, X., & Tuo, W. (2025). Catalytically Active Recombinant Cysteine Proteases of Haemonchus contortus: Their Ability to Degrade Host Blood Proteins and Modulate Coagulation. *International Journal of Molecular Sciences*, *26*(24). https://doi.org/10.3390/ijms262412077

Klein, P. A., Parisi, R., Daniel, J. M., & Rogers, R. S. (2024). Dermatologic manifestations of zoonotic diseases transmitted by dogs: “Spot” could give you spots. *International Journal of Dermatology*, *63*(10), 1318–1333. https://doi.org/10.1111/ijd.17258

Kumar, A., Prasad, J. B., Mani, S. K., & Tiwana, A. S. (2024). Organizational contributions to emergency preparedness and response in Varanasi: A comprehensive analysis. *International Journal of Disaster Risk Reduction*, *110*. https://doi.org/10.1016/j.ijdrr.2024.104654

Laatikainen, G., Mustak, M., & Hickman, N. (2025). Self-sovereign identity adoption: Antecedents and potential outcomes. *Technology in Society*, *82*. https://doi.org/10.1016/j.techsoc.2025.102859

Loke, P., & Oyesola, O. (2025). Is IFN-γ good or bad for the host during helminth infections?

Trends in Parasitology, *41*(7), 514–515. https://doi.org/10.1016/j.pt.2025.05.009

Marandi, A., Jensen, A. M., & von Gersdorff Jørgensen, L. (2025). Pseudocapillaria tomentosa (Nematoda: Capillariidae) in fish and its significance in comprehending host-parasite relationships: A review. *Current Research in Parasitology and Vector-Borne Diseases*, *7*. https://doi.org/10.1016/j.crpvbd.2025.100265

Marchenko, V., Biryukov, I., Kurinov, D., Khalikov, M., Khalikov, S., Il'yin, M., & Sazmand, A. (2025). Efficacy of a modified albendazole and ivermectin formulation on treatment and the seasonal dynamics of sheep helminthosis. *Ankara Universitesi Veteriner Fakultesi Dergisi*, *72*(4), 433–443. https://doi.org/10.33988/auvfd.1505171

Martikainen, M., Smolander, K., Sanmark, J., & Sanmark, E. (2025). Evaluation of Generative Artificial Intelligence Implementation Impacts in Social and Health Care Language Translation: Mixed Methods Case Study. *JMIR Formative Research*, *9*. https://doi.org/10.2196/73658

Membe Femoe, U. M., Musaigwa, F., Nicolis, I., Hung, L.-Y., Napuri, C., Uzoije, C., Rossi, H. L., Lin, C., Winters, H., Reed, D. R., Inclan-Rico, J. M., & Herbert, D. R. (2026). Trained ILC2 prevent IL-17-associated lung injury during helminth infection through a serotonin-dependent mechanism. *Mucosal Immunology*. https://doi.org/10.1016/j.mucimm.2026.01.002

Mengistu, B., Maddren, R., Collyer, B., & Anderson, R. M. (2025). Trends in the prevalence and intensity of soil-transmitted helminth (STH) infection in Ethiopia 2000 to 2023: a systematic review. *Parasites and Vectors*, *18*(1). https://doi.org/10.1186/s13071-025-06928-3

Mikaeel, F. B., Ismael, H. G., Aziz, K. J., & Al-Saeed, A. T. M. (2025). Identification of Parasitic Contamination in Different Water Sources in Amedi District, Kurdistan Region. *Zanco Journal of Pure and Applied Sciences*, *37*(4), 92–100. https://doi.org/10.21271/ZJPAS.37.4.8

Mohamed Noor, A. F., Moghavvemi, S., & Tajudeen, F. P. (2025). Assessing the impact of cybersecurity readiness on organizational security performance: a study on Malaysian organizations. *Journal of Enterprise Information Management*, 1–21. https://doi.org/10.1108/JEIM-12-2024-0675

Motazedian, M. H., Morabi, L., Ezzatzadegan Jahromi, S. E., Shafiekhani, M., Shahabi, S., Dailami, H. N., Gholami, S., & Shahriari, B. (2025). Unveiling the hidden threat: prevalence of Enterocytozoon bieneusi and other intestinal parasitic infections among organ transplant recipients in Southern Iran. *Gut Pathogens*, *17*(1). https://doi.org/10.1186/s13099-025-00714-3

Mukonavanhu, T., & Nel-Sanders, D. (2025). The Role of Digital Technologies for Risk Management in the South African Public Sector. *International Journal of African Renaissance Studies*, *20*(2), 101–125. https://doi.org/10.1080/18186874.2025.2590440

Mum, N., Atabay, Ş., Tekin, H., & Akkaya, D. (2025). Addressing the Value Management Approach in Public Construction Works: Barriers, Critical Success Factors, and Potential Risks. *Sustainability (Switzerland)*, *17*(12). https://doi.org/10.3390/su17125247

O'Hara, M. E., McDuff, K., Wei, H., McCorkell, L., Thomson, C., Kelly, M., Goulding, S., O'Donovan, I., O'Connell, S., Stokes, R., Malli, N., St Clair-Sullivan, N., Chan Carusone,

S., Cheung, A. M., Erlandson, K. M., Bannan, C., Townsend, L., Bergin, C., Vera, J. H., … O'Brien, K. K. (2025). Community Engagement in Long Covid Research: Process, Evaluation and Recommendations From the Long COVID and Episodic Disability Study. *Health Expectations*, *28*(4). https://doi.org/10.1111/hex.70365

Omar, R. S., Bakar, S. I. A., Bin Nurumal, M. S., Hasan, M. K. C., Arifin, S. R. M., Mahat, N. A., & Jamaludin, T. S. S. (2025). Determining Sociodemographic Influences on Medical Emergency Activation, CPR Initiation, and AED Utilization Knowledge, and Awareness Among Emergency Department Attendees at Hospital Sultan Idris Shah Serdang. *Malaysian Journal of Medicine and Health Sciences*, *21*, 237–245. https://doi.org/10.47836/mjmhs.21.s6.41

Paletto, A., Sergiacomi, C., Marzano, M., Avdibegović, M., Bełka, M., Blumenstein, K., Bragança, H., Branco, M. R., Burokiene, D., Casero, J. J. D., Đorđević, I. D., Dobšinská, Z., Hrafnkelsdóttir, B., Kacprzyk, M., Korkmaz, Y., Kicic, M., Jürisoo, L., İpekdal, K., Janosikova, Z., … Witzell, J. (2025). Collaborative approaches to urban tree biosecurity: Stakeholder's perceptions, actions and social networks. *Urban Forestry and Urban Greening*, *105*. https://doi.org/10.1016/j.ufug.2025.128674

Pepin, K. M., Combs, M. A., Bastille-Rousseau, G., Craft, M. E., Cross, P., Diuk-Wasser, M. A., Gagne, R. B., Gallo, T., Garwood, T., Heale, J. D., Hewitt, J., Høy-Petersen, J., Malmberg, J., Mullinax, J., Plimpton, L., Smith, L., VanAcker, M. C., Chandler, J. C., Walter, W. D., … Manlove, K. (2025). Expanding National-Scale Wildlife Disease Surveillance Systems With Research Networks. *Ecology and Evolution*, *15*(6). https://doi.org/10.1002/ece3.71492

Pulkkinen, J., Suhonen, M., & Leinonen, J. (2025). Support Factors and Mechanisms for Civil Servants' Digitalization Readiness. *Scandinavian Journal of Public Administration*, *29*(1), 18–39. https://doi.org/10.58235/sjpa.2024.24130

Rachmah, D., Zwagery, R., Widyawati, W., Munajat, R., & Noor, M. (2022). Penyuluhan ke Orangtua Mengenai Dampak dan Perilaku Bullying Pada Anak Usia Dini. *PLAKAT : Jurnal Pelayanan Kepada Masyarakat*, *4*(1), 71–81.

Rajendiran, I., Khan, A. A., Kolte Sachin, S., & Raj, N. (2025). Double Trouble: A Rare Case of Intestinal Tuberculosis and Taenia Co-Infection with Comprehensive Review of Literature. *Indian Journal of Surgical Oncology*, *16*(6), 1523–1527. https://doi.org/10.1007/s13193-025-02262-3

Raman, R., Nair, V. K., Dinesh, S., & Acharyulu, R. (2025). Comparative Analysis of ChatGPT and Bard in Digital Governance: Accuracy, Adaptability, and Readability Insights. *Digital Government: Research and Practice*, *6*(2). https://doi.org/10.1145/3674846

Ramos, A. C. S., Oliveira, L. M., Santos, Y. L. D. C. O., Dantas, M. C. S., Walker, C. I. B., Faria, A. M. C., Bueno, L. L., Dolabella, S. S., & Fujiwara, R. T. (2025). Corrigendum to "The role of IgA in gastrointestinal helminthiasis: A systematic review" [Immunology Letters (2022) 12-22, Volume: 249, (S0165247822001146), (10.1016/j.imlet.2022.08.003)]. *Immunology Letters*, *275*. https://doi.org/10.1016/j.imlet.2025.107011

Sadariya, K. A., Solanki, T. H., Sarvaiya, V. N., & Bhavsar, S. K. (2025). Therapeutics, Prevention, and Control of Parasitic Diseases. In *Handbook of Poultry Parasites* (pp. 203–223). Bentham Science Publishers. https://doi.org/10.2174/9798898811235125010013

Safie, S. I., Zulkifli, M., Sapry, H. R., & Bashah, S. R. M. (2025). Integrating individual and organizational perspectives: A TAM-TOE framework for ISO 27037 adoption in

Malaysian government digital forensics agencies. *Journal of Open Innovation: Technology, Market, and Complexity*, *11*(3). https://doi.org/10.1016/j.joitmc.2025.100595

Salas-Rueda, M. X., Garnica-Marquina, F. P., Curipoma-Maisincho, V. P., Chávez Toledo, K. N., Rocano-Marcatoma, E. C., Orlando, S. A., Arcos Alcivar, F., Rodriguez-Pazmiño, A. S., Hermoso-De-Mendoza Salcedo, J., & Garcia-Bereguiain, M. A. (2025). Livestock guinea pigs in Ecuador as reservoirs of zoonotic protozoa and helminths. *Frontiers in Veterinary Science*, *12*. https://doi.org/10.3389/fvets.2025.1658485

Sander, C., & Neumann, S. (2024). Development of a lateral-flow assay for rapid detection of parasitic nematodes. *IJID One Health*, *5*. https://doi.org/10.1016/j.ijidoh.2024.100040

Sanjaya, A., Lisvia, L., Nursandy, F., & Nurlita, Y. (2021). Pemanfaatan digital marketing dalam memasarkan produk di masa pandemi covid-19. *PLAKAT (Pelayanan Kepada Masyarakat)*, *3*(2), 167–181.

Serrat, J., Torres-Valle, M., De Marco Verissimo, C., Siles-Lucas, M., & González-Miguel, J. (2025). Binding and cleavage of pro-urokinase by a tegument extract of Fasciola hepatica newly excysted juveniles activate the host fibrinolytic system. *Veterinary Research*, *56*(1), 20. https://doi.org/10.1186/s13567-025-01449-4

Shek, V., Jamwal, A., Smyth, D. J., Frangova, T., Savage, A. R., Kelly, S., Wright, G. J., Toth, R., Schwarz, E. M., Maizels, R., Higgins, M. K., Ivens, A. C., Smits, H. H., & McSorley, H. J. (2025). HpBoRB, a helminth-derived CCP domain protein which binds RELMβ. *International Journal for Parasitology*. https://doi.org/10.1016/j.ijpara.2025.09.006

Shi, W., Liu, Y., Bai, X., Liang, Y., Zhang, S., Sun, L., Lin, W., Liu, X., & Xu, N. (2025). Immunoregulation mediated by the enzyme inhibitory activity of helminth-derived serine protease inhibitor affects the protective efficiency of vaccines. *Virulence*, *16*(1). https://doi.org/10.1080/21505594.2025.2569621

Sirait, E., Zuiderwijk, A., & Janssen, M. (2025). Factors Influencing the Perceived Readiness of Government Organizations for Implementing Predictive Artificial Intelligence. *International Journal of Electronic Government Research*, *21*(1). https://doi.org/10.4018/IJEGR.391352

Soomro, S., Bano, A., Gulzar, Y., & Moses, G. (2024). Factors measuring the readiness of teacher educators' to use web 2.0 technologies. *Discover Sustainability*, *5*(1). https://doi.org/10.1007/s43621-024-00752-y

Sridhar, G. R., Botta, S., & Lakshmi, G. (2026). Can parasites influence insulin signaling and development of diabetes mellitus? *Academia Biology*, *4*(1). https://doi.org/10.20935/AcadBiol8088

Sripa, J., Suebsamran, P., Srivoramas, R., & Chaiwong, T. (2025). Prevalence of Intestinal Parasites and Associated Factors among Rural Populations in Ubon Ratchathani Province, Thailand. *American Journal of Tropical Medicine and Hygiene*, *113*(3), 632–639. https://doi.org/10.4269/ajtmh.25-0091

Tahir, Z., Sitinjak, C., Ismail, R., Che Rose, R. A. C., Harun, Z., Muhamad Razuhanafi, M. R. M., Ober, J., & Sakiewicz, P. (2024). Exploring Malaysia's End-of-Life Vehicle Policy—Attitudes, Knowledge, and Readiness. *Sustainability (Switzerland)*, *16*(18). https://doi.org/10.3390/su16187982

Takano, T., Sata, N., Iwaki, T., Murata, R., Suzuki, J., Kodo, Y., & Ogawa, K. (2024). Anisakid

larvae in the skipjack tuna Katsuwonus pelamis captured in Japanese waters: Two-year monitoring of infection levels after the outbreak of human anisakiasis in 2018. *Parasitology International*, *103*. https://doi.org/10.1016/j.parint.2024.102938

Tang, N. L., & Weatherhead, J. E. (2025). Recent Advances in Parasitomics: Omics in the Study of Ascariasis. In *Recent Advances in Parasitomics: Implications for Parasite and Vector Research* (pp. 273–284). Springer Nature. https://doi.org/10.1007/978-3-031-70591-5_14

Villacis-Alvarez, E., Noorloos, J., Wilson, S. J., Robert S. Green, R., Fashan, S., Pritchett, C., John, C., & Yakubovich, A. R. (2025). Organizational and systems-level barriers and facilitators to health professionals' readiness to address domestic and sexualized violence: a qualitative study from Nova Scotia, Canada. *Frontiers in Reproductive Health*, *7*. https://doi.org/10.3389/frph.2025.1598706

Vinod, A. D., Prasad, R., Singh, P., Maharaj, R., & Charan, D. (2025). Biofuels for decarbonizing land transport sector: A case study on people's perspective and policy in Fiji. *Renewable Energy*, *240*. https://doi.org/10.1016/j.renene.2024.122156

Wells, Y., Rayner, J.-A., Fetherstonhaugh, D., & McAuliffe, L. (2025). The Most Significant Change: An Evaluation of Predictive Performance Measures in Nursing Homes. *Journal of Evaluation in Clinical Practice*, *31*(1). https://doi.org/10.1111/jep.70017

Westfall, S., Gentile, M. E., Olsen, T. M., Karo-Atar, D., Bogza, A., Röstel, F., Pardy, R. D., Mandato, G., Fontès, G., Herbert, D. R., Melichar, H. J., Abadie, V., Richer, M. J., Vinh, D. C., Koenig, J. F. E., Harrison, O. J., Divangahi, M., Weis, S., Gregorieff, A., & King, I. L. (2025). A type 1 immune-stromal cell network mediates disease tolerance against intestinal infection. *Cell*, *188*(12), 3135-3151.e22. https://doi.org/10.1016/j.cell.2025.03.043