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# Evaluation of compliance with microbiological criteria of herbal preparations produced by traditional medicine practitioners in Côte d'Ivoire

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## ABSTRACT

*Objective:* This study was conducted to assess compliance with microbiological criteria of herbal medicines produced in Ivory Coast in order to ensure their safety and therapeutic efficacy.

*Methodology and Results:* 1,585 samples of herbal medicines in liquid, powder and capsule forms were collected from 200 traditional medicine practitioners in 14 cities of Ivory Coast.

Liquid forms represented 46.69% of the samples, powders 44.48%, and capsules 8.83%. These samples were subjected to microbiological analyses in accordance with AFNOR standards and focused on the search for several types of microbes such as: Total Aerobic Mesophilic Flora (TAMF), Total Coliforms (TC), Thermotolerant Coliforms (TTC), Yeasts and Molds (LM), *Escherichia coli*, *Pseudomonas aeruginosa*, *Salmonella*, *Shigella*, *Staphylococcus aureus*, *Listeria monocytogenes* and *Clostridium perfringens*. The analysis results indicate varying levels of microbiological contamination among the samples. Total aerobic mesophilic flora was detected in high proportions in the samples, while microbes such as *E. coli*, *P. aeruginosa*, *Salmonella*, and *Shigella* were found in low proportions. Also, pathogenic microbes such as *S. aureus*, *L. monocytogenes*, and *C. perfringens* were absent in all the samples analysed.

*Conclusion and Application of results:* Some samples showed contamination levels exceeding the acceptable thresholds of microbiological quality criteria. However, the majority of herbal medicines analysed complied with the microbiological safety criteria defined by the WHO.

**Keywords:** herbal preparations, traditional medicine practitioners (TMPs), microbiological analyses, microbes, contamination levels**.**