ORIGINAL ARTICLE

Prevalence of *Staphylococcus aureus* in Traditional Ice Cream in Iran: A Systematic Review and Meta-analysis

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ABSTRACT: *Staphylococcus aureus* is known to be the third leading cause of food poisoning in the world. Traditional ice cream is one of the dairy products in Iran and some countries in the world that should be controlled for *Staphylococcus aureus* contamination. The purpose of this review and meta-analysis is to determine the contamination of traditional ice cream with *Staphylococcus aureus* in different regions of Iran. Search terms "*Staphylococcus aureus*", "traditional ice Cream", and "Iran" were used in Science Direct, Pubmed, Scopus, Google Scholar, and SID, Magiran Magazine until 2018 published without time limitation selected. To review the original articles and remove duplicate articles and review titles and abstracts, articles that have the required qualities for this research were studied in this study. Data were analyzed by the random effects model in STATA (version 11) and MedCalc (version 13) software. Publication bias and sensitivity analysis were assessed by funnel and influence plots. According to a sample size of 3811 from 35 articles, the prevalence of *Staphylococcus aureus is* estimated 32% in Iran (95% CI: 25-38%, *p<0.001*). The heterogeneity in the estimation of the pooled prevalence among the studies demonstrated; Cochran Q test: 1577.39, *p< 0.001,* $I^2 = 97.84\%$. Based on Begg's adjusted rank correlation test, publication bias was statistically significant (*p <0.05*). Epidemiological data is useful to determine the distribution of *Staphylococcus aureus* contamination and provide a broad picture of the prevalence of traditional ice cream Iran and can be used as an important indicator in the model of risk assessment of microbiologic.

INTRODUCTION

Food safety is one of the main goals of public health in the world. Regarding the improvement of food safety, the prevalence and incidence of food poisoning caused by microbial, chemical, and toxin contamination in food are still common in many countries of the world [1-6].

Biological agents are one of the most important sources of contamination so about 70% of infectious diseases spread through unsafe food to humans and have imposed a heavy economic and health burden on human life. There are now more than 250 cases of diseases due to