

Abstract

Salivary Metabolomic Profile in Individuals with Different Stages of Renal Function: A Scoping Review [†]

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[†] Presented at the 6th International Congress on Health Innovation—INOVATEC 2025, Hybrid, 21–23 November 2025.

Keywords: saliva; metabolomics; kidney disease

Introduction: Saliva is a complex biofluid with multiple physiological roles and a rich molecular composition, including proteins, metabolites, microorganisms, immune cells, lipids, enzymes, and other compounds. Due to this molecular diversity, saliva has emerged as a valuable source of biomarkers for both oral and systemic diseases, including kidney dysfunction—a growing public health concern that affects twice as many individuals as type 2 diabetes. As a diagnostic medium, saliva offers several advantages: it is non-invasive, painless, and easy to collect, making it a practical alternative to blood and urine. This scoping review aimed to map and synthesize the existing literature on the salivary metabolomic profile of individuals with kidney dysfunctions, highlighting knowledge gaps and opportunities for future research. **Methodology:** This review followed the PRISMA-ScR guidelines and was registered in the Open Science Framework. Searches were conducted in nine databases up to 27 November 2024. The methodological quality of the included studies was assessed using SANRA, STROBE, and the Newcastle–Ottawa Scale. **Results:** A total of 2864 records were retrieved, and after duplicate removal and blinded peer screening, 17 studies met the eligibility criteria. The selected studies were primarily cross-sectional, along with nephrology conference abstracts, one cohort study, and one narrative review. **Conclusions:** Overall, salivary metabolomics demonstrated promising potential in identifying biomarkers related to renal function.



Academic Editors: Andreanne Vasconcelos, Amílcar Damazo and José Roberto Leite

Published: 4 March 2026

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Author Contributions: Conceptualization, L.D.M., L.A.O., S.B., A.L.d.O. and C.M.S.; methodology, L.D.M., L.A.O., S.B., A.L.d.O. and C.M.S.; validation, L.D.M., L.A.O., S.B., A.L.d.O. and C.M.S.; formal analysis, L.D.M., L.A.O., S.B. and C.M.S.; investigation, L.D.M., S.B. and A.L.d.O.; resources, L.A.O.; data curation, L.D.M.; writing—original draft preparation, L.D.M.; writing—review and editing, L.D.M., L.A.O., S.B., A.L.d.O. and C.M.S.; supervision, L.A.O. and S.B.; project administration, L.A.O.; funding acquisition, L.D.M. and L.A.O. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by Financial Aid to Graduate Students enrolled in Stricto Sensu courses process n° DPG No. 0003/2024.

Institutional Review Board Statement: Ethical review and approval were waived for this study due to its design as a scoping review based solely on secondary data from previously published studies, with no direct involvement of human or animal participants.

Informed Consent Statement: Not applicable.

Data Availability Statement: The data presented in this study are available upon request from the corresponding author.

Conflicts of Interest: The authors declare no conflict of interest.

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