

BLASTOCYSTIS INFECTION IN INDONESIA: PATHOGENICITY AND PREDOMINANCE OF SUBTYPE ST3 IN SYMPTOMATIC PATIENTS**Nurul Ain^{1*}, Afifa Radhina², Mike Permata Sari³**¹ UIN Syarif Hidayatullah Jakarta² Universitas Pembangunan Nasional Veteran Jakarta³ Institut Kesehatan Hermina

Article Info	ABSTRACT
Article History: Received 06/05/2026. Revised - Accepted 14/07/2026	<i>Blastocystis is a common intestinal protozoan with a worldwide distribution, particularly prevalent in developing countries. In Indonesia, its prevalence reaches approximately 60%. Transmission occurs via the fecal–oral route through ingestion of cysts in contaminated food or water. The pathogenic role of Blastocystis remains controversial, as infections may be symptomatic or asymptomatic, possibly due to diagnostic limitations and variability in subtype virulence. This study aimed to evaluate the association between Blastocystis pathogenicity and infection in Indonesia, with emphasis on the predominance of subtype ST3 in symptomatic patients. A literature review was conducted using parasitology journals, SSU rRNA-based molecular studies, and recent epidemiological reports focusing on subtype diversity, pathogenicity, geographic distribution, and host–parasite–environment interactions. Earlier studies identified approximately 17 subtypes; however, recent molecular advances have expanded this to ≥ 40 subtypes (ST1–ST44), with around 15–16 infecting humans. ST1–ST4 are the most common, with ST3 being globally dominant. In Indonesia, ST3 is frequently detected in both asymptomatic and symptomatic individuals, particularly in diarrheal cases. Clinical manifestations are influenced by environmental, parasitic, and host factors. Phenotypic variations, including differential expression of 30 kDa and 29 kDa proteins and structural differences in the surface coat, may contribute to immune evasion and pathogenicity, especially in ST3 isolates.</i>
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