



Microbial quality of commercial rose water products in Fars, Iran

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Background and objectives: Over the centuries, particular attention has been given to the beneficial properties of rose water in Iran. In recent years, the manufacturers' successful promotion has led to the general perception that bottled rose waters are pure and safe for human consumption. However, despite defining specific quality assurance standards by the Iranian National Standards Organization (INSO), strict quality controls are not imposed on these products. In this study, rose water samples were assessed for their microbial contamination based on these standards. **Methods:** Twelve and eight rose water samples were purchased from traditional and industrial manufacturers of Meymand, Fars, respectively. Applying the membrane filter technique, the aliquots of samples (100 mL) were analyzed for the presence of molds, yeast, coliforms, *Colstridium* spp., *Enterococcus* spp. and *Pseudomonas aeruginosa*. By employing the pour plate method, the total microbial counts (TMC) of samples were also enumerated. **Results:** The TMC exceeded the standard limit of 100 CFU/mL in 10 samples. Coliforms were observed in three traditional products and nearly all samples were contaminated with molds and yeast. All the samples were free of *P.aeruginosa* and one sample contained *Enterococcus* spp. **Conclusion:** Being natural, hydrosols appeal to consumers who tend to question the safety of beverages containing artificial mixtures. However, based on the recommended absence of the mentioned microorganisms and the standard limit of the TMC in the standard No. 3270 of the INSO, the examined products, could be considered unfit for human consumption.

Keywords: membrane filter technique, pour plate method, rose water, total microorganism count