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Wound healing effects and antimicrobial property of leaf extract of *Spermacoce verticillata* Linn (Rubiaceae)

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The skin is one organ which when traumatized (wound/disease) can be noticed by all without asking, so people with wounds are very disturbed by their complaint in comparison with other medical conditions because the wounds tend to make the victims have a leper like complex. It is a challenge to treat wound patients because they believe as most wounds are on the surface, it should be easy to treat. This study investigated the anti-microbial and wound healing properties of acetone leaf extract and ointment formulation of *Spermacoce verticillata* Linn (Family Rubiaceae). Acceleration Gradient Chromatography was used to fractionate the extract into two, fractions A and B. the Cup Plate Agar Diffusion method was used to assess the antimicrobial activities of the fraction at 25, 50, 100, 200 and 400 mg/ml in comparison with 40 ug/ml gentamycin control. Fraction B had a better antimicrobial property than fraction A and this was then formulated into ointments of 0.1, 0.2, 1, 2 and 5% w/w concentrations and used for assessing wound healing on wounds inflicted on albino rats. The wounds were first infected with the *Bacillus subtilis*, *Escherichia coli*, *Pseudomonas aeruginosa* and *Staphylococcus aureus* respectively and dressed daily with the ointment. Fraction B had better antimicrobial property than fraction A. The relationship between types of microorganisms, concentrations of ointment and wound healing time showed that wounds dressed with 2% w/w fraction B ointment healed on the 7th day for *E. coli*, *P. aeruginosa* and *S. aureus* infected wounds, 10 days for *B. subtilis* while wounds dressed with other concentrations of the formulated ointment and gentamycin ointment healed by the 10th day. Acetone leaf extract of *Spermacoce verticillata* possesses antimicrobial property and its fraction B promotes wound healing especially at a concentration of 2% w/v.

Biography

Edith Adanna Onwuliri holds BPharm degree in Pharmacy and MSc degree in Applied Microbiology from the University of Jos, Plateau State, Nigeria. She has obtained her PhD in Pharmaceutics and Pharmaceutical Microbiology from the University of Nigeria, Nigeria. She is a Lecturer in the Department of Pharmaceutics and Pharmaceutical Technology, Faculty of Pharmaceutical Sciences, University of Jos, Nigeria. She is interested in therapeutic investigation of local plants for their antimicrobial effects and their formulation into suitable dosage forms. She has 19 publications in various journals.

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