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Isolation and characterization of lactic acid bacteria from traditional local fermented milk product (Dahi) as a potential source for maintaining gut micro flora

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The bacteria which produce lactic acid as their major fermented product belong to the group of Lactic acid bacteria (LAB).

Generally, most of the LAB are an essential part of normal gut flora and number of studies have been performed to check the positive effects of LAB (Probiotics) on human health especially related to stomach. The focus of our study was to find the potential role of LAB isolated from local Dahi in various aspects. Dahi was collected from different areas of Lahore city under aseptic conditions. LAB was isolated on a selective media (MRS) and screened by using different parameters i.e. Gram staining, catalase test, acid tolerance, biochemical identification, antimicrobial and antifungal activity. Isolates of LAB were checked for their level of endurance to acidic environment, as human stomach has low pH. This was followed by testing both, antimicrobial and antifungal activity, carried out via agar well diffusion method. The results showed that the LAB which were isolated during our study are against bacterial pathogens, *E. coli* ranges from (13.66mm-17.00mm), *Salmonella enterica* (14.33mm-19.33mm) and *Staphylococcus aureus* (14.33mm-16.33mm). Along with that, all isolates showed very clear zones of inhibition against fungal pathogen *Aspergillus niger* (12.33mm-14.66mm). Hence, the local fermented milk product Dahi is a potential source for both maintaining the normal gut micro flora and can act defensive bacteria against the harmful and pathogenic bacteria.

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