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Chemical Constituents of the Goat Margarine and Antibacterial Activity against Bacterial Pathogens in Sudan

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ABSTRACT

The margarine constituents were examined by Gas Chromatography-Mass Spectrometry (GC-MS), it contained 41 compounds, fifteen of them were identified as the major compound, hexadecanoic acid, methyl ester (22.39%), methyl stearate (14.92%), methyl elaidate (13.80%), methyl tetradecanoate (10.74%), capric acid, methyl ester (8.34%), lauric acid (4.52%), methyl octanoate (2.70%), linoleic acid, methyl ester (2.57%), methyl 11-octadecenoate (1.90%), methyl caproate (1.77%), methyl pentadecanoate (1.72%), methyl (8E,11E)-8,11-octadecadienoate (1.70%), heptadecanoic acid, methyl ester, (1.46%), trans-13-Octadecenoic acid, methyl ester (oleic acid) (1.20%), methyl palmioleate (1.00%). The effect of goat margarine, against four different pathogenic bacteria *Escherichia coli*, *Pseudomonas aeruginosa*, *Salmonella typhimurium* and *Bacillus cereus*, were carried out by using a disc diffusion technique, the highest antibacterial activity was detected against *Salmonella typhimurium* and the lowest one against *Escherichia coli*. The antibacterial activity of the antibiotics (Ciprofloxacin, Tetracycline Ceftriaxone, Chloramphenicol and Gentamycin), were tested by the disc diffusion technique and by measuring zones of inhibition, shows that there were differences, among all antibiotic the highest activity of antibiotic against bacteria was due to the action of ciprofloxacin. Ceftriaxone and Tetracycline antibiotic give lowest activity. Among the bacteria the highest inhibition zone by antibiotic against *Salmonella typhimurium* and the lowest one against *Escherichia coli*.

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