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ANTIMICROBIAL POTENTIAL AND CONSUMER ACCEPTANCE OF A HERBAL HAND SANITISER WITH *Mimosa pudica* LEAF EXTRACT AND MINIMAL ALCOHOL

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Hand sanitisers (HS) prevent infections by transient microflora. The WHO-recommended HS are alcohol-based (75% isopropyl alcohol), which could cause dry skin. Previously, a herbal hand sanitiser (H-HS) was produced with 40% alcohol, adding a leaf extract of *Mimosa pudica* L. The current study aimed to determine the Minimum Inhibitory Concentration (MIC) of the prepared H-HS and conduct a sensory evaluation test to compare its consumer acceptability with WHO-HS and a commercial HS (C-HS). The MIC of H-HS was determined using 1,000-100,000 mg/L of the alcoholic extract of *M. pudica* with 40% isopropyl alcohol, by a well diffusion assay, against *Escherichia coli* ATCC25922, *Pseudomonas aeruginosa* ATCC27853, *Staphylococcus aureus* ATCC25923, *Candida albicans* ATCC10231 and *Candida tropicalis* ATCC13803. Organoleptic parameters (viscosity, colour, feel, aroma) and overall acceptability on 30 panellists (14 males and 16 females; aged 20 – 70 years) were determined using a hedonic scale: 9 = extremely like to 1 = extremely dislike. A Kruskal-Wallis test and a Mann-Whitney test were performed to determine significance and for median separation, respectively. The MIC against all test organisms was 10,000 mg/L. Its inhibition-zone diameters were significantly lower ($p = 0.05$) than WHO-HS for the bacteria, while *Candida* spp. did not show a significant difference. The average median scores (range) for each organoleptic parameter were; colour 6 (5 – 8), 7 (5 – 9), 8 (6 – 9), feel 8 (6 – 9), 6 (5 – 9), 8 (5 – 9), aroma 8 (5 – 9), 7 (5 – 9), 8 (2 – 9) for H-HS, WHO-HS and C-HS, respectively. Colour, feel, and aroma were significantly different ($p = 0.01$), with the H-HS having the lowest score for colour. Medians of feel and aroma were similar for C-HS and H-HS, while those of WHO-HS were significantly lower. The consumer acceptance of H-HS was similar to C-HS and higher than WHO-HS except for colour. In conclusion, the H-HS effectively inhibits all test organisms and is comparable to WHO-HS, while being consumer acceptable.

Keywords: Commercially available hand sanitiser, Organoleptic parameters, Sensory evaluation, Transient microflora**,** WHO-recommended hand sanitiser