

APPLICATION OF MINI PARASEP CONCENTRATION TUBES FOR THE DIAGNOSIS OF
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Background. Intestinal parasitic diseases, particularly infections caused by protozoa, remain a major global health challenge. These infections affect millions of people worldwide, not only in developing countries but also in economically developed regions, and are associated with significant morbidity, impaired nutritional status, and reduced quality of life. Mixed infections caused by *Blastocystis hominis* and *Giardia lamblia* are of particular importance, as they often present with nonspecific dyspeptic symptoms, complicating diagnosis and treatment. Early and accurate detection of these infections is therefore crucial for patient management and for preventing their spread in the population. Improving reliable laboratory diagnostic tools for intestinal protozoan infections has considerable clinical and epidemiological value.

Objective. The aim of this study was to evaluate the diagnostic efficiency of the Mini Parasep concentration method in detecting mixed infections caused by *Blastocystis hominis* and *Giardia lamblia*.

Materials and Methods. The study was conducted at the Republican Specialized Scientific-Practical Medical Center of Epidemiology, Microbiology, Infectious, and Parasitic Diseases (Tashkent, Uzbekistan) from October 2024 to March 2025. A total of 70 patients aged 18–50 years with suspected intestinal parasitosis were examined. Stool samples were collected using three approaches: a single native smear, a three-day stool collection preserved in Turdiev's fixative, and a single stool sample processed using the Mini Parasep concentrator.

Results. Microscopic examination of the collected samples revealed that *Giardia lamblia* was detected in 19 patients (27.1%), *Ascaris lumbricoides* in 3 patients (4.3%), and *Blastocystis hominis* in 46 patients (65.7%). Mixed infections involving both *Giardia lamblia* and *Blastocystis hominis* were observed in 12 patients (17.1%). The Mini Parasep concentration method demonstrated the highest sensitivity for detecting *Blastocystis hominis* (92%), compared to 81% using triple coproscopy with

Turdiev's preservative and 68% with a single native smear. For *Giardia lamblia*, Mini Parasep and triple coproscopy showed comparable sensitivity (85–89%), whereas the native smear was significantly less sensitive. The Mini Parasep method also proved effective in detecting low-intensity or subclinical infections, which are often missed by conventional techniques.

Conclusion. Stool microscopy using the Mini Parasep concentrator is nearly three times more effective than a single native smear and demonstrates sensitivity comparable to triple coproscopy. Implementation of Mini Parasep in routine diagnostic practice facilitates early and accurate detection of intestinal protozoan infections, enabling timely and effective treatment. The method is also notable for its convenience, biosafety, and suitability for both clinical and epidemiological research.

