

Research Title: Perception of consumers and clinicians on saliva diagnosis for periodontal diseases

Researcher(s):

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Questionnaire — clinicians

Thank you for volunteering to participate in our research project “Perception of consumers and clinicians on saliva diagnosis for periodontal diseases”. Please make sure you have read the participants information sheet carefully before you decide to start the survey. *Please note, your answers are completely anonymous, and the answers are used for research purposes only.

By checking this box, you agree to give consent for using your responses as primary data for this research.

☐ I agree.

1) How would you describe your profession?

☐ General Dentist

☐ Periodontist

☐ Others: _____

2) What method are you currently using to diagnose periodontal diseases? (You may select more than one option)

☐ Medical history

☐ Whole mouth periodontal charting via a manual Probe

☐ Whole mouth periodontal charting via a Florida probe

☐ Clinical parameters – periodontal pocket depth and bleeding on probing

☐ Orthopantomogram - OPG

☐ Intra-oral radiographs

☐ CPITN/PSR - community periodontal Index of Treatment Needs and Periodontal Screening Recording

☐ Others: _____

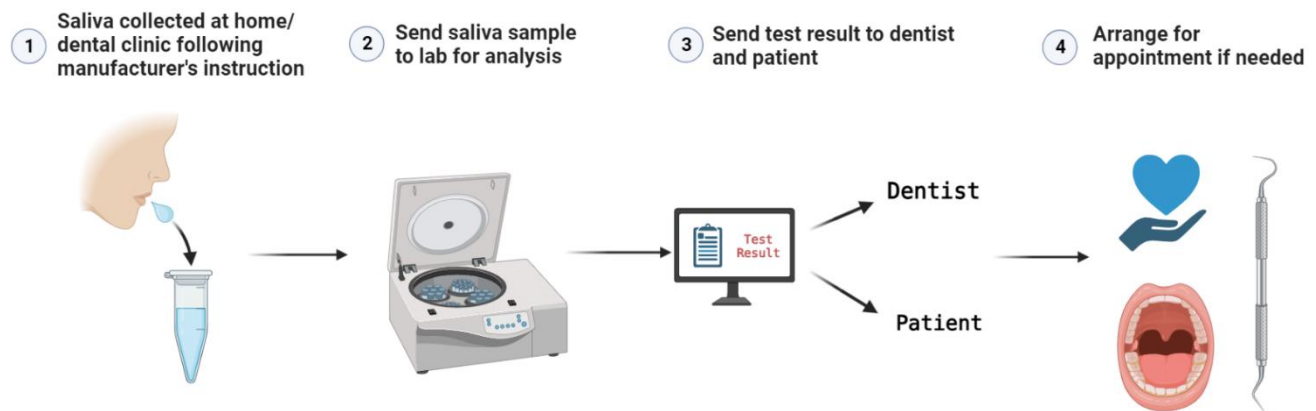
3) In pilot studies, scientists at The University of Queensland’s School of Dentistry have discovered that saliva contains exosomes, which are biological nanoparticles capable of differentiating between patients with Stage III/IV periodontitis and those who are healthy or have gingivitis (PMID: 33670900, PMID: 33670900). In addition, various biological substances such as salivary messenger RNAs, lipids, metabolites, proteins, enzymes, and other materials can be utilized to differentiate between periodontitis and a healthy state (PMID: 36717759, PMID: 35806902, PMID: 31026179, PMID: 34372836).

- a) Do you think the salivary test would be a reliable source that facilitates early disease detection? Choose one.
- ☐ Strongly agree
 - ☐ Agree
 - ☐ Neutral
 - ☐ Disagree
 - ☐ Strongly disagree
- b) Would you use the test as an adjunct method to detect periodontal diseases early? Choose one.
- ☐ Strongly agree
 - ☐ Agree
 - ☐ Neutral
 - ☐ Disagree
 - ☐ Strongly disagree
- c) Would you use the test as an adjunct method to detect the severity of established periodontal diseases? Choose one.
- ☐ Strongly agree
 - ☐ Agree
 - ☐ Neutral
 - ☐ Disagree
 - ☐ Strongly disagree
- d) Nowadays, periodontal/gum diseases are generally diagnosed based on clinical examination and radiographic bone loss. Do you think the salivary diagnosis test would be more efficient and effective? Choose one.
- ☐ Strongly agree
 - ☐ Agree
 - ☐ Neutral
 - ☐ Disagree
 - ☐ Strongly disagree
- e) Do you think this saliva diagnosis method can be an adjunct of traditional diagnosis techniques? Choose one.
- ☐ Strongly agree
 - ☐ Agree
 - ☐ Neutral
 - ☐ Disagree
 - ☐ Strongly disagree

f) What is your proposed/acceptable price range (\$AUD) for a salivary diagnosis kit in periodontal diseases?

- ☐ \$0-10
☐ \$11-20
☐ \$21-30
☐ \$31-40
☐ More than \$40
☐ Others, please specify: _____

4) The figure below shows a proposed clinical workflow for saliva diagnosis.



a) Do you think this workflow would produce reliable results that facilitates periodontal disease diagnosis or early disease detection? Choose one.

- ☐ Strongly agree
☐ Agree
☐ Neutral
☐ Disagree
☐ Strongly disagree

b) Which step, if any, do you think that improvement is needed? (You may select more than one option)

- ☐ Step 1
☐ Step 2
☐ Step 3
☐ Step 4

Your suggestions to improve the flow: _____

5) Saliva contains periodontal pathogens, inflammatory cytokines, enzymes, antibodies, nanovesicles, hormones, genetic materials from host and microbiota, lipids, metabolites and other biological materials. What salivary components/biomarkers do you think would be reliable to utilise in periodontal disease salivary diagnosis? (You may select more than one option)

- ☐ Periodontal pathogens
- ☐ Inflammatory cytokines
- ☐ Enzymes
- ☐ Extracellular vesicles
- ☐ Lipids
- ☐ Metabolites
- ☐ Genetic materials from host and microbiota
- ☐ Hormones
- ☐ All of the above
- ☐ None of the above
- ☐ Others: _____

6) Do you think there are advantages to salivary diagnosis, if yes, what are they? (You may select more than one option)

- ☐ Easy collection
- ☐ Safe collection
- ☐ Non-invasive with minimal discomfort
- ☐ Accuracy – sensitive molecular biomarkers
- ☐ Affordability
- ☐ Portable platforms to facilitate early disease detection
- ☐ Self-collection by patient is feasible
- ☐ Better stability and transportability
- ☐ All of the above
- ☐ None of the above
- ☐ Others: _____

7) Do you think there are limitations to salivary diagnosis, if yes, what are they? (You may select more than one option)

- ☐ Target analytes are generally present in lower amounts in saliva than in serum
- ☐ Saliva collection methods and protocols are lacking standardisation
- ☐ Salivary components vary between individuals
- ☐ Contamination of food, beverages, kissing etc.
- ☐ Certain patients require a longer time for sample collection
- ☐ Certain systemic diseases and medications may alter the level of diagnostic biomarkers leading to false positive/negative
- ☐ Not suitable for patient with xerostomia
- ☐ All of the above
- ☐ None of the above
- ☐ Others: _____