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Title: The use of Camellia Sinensis in managing oral diseases of infective, inflammatory, and neoplastic origin. A Systematic Review and Meta-Analysis

Abstract:

Traditional antimicrobial agents for oral diseases raise concerns about side effects and antimicrobial resistance. This systematic review and meta-analysis reviewed the importance of tea by reviewing in-vivo randomised controlled trials (RCT) that answered the research question "What is the effect of different tea preparations in dentistry on the prevention and management of various oral diseases in comparison to placebo or other dental products?". Studies from PubMed, Cochrane library, and Google Scholar in line with the inclusion criteria were extracted and critically appraised using the CASP tool, Cochrane risk of bias and JADAD score. For meta-analysis, standardised mean differences and 95% confidence intervals were calculated then compared in multiple comparisons to identify the differences between green tea mouthwash (GTM) and Chlorhexidine (CHX). 38 RCT studies meeting the eligibility criteria were selected. Three high-quality studies investigating periodontal conditions over two weeks were included in the meta-analysis. Low degree of heterogeneity between the studies with $I^2 = 13\%$ for Plaque Index (PI) and $I^2=0\%$ for Gingival Index (GI). GTM compared to CHX from baseline to two weeks PI SMD -0.60 , CI: $-1.13, -0.08$; $p=0.02$ and GI SMD -0.33 , CI: $-0.80, 0.14$; $p=0.17$. GTM had a medium-to-high effect on PI with a significant difference found between the groups. However, a small effect with no statistical significance on GI was reported. Tea can serve as an alternative to traditional antimicrobial agents in managing periodontal conditions, complementing periodontal treatment by reducing bleeding and diseased pocket depth. Additionally, its anti-plaque activity helps prevent caries.

Biography

Yasna Najmi is currently in her last year of PhD, looking into the effects of green tea mouthwash around peri-mucositis. She has completed her Masters in Restorative and Cosmetic Dentistry from the UK and her Bachelors in Dental Surgery from Pakistan. She was awarded The People's and Judges award at Ulsters' 3MT, the People's choice award in the Vitae's final 3MT in 2022 and Certificate of Achievement for her recognition in Research from College of Medicine and Dentistry. She has served on the judging panel for 3MT and won the Northern Ireland Outreach Champion Award for her contribution to public engagement.