A Systematic Study on the Prevalence and/or Risk Factors of *Capillaria philippinensis* in Countries Outside the Philippines

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BACKGROUND OF THE STUDY

Capillaria philippinensis (C. philippinensis) is a human intestinal parasite first discovered in the Northern part of Luzon in the Philippines. This human intestinal parasite was first mistaken to be *Trichuris trichiura* due to a similar appearance of parasite eggs; yet, *T. trichiura* has a distinct feature of having flattened bipolar ends at the ends of their eggs. Numerous studies on the human intestinal parasite exist; however, a systematic review of the parasite outside the Philippines has not been made since its discovery in 1963.

OBJECTIVES

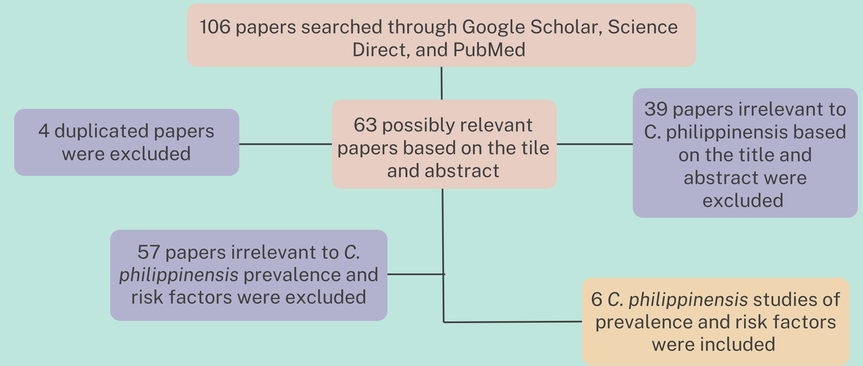
This study generally aimed to create a systematic review of different research articles regarding *C. philippinensis* risk factors, prevalence, and infections in humans residing outside the Philippines.

Specifically, this study aimed to:

1. Identify and correlate unique signs and symptoms experienced by people infected with capillariasis.
2. Identify the possible causes of the spread of *C. philippinensis* to other countries.
3. Find out the parasite's mode of transmission to other countries.
4. Establish certain demographics that contribute to *C. philippinensis* infections in humans.

RESULTS AND DISCUSSION

One hundred six (106) journal articles were collated from three (3) databases using a strategy incorporating different search syntaxes. A full-paper analysis was performed, wherein the articles about the prevalence and/or risk factors of *C. philippinensis* were narrowed to six (6) based on the inclusion and exclusion criteria. Findings suggest the emerging prevalence of *C. philippinensis* in Egypt[2][3][4][7], the increased risk of capillariasis in females compared to males[2][3][6][7], the transnational transmission of *C. philippinensis* outside the Philippines through migratory birds[5][6], and the unfavorable food hygienic practices as a primary risk factor in acquiring capillariasis[2][6].



METHODOLOGY

A search for scientific articles published globally from 1963 to 2023 was conducted using Google Scholar, Pubmed, and ScienceDirect. The study included different types of observational study designs pertaining to the risk factors and prevalence of *C. philippinensis*. However, studies that pertain to nonhuman subjects are excluded.

No	Author	Publication Year	Title	Location & Country	Region	Sample Size	Study Design	Demographics	Prevalence	Risk Factors
1	Ali et al.	2017	Prevalence of *Capillaria philippinensis* in diarrheic patients using the small subunit ribosomal DNA (ssurDNA) gene	Egypt	Beni-Suef	121	Cross-sectional	Female: 71.4% Male: 28.6% Age: 5 to 47 years	11.6% (95% CI)	Gender (females) - Active housewives (food preparation; contamination in fingernails after fish evisceration), Age (5 years to 47 years), Food (Ingesting raw fish)
2	Monib et al.	2016	Prevalence of Intestinal Parasites among Children Attending Assiut University Children's Hospital, Assiut, Egypt	Egypt	Assiut	260	Cross-sectional	Female: 2% Male: 1.3% Age: 12 to 15 years	1.5% (95% CI)	Gender (females), Age (12 months to 15 years), Food (Ingesting raw fish)
3	Attia et al.	2012	*Capillaria philippinensis* in Upper Egypt: has it become endemic?	Egypt	Assiut	21	Cross-sectional	Female: 90.5% Male: 9.5% Age: 25 to 50 years	NA	Gender (females) - Active housewives, Age (25 to 50), Food (Ingesting raw fish)
4	Fan et al	2006	Serious diarrhea with weight loss caused by *Capillaria philippinensis* acquired in China: a case report	China	Hainan	1	Case Study	Female: 1 case Age: 33-year old	NA	Food (Ingesting raw fish), Geographic proximity (Philippines & Taiwan), Fish-eating migratory birds
5	Lu et al.	2006	Human intestinal capillariasis (*Capillaria philippinensis*) in Taiwan	Taiwan	Taitung, Hualian, Kaohsiung, Taipei, Keelung	30	Retrospective Cohort	Male: 60% Female: 40% Age: 12 to 76 years	NA	Gender (males), Geographical proximity (Philippines), Fish-eating migratory birds, Food (Ingesting raw fish), Food infection from contamination by visceral content of infected fish
6	El-Karaksy et al.	2004	*Capillaria philippinensis*: a cause of fatal diarrhea in one of two infected Egyptian sisters	Egypt	El-Menia	2	Case Report	Female: 2 cases Age: 8 & 12 years old	NA	Food (Ingesting raw fish)

CONCLUSION

Risk factors include raw fish ingestion, geographic proximity, foreign laborers, and fish-feeding migratory birds; with females, males, young adults, and the elderly being affected. There is limited evidence of existing infections in non-tropical countries.

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REFERENCES