

3<sup>RD</sup> GLOBAL SUMMIT ON

## HERBALS &amp; TRADITIONAL MEDICINE

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**Bioactivity of selected medicinal plants used for the treatment of sexually transmitted diseases****T E Tshikalange and P B Mamba**  
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Sexually transmitted diseases have a major impact on sexual and reproductive health worldwide. Each year, the World Health Organization estimates 448 million new cases of curable STD's are diagnosed. Ethanol extracts of 12 South African medicinal plants used in the treatment of STD's and 3 flavonoids were investigated for their antimicrobial activity against *Candida albicans*, *Gardnerella vaginalis*, *Neisseria gonorrhoeae* and *Oligella ureolytica*. The anti-inflammatory activities of the extracts and compounds were determined by measuring the inhibitory effect of the extracts and compounds on the pro-inflammatory enzyme lipoxygenase. The extracts and compounds were also investigated for their anti-HIV activities against recombinant HIV-1 enzyme using non-radioactive HIV-RT colorimetric assay. *Acacia karroo* and *Rhoicissus tridentata* extracts showed good antimicrobial activity with MIC values ranging between 0.4 and 3.1 mg/ml. Extracts of *Jasminum fluminense*, *Solanum tomentosum* and flavonoids 2 and 3 had good anti-inflammatory activity with  $IC_{50}$  less than the positive control, quercetin ( $IC_{50}$ =48.86 ug/ml). *A. karroo* and flavonoid 3 exhibited moderate HIV-1 RT inhibition activity of 66.8 and 63.7%, respectively. *R. tridentata* and *Terminalia sericea* had the best RT inhibition activity (75.7% and 100%) compared to that of the positive control Doxorubicin (96.5%) at 100 ug/ml concentration. The emergence of drug resistance in STD related microorganisms and potential side effects demand the discovery of newer drugs. The exploration of newer anti-microbial substances from natural sources may serve as promising alternatives. The observed activities may lead to new multi-target drugs against sexually transmitted diseases.

**Biography**

T E Tshikalange is currently a Senior Lecturer in the Department of Plant and Soil Sciences of the University of Pretoria in South Africa. His research focus areas include ethno-botanical medicinal plants used traditionally in the treatment of sexually transmitted diseases, oral pathogens and antimicrobial activities. He has published articles in peer reviewed national and international journals and has been serving as an Editorial Board Member of *BMC Complementary and Alternative Medicine*. He has co-authored chapters in the book *Medicinal Plant Research in Africa: Pharmacology and Chemistry*.

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