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Evaluating probiotic attributes of *Lactobacillus* sp isolated from plaque samples taken from male adults with dental caries

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Probiotics [Greek *pro*, for, and *bios*, life] are live microorganisms which can confer health benefits on the host. Lactic acid bacteria (*Lactobacillus, Leuconostoc, Pediococcus and Streptococcus*) and *bifidobacteria* are the most common type of probiotic microorganisms. Dental caries and plaque samples associated with dental caries can be considered as sources of *Lactobacilli*. This study was carried out to evaluate probiotic attributes of *Lactobacilli* which were isolated from plaque samples from dental caries. Thirty (30) plaque samples were obtained from male adults who had dental caries. A total of nineteen (19) isolates were identified as *Lactobacilli* based on morphological and biochemical tests. Those nineteen (19) isolates were evaluated for their probiotic attributes such as resistance to low pH, resistance to bile salt, antimicrobial activity against *Pseudomonas aeruginosa, Escherichia coli, Staphylococcus aureus, Klebsiella pneumonia* and *Candida albicans,* antibiotic resistance activity against Norfloxacin, Nalidixic Acid, Augmentin and Ciprofloxacin, haemolytic activity and DNase activity. It was observed that none of the isolates were able to survive at low pH (pH=3). Only two isolates (PS 72 and PS 231) were able to survive at 0.3% bile salt. None of the isolates were able to exhibit antimicrobial activity and resistance to antibiotics. All isolates exhibited α-hemolysis. None of the isolates showed DNase activity.

After evaluating all nineteen (19) isolates for their probiotic attributes it was found that they have only one probiotic attribute (negative DNase activity) out of the tested six probiotic attributes. Therefore *Lactobacillus* sp. isolated from plaque samples taken from male adults with dental caries lack probiotic attributes.