



# From Drug of Choice to Public Health Tool: A Narrative Review of Ivermectin for Strongyloidiasis Control

Dian Nurmansyah<sup>12\*</sup>, Lala Foresta Valentine Gunasari<sup>13</sup>, Puspawati<sup>24</sup>

<sup>1</sup> Universitas Gajah Mada

<sup>2</sup> Universitas Borneo Lestari

<sup>3</sup> Universitas Bengkulu

<sup>4</sup> RSUD Ratu Zalecha

DOI:

<https://doi.org/10.47134/scpr.v3i1.5600>

\*Correspondence: Dian Nurmansyah

Email: [dian.nurmansyah@unbl.ac.id](mailto:dian.nurmansyah@unbl.ac.id)

Received: 16-01-2026

Accepted: 16-02-2026

Published: 16-03-2026



**Copyright:** © 2024 by the authors. Submitted for open access publication under the terms and conditions of the Creative Commons Attribution-ShareAlike (CC BY SA) license (<http://creativecommons.org/licenses/by-sa/4.0/>).

**Abstract:** This narrative review analyses the gap between its clinical supremacy and inadequate public health translation. A structured literature search (2020-2025) using MeSH terms including Ivermectin, *Strongyloides stercoralis*, and soil-transmitted helminths was conducted via ScienceDirect and Google Scholar. The retrieved evidence synthesizes ivermectin's superior therapeutic profile over albendazole and critically examines the Indonesian context, where significant underdiagnosis and missed opportunities within mass drug administration programs perpetuate transmission. Key implementation barriers spanning diagnostics, policy, and health systems are identified. To address this, the review argues for a strategic paradigm shift: ivermectin must be reenvisioned from a curative agent to a cornerstone of preventative public health. Achieving this requires definitive guideline integration, targeted preventive strategies, and multi-sectoral collaboration

**Keywords:** Ivermectin, Efficacy, Anthelmintic, Soil-transmitted helminths, Strongyloidiasis, *Strongyloides stercoralis*

## Introduction

Soil-transmitted helminth (STH) infections continue to impose a substantial global health burden, impacting more than one billion individuals, with a predominant concentration in resource-poor regions (Armelle Forrer et al, 2017) (Diana Carolina Hennessey et al, 2020). Among STHs, *Strongyloides stercoralis* is particularly distinctive and clinically significant. Unlike other STHs, *S. stercoralis* can complete its life cycle within a single human host through autoinfection. This allows the parasite to persist for decades, often without symptoms, yet it can develop into a lethal hyperinfection syndrome if the host's immune system becomes suppressed (Ravi Varatharajalu, 2016). Current estimates suggest that between 30 to 370 million people are infected with *S. stercoralis* worldwide (Tiago Manuel Fernandes Mendes et al, 2017). However, accurate prevalence data are limited because the infection is frequently asymptomatic and difficult to detect with standard stool examinations (Khieu et al, 2013) (Viravarn Luvira et al, 2022). Regions with the highest burden include parts of Southeast Asia, sub-Saharan Africa, and Latin America, though cases are also increasingly identified in non-endemic areas due to migration.

For years, large-scale control of STHs has relied on mass drug administration (MDA) programs using single-dose albendazole or mebendazole, as recommended by the World Health Organization (WHO). However, growing evidence indicates that albendazole is poorly effective against *S. stercoralis* and has declining efficacy against *T. trichiura*. Clinical trials show cure rates for strongyloidiasis with albendazole as low as 63%, whereas ivermectin consistently achieves cure rates above 90% (Yupin Suputtamongkol et al, 2011). This therapeutic gap, along with rising concerns about benzimidazole resistance, underscores the urgent need for alternative treatment strategies.

Ivermectin offers a compelling solution. It works through a different mechanism than albendazole, reducing the risk of cross-resistance, and is highly effective against *S. stercoralis* with a single oral dose (Leonardo Elías Ordóñez & Esther Sofia Angulo, 2004) (Yupin Suputtamongkol et al, 2011). Furthermore, combining ivermectin with albendazole has proven more effective against *T. trichiura* than albendazole alone. Beyond its action against STHs, ivermectin is also used to treat other neglected tropical diseases often found in the same populations, such as lymphatic filariasis and scabies, making it a practical candidate for integrated MDA programs (Michael Marks et al, 2019, 2020). In light of the limitations of current therapies and the severe consequences of untreated strongyloidiasis, there is a clear need to reconsider the role of ivermectin in STH control. This narrative review examines the evidence supporting ivermectin's efficacy, evaluates its advantages and limitations, and discusses the challenges involved in implementing it within public health programs.

## Methodology

A structured literature search (2020-2025) using MeSH terms including “Ivermectin”, “Efficacy”, “Strongyloides stercoralis”, and “soil-transmitted helminths” was conducted via ScienceDirect and Google Scholar. Data were cleaned and double checked for missing information and duplication using Zotero and Openrefine software. The identified literature was screened for relevance to the main objective of this research then extracted and synthesized thematically to explain evidence supporting ivermectin's efficacy, evaluates its advantages and limitations, and discusses the challenges involved in implementing it within public health programs.

## Result and Discussion

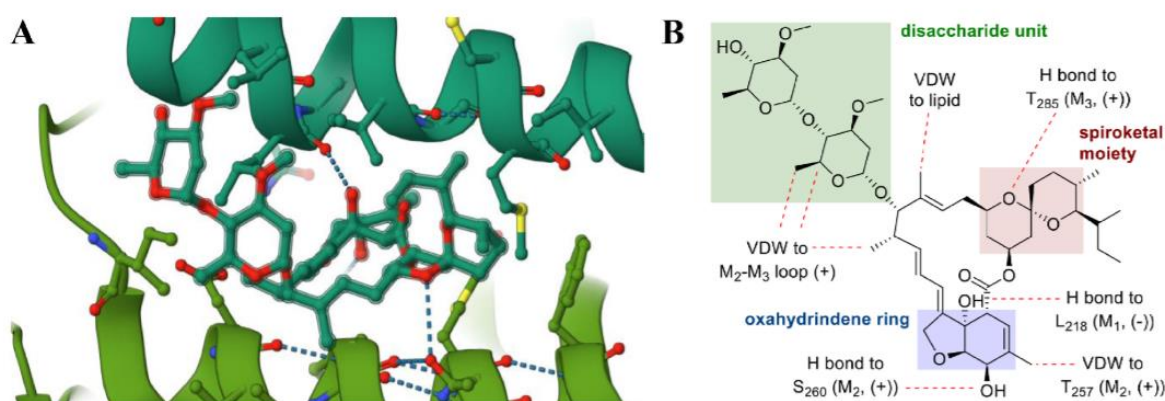
### 1. The Urgent Need for Novel and Combination Anthelmintics

The global strategy for controlling soil-transmitted helminthiases (STH) has long relied on preventive chemotherapy using single-dose albendazole or mebendazole. However, a substantial body of evidence now indicates that this monotherapy approach is increasingly inadequate. Albendazole demonstrates notably poor and variable efficacy against two major STH species: *Trichuris trichiura* and *Strongyloides stercoralis*. For *T. trichiura*, cure rates with albendazole monotherapy can be as low as 12.3% (article 10), significantly below the World Health Organization's (WHO) recommended efficacy threshold. This suboptimal performance is observed in diverse geographical settings, including Peru and Uganda (Curico, 2024) (Le, 2024a). More alarmingly, this pattern

suggests the emergence of benzimidazole resistance, a trend explicitly noted in endemic countries which threatens to undermine decades of control efforts (Curico, 2024) (Edoa et al, 2024).

## 2. Mechanism of Action and Efficacy of Ivermectin Against STH – *Strongyloides stercoralis*

Ivermectin's principal mode of action is its selective and high-affinity binding to glutamate-gated chloride ion channels (GluCl). These pentameric channels, each subunit comprising four transmembrane  $\alpha$ -helices ( $M_1$ – $M_4$ ), are critical for inhibitory neurotransmission in parasites. Ivermectin acts as a positive allosteric modulator, binding to a site distinct from the endogenous glutamate (orthosteric) site (Fig. 1). Due to its lipophilicity, the drug inserts deeply into the channel subunits, stabilizing the open-pore conformation. This dramatically extends the channel opening time, resulting in a sustained influx of chloride ions. The resulting hyperpolarization of the cell membrane causes flaccid paralysis of the pharynx and body musculature, leading to the parasite's death.



**Figure 1.** [A] Ivermectin binding site of a glutamate-gated chloride ion channel (GluCl). Ribbons are part of the GluCl while the stick molecule is ivermectin. [B] Mechanism of interactions between ivermectin molecule and GluCl. (Sulik et al, 2023)

In addition to its action on GluCl, ivermectin inhibits the conductance of  $\gamma$ -aminobutyric acid (GABA)-gated chloride channels in nematodes like *Ascaris suum* at low concentrations ( $<0.2 \mu\text{M}$ ) (22). This potentiation of inhibitory GABA-ergic transmission synergistically enhances the paralytic effect induced by GluCl activation, contributing to the drug's broad-spectrum and potent anthelmintic activity (Hibbs & Gouaux, 2011).

Ivermectin exhibits strong and species-specific efficacy against STH, particularly when used in combination therapy. As a monotherapy, it is the drug of choice for *S. stercoralis*, achieving cure rates between 94% and 98.3% with a single or two-dose regimen (Khieu et al, 2013) (Leonardo Elías Ordóñez & Esther Sofia Angulo, 2004). Meta-analytic data confirms a pooled prevalence reduction of 84.49% for *S. stercoralis* following ivermectin-based mass drug administration (MDA) (Krolewiecki, 2022). Against *T. trichiura*, ivermectin monotherapy shows moderate efficacy ( $\sim 50\%$  prevalence reduction), but its true value is unlocked in combination with albendazole (Edoa et al, 2024). The ivermectin-albendazole

combination represents a therapeutic advance (Bisanzio et al, 2021) (Edoa et al, 2024). A randomised controlled trial in Uganda demonstrated its clear superiority over albendazole alone for *T. trichiura*, with cure rates of 31.3% versus 12.3% and egg reduction rates of 91.4% versus 52.7%. Meta-analysis supports this, showing an 89.40% prevalence reduction for *T. trichiura* with the combination therapy (Krolewiecki, 2022). Furthermore, the combination shows excellent activity against co-infecting *Ascaris lumbricoides* (Edoa et al, 2024) (Le, 2024b). This synergistic effect provides a powerful tool to improve overall STH control outcomes and mitigate resistance selection by employing two drugs with distinct mechanisms of action.

The case for urgent action is even more critical for *S. stercoralis*. Albendazole is largely ineffective against this parasite (Barda et al, 2017), with cure rates reported as low as 63.3%, compared to over 95% for ivermectin (Yupin Suputtamongkol et al, 2011). This is a major public health oversight, as chronic strongyloidiasis can persist asymptotically for decades (Biswajeet Sahoo et al, 2014) but escalate into a fatal hyperinfection syndrome upon host immunosuppression (Emmanuelle Guérin et al, 2021) (Ravi Varatharajalu, 2016). The continued exclusion of a highly effective drug like ivermectin from STH guidelines, while relying on an ineffective one, represents a significant therapeutic gap. Therefore, the declining efficacy of albendazole against *Trichuris*, its failure against *Strongyloides*, and the looming threat of resistance collectively create an urgent imperative to integrate alternative anthelmintics, particularly ivermectin, into national STH control portfolios.

### **3. Implementation Barriers to Ivermectin Use in MDA Programs: The Indonesian Context**

Despite the compelling evidence, translating ivermectin's potential into public health impact in Indonesia faces several interconnected barriers. First, regulatory and policy hurdles are primary. Ivermectin is not currently included in Indonesian national guidelines for routine STH control, which remain anchored to albendazole (Krolewiecki, 2022). Advocacy and evidence-based guideline revision are essential first steps, requiring engagement with the Ministry of Health and technical advisory committees. Second, diagnostic and epidemiological gaps obscure the true need. The burden of *S. stercoralis* in Indonesia is likely massively underestimated due to the lack of systematic use of sensitive diagnostic methods e.g., Baermann technique or serology. Without accurate prevalence data, justifying the inclusion of ivermectin in MDA is challenging. Strengthening laboratory capacity for *Strongyloides* diagnosis is a critical prerequisite.

Third, operational and logistical challenges are significant. These include ensuring a reliable, affordable, and quality-assured supply chain for ivermectin, potentially as an FDC. Training community health workers (in Indonesia stated as “Kader”) and pharmacists on the new drug regimen, its indications, and side-effect monitoring would be required (Eneanya, 2022). Furthermore, integrating ivermectin distribution into existing platforms—such as school-based deworming (for *Trichuris*) or the lymphatic filariasis elimination program (which already uses ivermectin in some regions)—demands careful planning to avoid programmatic silos and maximise efficiency (Kositz, 2022a, 2022b).

Finally, socio-cultural factors and community acceptance must be addressed. The repurposing of ivermectin, especially following its controversial use during the COVID-19 pandemic, requires clear public health messaging to rebuild trust and ensure high treatment coverage (Algorta, 2022). Community education must emphasise its proven use for parasitic diseases and distinguish this from unproven indications. To translate the compelling evidence for ivermectin into tangible public health gains against STH in Indonesia, a structured, multi-year strategy is required (Edoa et al, 2024). The following recommendations provide a detailed roadmap for policymakers, program managers, and health stakeholders.

#### **4. Recommendations for Policy and Practice in Indonesia**

To translate the evidence for ivermectin into public health action in Indonesia, a coordinated, multi-year strategy is essential. The foundation of this strategy must be the generation of local evidence to inform national policy. This requires conducting sentinel surveillance in high-risk provinces using sensitive diagnostics like the Baermann technique to accurately map the underestimated prevalence of *Strongyloides stercoralis* and assess the current efficacy of albendazole against *Trichuris trichiura* (Khieu et al, 2013) (Viravarn Luvira et al, 2022). This data, combined with a local cost-effectiveness analysis (Peter A. Muennig et al, 2004), should be used to revise national guidelines, formally recommending ivermectin for strongyloidiasis and ivermectin-albendazole combination therapy for *T. trichiura* where albendazole monotherapy fails (Yupin Suputtamongkol et al, 2011).

Concurrently, diagnostic capacity must be strengthened by building a tiered laboratory network proficient in advanced parasitological methods and exploring point-of-care serology for screening high-risk clinical patients (Edoa et al, 2024, 2024) (Francesca Tamarozzi et al, 2021). Programmatically, ivermectin should be piloted through integration into existing high-coverage platforms. This includes adding it to school-based deworming in high-*Trichuris* burden areas and leveraging lymphatic filariasis MDA where drugs are co-administered, a "piggy-backing" model proven effective in other settings (Keiser, 2021). For clinical care, screening or presumptive treatment with ivermectin must be mandated for patients in endemic areas starting immunosuppressive therapy to prevent hyperinfection (Jayakody et al, 2024) (Roshan Ramanathan & Thomas B. Nutman, 2008). Successful implementation hinges on operational pillars: securing a sustainable, quality-assured drug supply developing comprehensive training for health workers on administration and pharmacovigilance, and using tools like height-based "tablet poles" for dosing in resource-limited settings (Buonfrate et al, 2022, 2023). Finally, strategic community engagement is critical to ensure coverage and combat misinformation. This involves crafting clear risk communication, collaborating with trusted community leaders as demonstrated in the "Deworming Venezuela" project (Edoa et al, 2024), and integrating treatment with hygiene education using models like HEPEP to reduce reinfection (Laoraksawong et al, 2020). This comprehensive, stepwise approach will enable Indonesia to address the limitations of current therapy and advance its soil-transmitted helminths especially *Strongyloides stercoralis* species.

## Conclusion

Ivermectin, which targets parasite-specific glutamate-gated chloride channels, offers a critical solution by achieving high cure rates for strongyloidiasis and, when combined with albendazole, significantly enhancing efficacy against trichuriasis. However, implementing ivermectin in endemic settings like Indonesia requires overcoming key barriers, including policy gaps, diagnostic limitations, and operational challenges. A successful strategy must therefore integrate local surveillance data to inform policy, strengthen diagnostic capacity to detect *S. stercoralis*, and embed ivermectin delivery within existing health platforms to ensure sustainable impact against STH and prevent severe outcomes from strongyloidiasis.

## References

- Algorta, J. (2022). Pharmacokinetic Characterization and Comparative Bioavailability of an Innovative Orodispersible Fixed-Dose Combination of Ivermectin and Albendazole: A Single Dose, Open Label, Sequence Randomized, Crossover Clinical Trial in Healthy Volunteers. *Frontiers in Pharmacology*, 13 (Query date: 2026-01-15 21:11:33). <https://doi.org/10.3389/fphar.2022.914886>
- Armelle Forrer, Armelle Forrer, Virak Khieu, Fabian Schär, Fabian Schär, Jan Hattendorf, Jan Hattendorf, Hanspeter Marti, Hanspeter Marti, Andreas Neumayr, Andreas Neumayr, Meng Chuor Char, Christoph Hatz, Christoph Hatz, Sinuon Muth, Peter Odermatt, & Peter Odermatt. (2017). Strongyloides stercoralis is associated with significant morbidity in rural Cambodia, including stunting in children. *PLOS Neglected Tropical Diseases*, 11 (10). <https://doi.org/10.1371/JOURNAL.PNTD.0005685>
- Barda, B., Sayasone, S., Phongluxa, K., Xayavong, S., Keoduangsy, K., Odermatt, P., Puchkov, M., Huwyler, J., Hattendorf, J., & Keiser, J. (2017). Efficacy of Moxidectin Versus Ivermectin Against Strongyloides stercoralis Infections: A Randomized, Controlled Noninferiority Trial. *Clinical Infectious Diseases*, 65 (2), 276–281. Scopus. <https://doi.org/10.1093/cid/cix278>
- Bisanzio, D., Montresor, A., French, M., Reithinger, R., Rodari, P., Bisoffi, Z., & Buonfrate, D. (2021). Preventive chemotherapy for the control of strongyloidiasis in school-age children: Estimating the ivermectin need. *PLOS Neglected Tropical Diseases*, 15 (4). Scopus. <https://doi.org/10.1371/journal.pntd.0009314>
- Biswajeet Sahoo, Sanjeeb Sharma, Thokchom Devaraj Singh, H. Rebachandra Singh, Waikhom Shashi Singh, & Sudipta Naorem. (2014). Strongyloides stercoralis Hyper Infection in an Immunocompromised Patient a Case Report. *IOSR Journal of Pharmacy and Biological Sciences*, 9 (6), 01–03. <https://doi.org/10.9790/3008-09640103>
- Buonfrate, D., Bradbury, R. S., Watts, M. R., & Bisoffi, Z. (2023). Human strongyloidiasis: Complexities and pathways forward. *Clinical Microbiology Reviews*, 36 (4). Scopus. <https://doi.org/10.1128/cmr.00033-23>
- Buonfrate, D., Rodari, P., Barda, B., Page, W., Einsiedel, L., & Watts, M. R. (2022). Current pharmacotherapeutic strategies for Strongyloidiasis and the complications in its treatment. *Expert Opinion on Pharmacotherapy*, 23 (14), 1617–1628. Scopus. <https://doi.org/10.1080/14656566.2022.2114829>
- Curico, G. (2024). Efficacy of Single-Dose Albendazole and Albendazole Plus Ivermectin for Soil-Transmitted Helminth Infection in Children in the Peruvian Amazon. *American Journal of Tropical Medicine and Hygiene*, 111 (1), 80–88. <https://doi.org/10.4269/ajtmh.23-0497>

- Diana Carolina Hennessey, Óscar Andrés Ballesteros, Diego Javier Merchán, Freddy Orlando Guevara, & Diego Severiche. (2020). Ivermectina subcutánea en el tratamiento de un síndrome de hiperinfección por *Strongyloides stercoralis*. *Biomedica*, 40 (2), 228–232. <https://doi.org/10.7705/BIOMEDICA.5140>
- Edoa, J. R., Adégbitè, B. R., Honkpèhedji, Y. J., Zinsou, J. F., Boussougou-Sambe, S. T., Woldearegai, T. G., Mordmüller, B., Adégnika, A. A., & Agobe, J. C. (2024). Epidemiology of soil-transmitted helminth infections and the differential effect of treatment on the distribution of helminth species in rural areas of Gabon. *Tropical Medicine and Health*, 52 (1). Scopus. <https://doi.org/10.1186/s41182-023-00567-z>
- Emmanuelle Guérin, Paule Poirier, Marine Nervo, & Christophe Le Terrier. (2021). Fatal Multiorgan Failure Syndrome in a *Strongyloides*-HTLV-1 Coinfected Patient, after Treatment with Ivermectin. *Case Reports in Critical Care*, 2021, 5554810. <https://doi.org/10.1155/2021/5554810>
- Eneanya, O. A. (2022). Community-based trial assessing the impact of annual versus semiannual mass drug administration with ivermectin plus albendazole and praziquantel on helminth infections in northwestern Liberia. *Acta Tropica*, 231 (Query date: 2026-01-15 21:11:33). <https://doi.org/10.1016/j.actatropica.2022.106437>
- Francesca Tamarozzi, Silvia Stefania Longoni, Cristina Mazzi, Sofia Pettene, Antonio Montresor, Siddhartha Mahanty, Zeno Bisoffi, & Dora Buonfrate. (2021). Diagnostic accuracy of a novel enzyme-linked immunoassay for the detection of IgG and IgG4 against *Strongyloides stercoralis* based on the recombinant antigens NIE/SsIR. *Parasites & Vectors*, 14 (1), 412. <https://doi.org/10.1186/S13071-021-04916-X>
- Hibbs, R. E., & Gouaux, E. (2011). Principles of activation and permeation in an anion-selective Cys-loop receptor. *Nature*, 474 (7349), 54–60. <https://doi.org/10.1038/nature10139>
- Jayakody, N. K., Silva, A., Wickramasinghe, S., De Silva, N., Siribaddana, S., & Weerakoon, K. G. (2024). Human intestinal nematode infections in Sri Lanka: A scoping review. *PLOS Neglected Tropical Diseases*, 18 (12). Scopus. <https://doi.org/10.1371/journal.pntd.0012689>
- Keiser, J. (2021). Efficacy and safety of moxidectin and albendazole compared to ivermectin and albendazole co-administration in adolescents infected with *Trichuris trichiura*: A randomized controlled trial protocol. *Gates Open Research*, 5 (Query date: 2026-01-15 21:11:33). <https://doi.org/10.12688/gatesopenres.13299.2>
- Khieu, V., Schär, F., Marti, H., Sayasone, S., Socheat, S., Muth, S., & Odermatt, P. (2013). Diagnosis, Treatment and Risk Factors of *Strongyloides stercoralis* in Schoolchildren in Cambodia. *PLOS Neglected Tropical Diseases*, 7 (2). Scopus. <https://doi.org/10.1371/journal.pntd.0002035>
- Kositz, C. (2022a). Broadening the range of use cases for ivermectin—a review of the evidence. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 116 (3), 201–212. <https://doi.org/10.1093/trstmh/trab114>
- Kositz, C. (2022b). Effects of ivermectin mass drug administration for malaria vector control on ectoparasites and soil-transmitted helminths: A cluster randomized trial. *International Journal of Infectious Diseases*, 125 (Query date: 2026-01-15 21:11:33), 258–264. <https://doi.org/10.1016/j.ijid.2022.10.043>
- Krolewiecki, A. (2022). An adaptive phase II/III safety and efficacy randomized controlled trial of single day or three-day fixed-dose albendazole-ivermectin co-formulation versus albendazole for the treatment of *Trichuris trichiura* and other STH infections. ALIVE trial protocol. *Gates Open Research*, 6 (Query date: 2026-01-15 21:11:33). <https://doi.org/10.12688/gatesopenres.13615.1>

- Laoraksawong, P., Suntaraluk, A., Kongnil, W., Pongpanitanont, P., & Janwan, P. (2020). Prevalence of soil-transmitted helminth infections and associated risk factors among schoolchildren in nakhon si thamma-rat, Thailand. *Iranian Journal of Parasitology*, 15 (3), 440–445. Scopus.
- Le, B. (2024a). Effectiveness of ivermectin mass drug administration in the control of soil-transmitted helminth infections in endemic populations: A systematic review and meta-analysis. *Infectious Diseases of Poverty*, 13 (1). <https://doi.org/10.1186/s40249-024-01185-5>
- Le, B. (2024b). Effectiveness of one and two doses of ivermectin mass drug administration in reducing the prevalence and intensity of soil-transmitted helminth (STH) infections in Western Province, Solomon Islands: A cluster-randomised, before-after analysis. *Lancet Regional Health Western Pacific*, 42 (Query date: 2026-01-15 21:11:33). <https://doi.org/10.1016/j.lanwpc.2023.100942>
- Leonardo Elías Ordóñez & Esther Sofia Angulo. (2004). Efficacy of ivermectin in the treatment of children parasitized by *Strongyloides stercoralis*. *Biomedica*, 24 (1), 33–41. <https://doi.org/10.7705/BIOMEDICA.V24I1.1246>
- Michael Marks, Michael Marks, Sarah Gwyn, Hilary Toloka, Christian Kositz, James Asugeni, Rowena Asugeni, Jason Diau, John M. Kaldor, Lucia Romani, Michelle Redman-MacLaren, David MacLaren, Anthony W. Solomon, Anthony W. Solomon, David Mabey, David Mabey, Andrew C Steer, Andrew C Steer, & Diana L. Martin. (2019). Impact of community treatment with ivermectin for the control of scabies on the prevalence of antibodies to *Strongyloides stercoralis* in children. *medRxiv*. <https://doi.org/10.1101/2019.12.18.19015248>
- Michael Marks, Michael Marks, Sarah Gwyn, Hilary Toloka, Christian Kositz, James Asugeni, Rowena Asugeni, Jason Diau, John M. Kaldor, Lucia Romani, Michelle Redman-MacLaren, David MacLaren, Anthony W. Solomon, Anthony W. Solomon, David Mabey, David Mabey, Andrew C Steer, Andrew C Steer, & Diana L. Martin. (2020). Impact of Community Treatment With Ivermectin for the Control of Scabies on the Prevalence of Antibodies to *Strongyloides stercoralis* in Children. *Clinical Infectious Diseases*, 71 (12), 3226–3228. <https://doi.org/10.1093/CID/CIAA584>
- Peter A. Muennig, Daniel J. Pallin, C. Challah, & Kamran Khan. (2004). The cost-effectiveness of ivermectin vs. Albendazole in the presumptive treatment of strongyloidiasis in immigrants to the United States. *Epidemiology and Infection*, 132 (6), 1055–1063. <https://doi.org/10.1017/S0950268804003000>
- Ravi Varatharajalu. (2016). *Strongyloides stercoralis*: Current perspectives. 5, 23–33. <https://doi.org/10.2147/rip.s75839>
- Roshan Ramanathan & Thomas B. Nutman. (2008). *Strongyloides stercoralis* infection in the immunocompromised host. *Current Infectious Disease Reports*, 10 (2), 105–110. <https://doi.org/10.1007/S11908-008-0019-6>
- Sulik, M., Antoszczak, M., Huczyński, A., & Steverding, D. (2023). Antiparasitic activity of ivermectin: Four decades of research into a “wonder drug.” *European Journal of Medicinal Chemistry*, 261, 115838. <https://doi.org/10.1016/j.ejmech.2023.115838>
- Tiago Manuel Fernandes Mendes, Karen Minori, Marlene Tiduko Ueta, Danilo C. Miguel, & Silmara Marques Allegretti. (2017). Strongyloidiasis Current Status with Emphasis in Diagnosis and Drug Research. *Journal of Parasitology Research*, 2017, 5056314–5056314. <https://doi.org/10.1155/2017/5056314>
- Viravarn Luvira, Tanaya Siripoon, D. Phiboonbanakit, Kollawat Somsri, Dorn Watthanakulpanich, & Paron Dekumyoy. (2022). *Strongyloides stercoralis*: A Neglected but Fatal Parasite. *Tropical Medicine and Infectious Disease*, 7 (10), 310–310. <https://doi.org/10.3390/tropicalmed7100310>

---

Yupin Suputtamongkol, N. Premasathian, Kid Bhumimuang, Duangdao Waywa, Surasak Nilganuwong, Ekkapun Karuphong, Thanomsak Anekthananon, Darawan Wanachiwanawin, & Saowaluk Silpasakorn. (2011). Efficacy and Safety of Single and Double Doses of Ivermectin versus 7-Day High Dose Albendazole for Chronic Strongyloidiasis. *PLOS Neglected Tropical Diseases*, 5 (5). <https://doi.org/10.1371/JOURNAL.PNTD.000104>