

REVIEWER'S REPORT

Manuscript No.: IJAR- 58377

Title: Monitoring biologique des diarrhées parasitaires chez les sujets séropositifs au VIH à l'Hôpital Militaire de Nouakchott (Mauritanie),

Recommendation:

Accept after minor revision

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality			✓	
Clarity			✓	
Significance	✓			

Reviewer's ID: Abdul Haseeb Mir

Detailed Reviewer's Report

The manuscript titled "Monitoring biologique des diarrhées parasitaires chez les sujets séropositifs au VIH à l'Hôpital Militaire de Nouakchott (Mauritanie)" provides a valuable clinical investigation into the biological profile and prevalence of parasitic diarrhea among people living with HIV (PLHIV) in Mauritania. The study addresses a crucial area of clinical management in Sub-Saharan Africa, where opportunistic and non-opportunistic intestinal parasites remain a major source of morbidity, chronic nutrient depletion, and mortality among immunocompromised populations. By utilizing a retrospective descriptive design spanning a six-year period (January 2020 to December 2025) at the Medical Biology Laboratory of the Military Hospital of Nouakchott, the study offers localized empirical data in a geographic region where published literature on this specific diagnostic intersection is historically sparse.

The primary strength and contribution of this work lie in its dual focus on both parasitic and immunological parameters. It successfully correlates the prevalence of specific enteropathogens with CD4+ T-lymphocyte counts, demonstrating that severe opportunistic coccidian infections, such as *Cryptosporidium parvum* and *Cystoisospora belli*, cluster predominantly within patients experiencing advanced immunodeficiency. Furthermore, the study highlights the significant, concurrent burden of non-opportunistic parasites like *Giardia duodenalis*, reminding clinicians that basic environmental sanitation and water hygiene remain critical public health vectors for vulnerable patients regardless of their immediate immunological status. The manuscript serves as a timely reminder of the diagnostic necessity

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of routine parasitological stool examinations in managing chronic diarrheal illness in HIV-positive individuals.

Detailed Recommendations for Improvement

While the manuscript presents clear and clinically relevant findings, several methodological, analytical, and structural refinements would enhance its scientific rigor and suitability for international publication.

First, the sample size ($N = 53$) is exceptionally small for a retrospective study spanning six years. The author needs to address this limitation in detail. It is important to clarify whether this small cohort reflects strict inclusion criteria, an underutilization of stool parasitology requests by clinical staff, or overall low rates of symptomatic diarrheal presentation among the hospital's HIV registry during this timeframe. Discussing how the cohort size impacts the statistical power of the findings—especially when concluding that opportunistic pathogens were "mainly" observed in patients with the lowest CD4 counts—is essential.

Second, the immunological data requires a more precise statistical breakdown. The author notes a mean CD4 count of 217 cells/mm³ across the cohort and mentions that five patients had CD4 counts below 200 cells/mm³. However, the manuscript would be significantly improved by presenting the specific CD4 ranges or median values associated with each parasitic infection category. For instance, providing a comparative analysis of mean CD4 counts between patients infected with opportunistic coccidia (*Cryptosporidium* and *Cystoisospora*) versus those infected with non-opportunistic pathogens (*Giardia* or *Trichuris*) would strengthen the clinical correlation.

Third, there is a minor epidemiological inconsistency in the results section that must be clarified. In the results text, the author lists *Candida albicans* (2 cases, 3.8%) within the table of "parasitic agents". Academically, *Candida albicans* is a fungal organism, not a parasite. While yeast can be identified during direct microscopic examination of stool, categorizing it under parasitic agents is taxonomically incorrect. The author should either adjust the terminology of the table to reflect "microbiological or mycological agents" or explicitly clarify in the text that yeast was included alongside parasites for comprehensive epidemiological reporting of the stool findings.

Fourth, the methodology section should expand on the "specific staining techniques" used. While the text states that recommended WHO protocols were followed, specifying whether modified Ziehl-Neelsen, Kinyoun, or auramine-rhodamine staining was used to identify the oocysts of *Cryptosporidium parvum* and *Cystoisospora belli* would ensure reproducibility. Additionally, explaining whether concentration techniques like formalin-ether sedimentation or zinc sulfate flotation were routinely employed would add necessary technical depth to the laboratory monitoring portion of the paper.

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Finally, the discussion should be enriched by discussing the antiretroviral therapy (ART) status of the patients. Because immune reconstitution inflammatory syndrome (IRIS) and overall viral suppression directly dictate susceptibility to opportunistic pathogens, knowing whether these patients were ART-naïve, recently initiated on therapy, or experiencing treatment failure is a vital clinical variable that would elevate the paper's impact.

Conclusion and Publication Recommendation

This manuscript provides essential, localized data on the persistent challenge of parasitic diarrhea in Mauritanian PLHIV. The paper successfully demonstrates the diagnostic value of accessible laboratory tools in resource-limited settings. The structure is logical, and the conclusions are well-supported by the presented data.

I recommend this manuscript for publication subject to **Moderate Revision**. Addressing the taxonomic categorization of *Candida albicans*, providing deeper statistical stratification of the CD4 data, and expanding on the specific laboratory staining methodologies will elevate this manuscript to meet the rigorous standards expected by the international scientific community.