

Supplementary Figures :

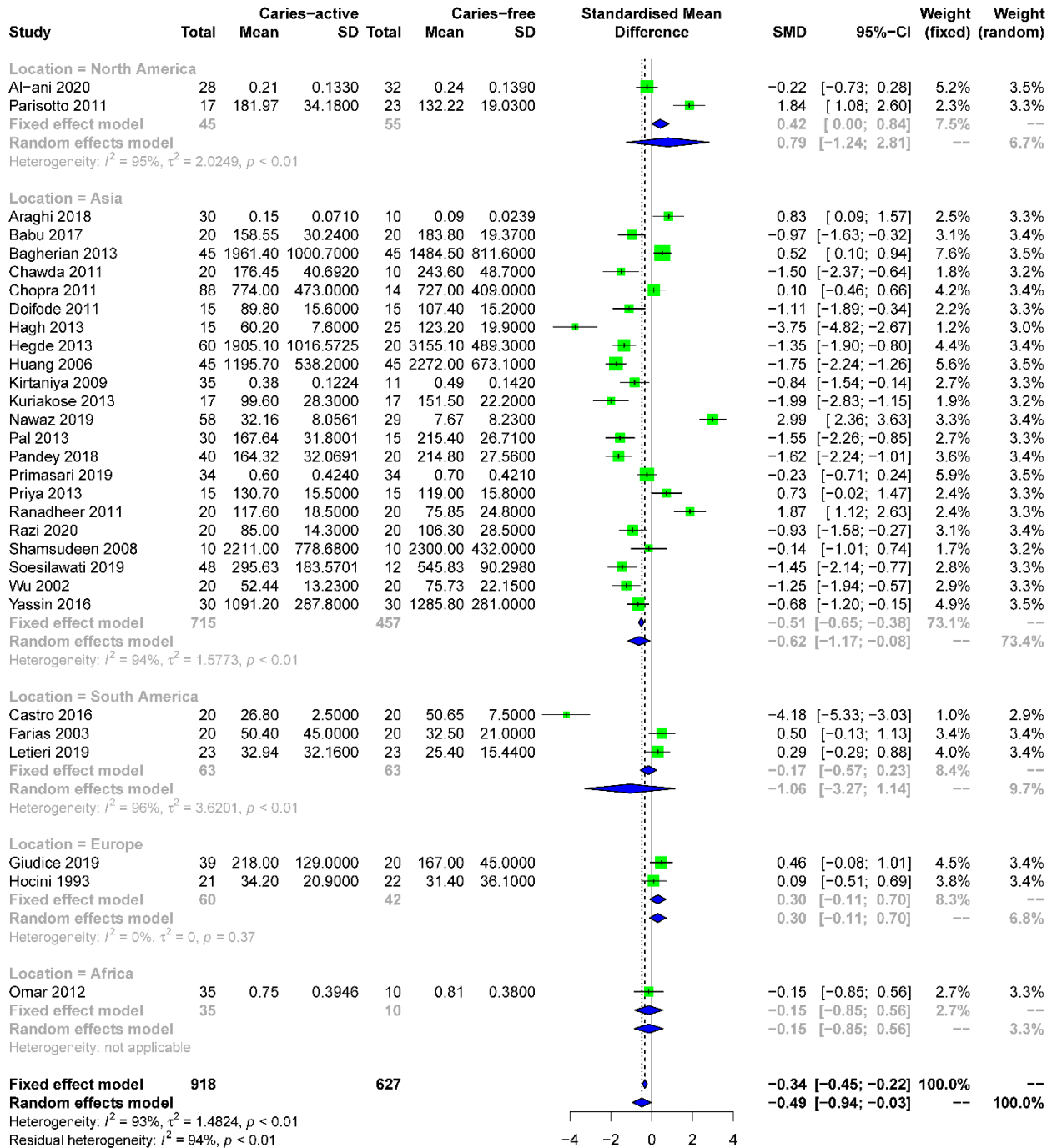


Figure S1: Subgroup analysis for the differences of salivary s-IgA levels between caries patients and healthy controls in different regions.

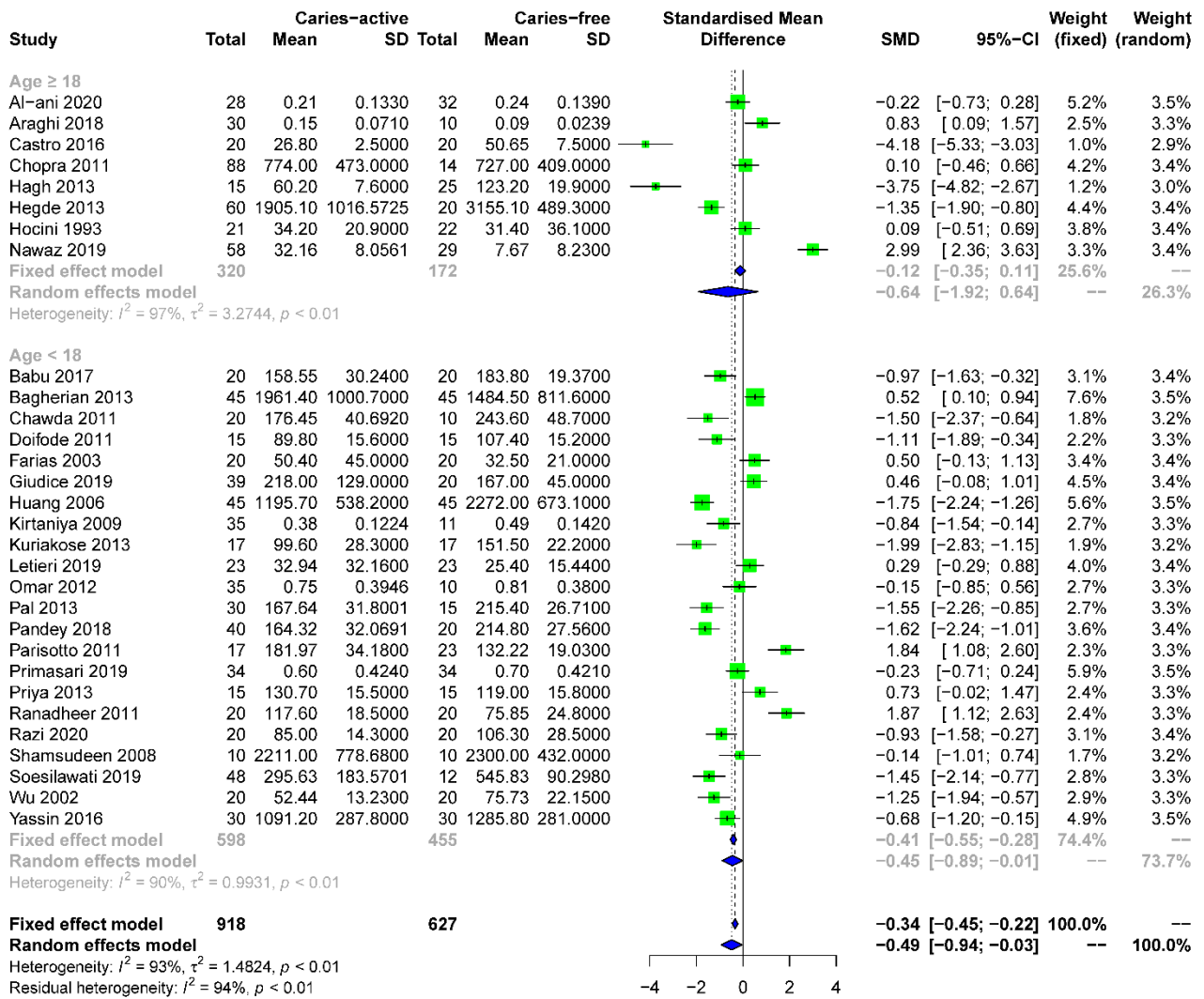


Figure S2: Subgroup analysis for the differences of salivary s-IgA levels between caries patients and healthy controls in different ages.

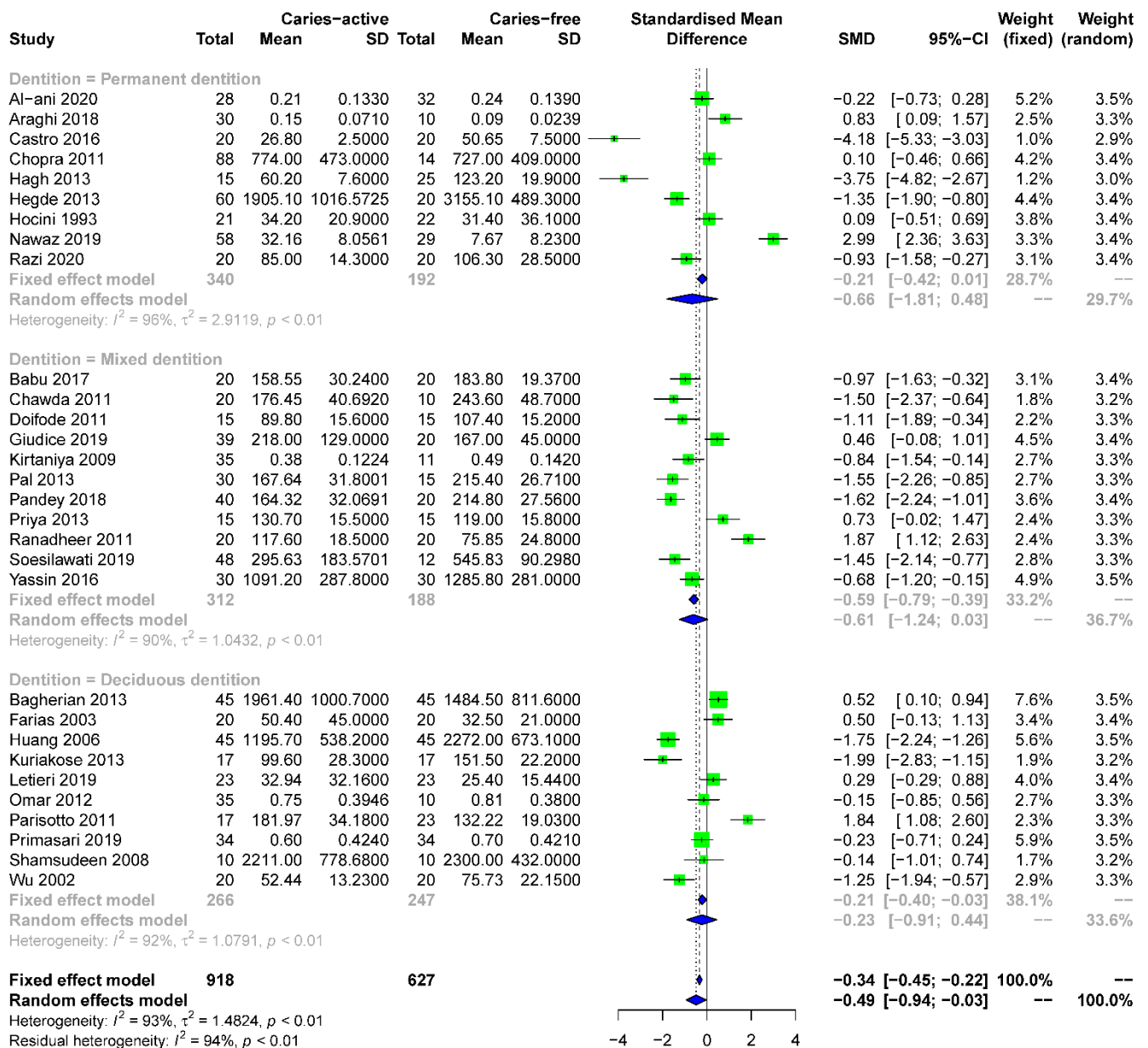


Figure S3: Subgroup analysis for the differences of salivary s-IgA levels between caries patients and healthy controls in different type of dentitions.

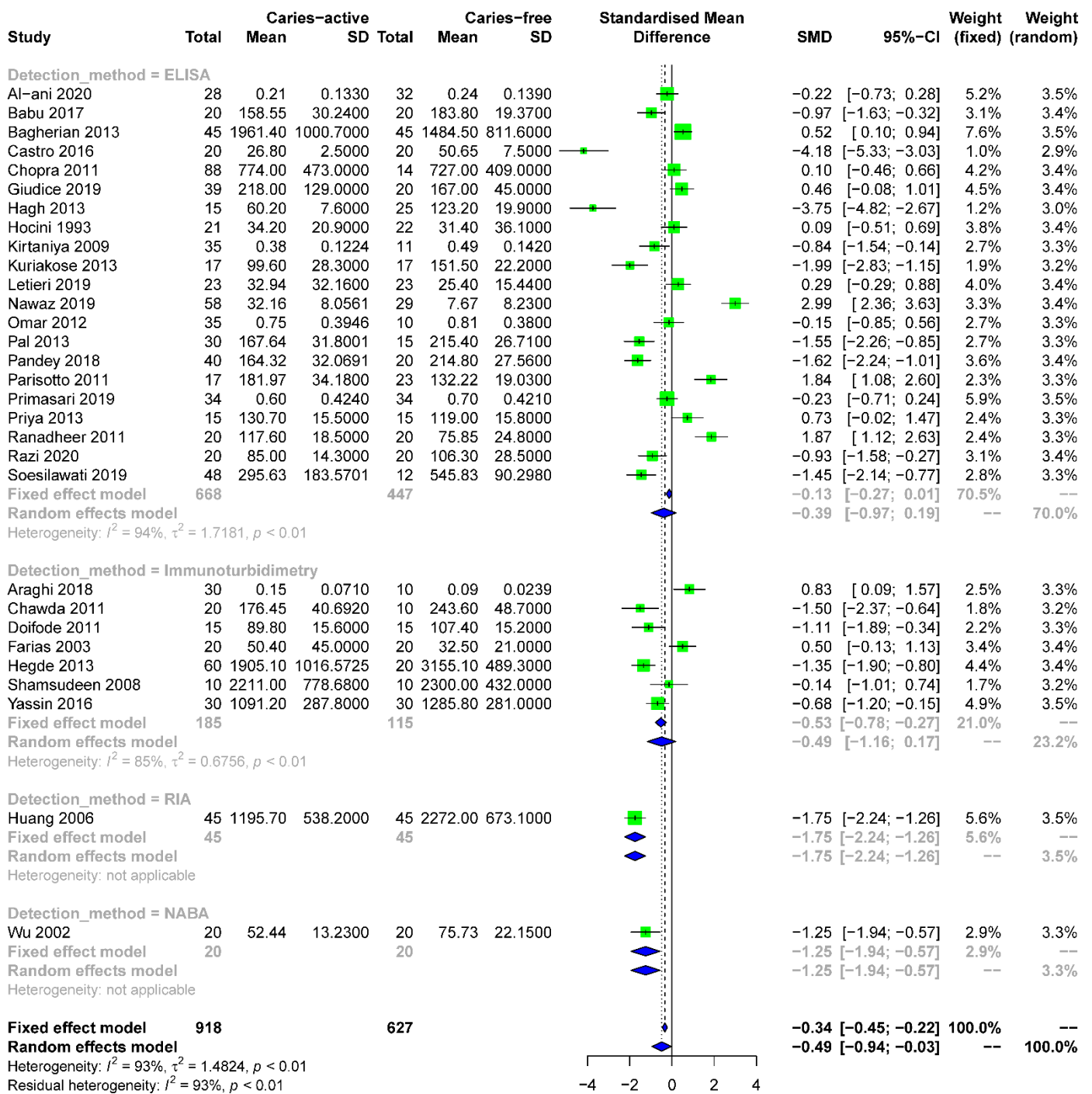


Figure S4: Subgroup analysis for the differences of salivary s-IgA levels between caries patients and healthy controls in different detection methods.



PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	Page 1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	Page 2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	Page 3
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	Page 4
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	Page 4
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	Page 5
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	Page 5
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Page 5
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	Page 5-6
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	Page 5-6
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	Page 5-6
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	Page 5-6
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	Page 6-7
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	Page 7



PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	Page 7
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	Page 7
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	Page 8
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	Page 8
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	Page 8-11
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	Page 8-11
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	Page 8-11
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	Page 8-11
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	Page 11-12
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	Page 12-17
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	Page 17-18
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	Page 18
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	Page 19

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit: www.prisma-statement.org.

Table S2. Newcastle - Ottawa Quality Assessment Scale for case control studies
 Website: http://www.ohri.ca/programs/clinical_epidemiology/oxford.asp

Note: A study can be awarded a maximum of one star for each numbered item within the Selection and Exposure categories. A maximum of two stars can be given for Comparability.

Item	Stars
Selection	
1) <u>Is the case definition adequate?</u>	
a) yes, with independent validation <input type="checkbox"/> *	
b) yes, e.g. record linkage or based on self-reports	
c) no description	
2) <u>Representativeness of the cases</u>	
a) consecutive or obviously representative series of cases <input type="checkbox"/> *	
b) potential for selection biases or not stated	
3) <u>Selection of Controls</u>	
a) community controls <input type="checkbox"/> *	
b) hospital controls	
c) no description	
4) <u>Definition of Controls</u>	
a) no history of disease (endpoint) <input type="checkbox"/> *	
b) no description of source	
Comparability	
1) <u>Comparability of cases and controls on the basis of the design or analysis</u>	
a) study controls for _____ (Select the most important factor.) <input type="checkbox"/> *	
b) study controls for any additional factor <input type="checkbox"/> * (These criteria could be modified to indicate specific control for a second important factor.)	
Exposure	
1) <u>Ascertainment of exposure</u>	
a) secure record (e.g. surgical records) <input type="checkbox"/> *	
b) structured interview where blind to case/control status <input type="checkbox"/> *	
c) interview not blinded to case/control status	
d) written self-report or medical record only	
e) no description	
2) <u>Same method of ascertainment for cases and controls</u>	
a) yes <input type="checkbox"/> * b) no	
3) <u>Non-Response rate</u>	
a) same rate for both groups *	
b) non respondents described	
c) rate different and no designation	

Table S3. References included in the final analysis

Code	Reference information
1	Al-ani A, MacDonald D A, Ahmad M. Salivary sIgA and PRAP-1 Protein in Relation to Dental Caries: A Comparative Study[J]. Journal of Advanced Oral Research, 2020, 11(1): 71–76. https://doi.org/10.1177%2F2320206820913746
2	Haeri-Araghi H, Zarabadipour M, Safarzadeh-Khosroshahi S, et al. Evaluating the relationship between dental caries number and salivary level of IgA in adults[J]. Journal of Clinical and Experimental Dentistry, 2018, 10(1): e66-69. https://dx.doi.org/10.4317%2Fjced.54271
3	B. Jagadesh Babu, N. Venugopal Reddy, B. V. Thimma Reddy, et al. Comparitive evaluation of salivary IgA levels and dental caries in obese and non-obese children[J]. International Journal of Advanced Research, 2017, 5(1), 766-772. http://dx.doi.org/10.21474/IJAR01/2812
4	Bagherian A, Asadikaram G. Comparison of some salivary characteristics between children with and without early childhood caries[J]. Indian Journal of Dental Research, 2012, 23(5): 628-632. https://doi.org/10.4103/0970-9290.107380
5	Castro R J, Herrera R, Giacaman R A. Salivary protein characteristics from saliva of carious lesion-free and high caries adults[J]. Acta odontológica Latinoamericana, 2016, 29(2): 178-185. http://www.scielo.org.ar/pdf/aol/v29n2/v29n2a11.pdf
6	Chawda J G, Chaduvula N, Patel H R, et al. Salivary SIgA and dental caries activity[J]. Indian pediatrics, 2011, 48(9): 719-721. https://doi.org/10.1007/s13312-011-0113-y
7	Chopra M, Jadhav S, Venugopalan A, et al. Salivary immunoglobulin A in rheumatoid arthritis (RA) with focus on dental caries: a cross-sectional study[J]. Clinical rheumatology, 2012, 31(2): 247-250. https://doi.org/10.1007/s10067-011-1796-0
8	Doifode D, Damle S G. Comparison of salivary IgA levels in caries free and caries active children[J]. International Journal of Clinical Dental Science, 2011, 2(1):10-14. https://www.edentj.com/index.php/ijcds/article/view/196 .
9	de Farias D G, Bezerra A C B. Salivary antibodies, amylase and protein from children with early childhood caries[J]. Clinical oral investigations, 2003, 7(3): 154-157. https://doi.org/10.1007/s00784-003-0222-7
10	Lo Giudice G, Nicita F, Mili A, et al. Correlation of s-IgA and IL-6 Salivary with Caries Disease and Oral Hygiene Parameters in Children[J]. Dentistry Journal, 2020, 8(1): 3. https://doi.org/10.3390/dj8010003
11	Golpasand Hagh L, Zakavi F, Ansarifar S, et al. Association of dental caries and salivary sIgA with tobacco smoking[J]. Australian Dental Journal, 2013, 58(2): 219-223. https://doi.org/10.1111/adj.12059
12	Hegde M, Devadiga D, Shetty C, et al. Correlation between dental caries and salivary immunoglobulin in adult Indian population: An in vivo study[J]. Journal of Restorative Dentistry, 2013, 1(1): 22-25. https://doi.org/10.4103/2321-4619.111229
13	Hocini H, Iscaki S, Bouvet J P, et al. Unexpectedly high levels of some presumably protective secretory immunoglobulin A antibodies to dental plaque bacteria in salivas of both caries-resistant and caries-

	susceptible subjects[J]. Infection and immunity, 1993, 61(9): 3597-3604. https://doi.org/10.1128/IAI.61.9.3597-3604.1993
14	Huang H H, Yu H, Zhang L, et al. Correlation between immunochemical level and patient with caries[J]. West China journal of stomatology, 2006, 24(1): 77-78. https://doi.org/10.3321/j.issn:1000-1182.2006.01.023 (in Chinese)
15	Kirtaniya B C, Chawla H S, Tiwari A, et al. Natural prevalence of antibody titres to GTF of S. mutans in saliva in high and low caries active children[J]. Journal of Indian Society of Pedodontics and Preventive Dentistry, 2009, 27(3): 135-138. https://doi.org/10.4103/0970-4388.57092
16	Kuriakose S, Sundaresan C, Mathai V, et al. A comparative study of salivary buffering capacity, flow rate, resting pH, and salivary Immunoglobulin A in children with rampant caries and caries-resistant children[J]. Journal of Indian Society of Pedodontics and Preventive Dentistry, 2013, 31(2): 69-73. https://doi.org/10.4103/0970-4388.115697
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18	Nawaz A, Batool H, Kashif M, et al. Immune profiling of saliva in patients with and without dental caries[J]. Bangladesh Journal of Medical Science, 2019, 18(3): 536-539. https://doi.org/10.3329/bjms.v18i3.41622
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20	Pal S, Mitra M, Mishra J, et al. Correlation of total salivary secretory immunoglobulin A (SIgA) and mutans specific SIgA in children having different caries status[J]. Journal of Indian Society of Pedodontics and Preventive Dentistry, 2013, 31(4): 270-274. https://doi.org/10.4103/0970-4388.121831
21	Pandey S, Goel M, Nagpal R, et al. Evaluation of Total Salivary Secretory Immunoglobulin A and Mi/fans-specific SIgA among Children having Dissimilar Caries Status[J]. The journal of contemporary dental practice, 2018, 19(6): 651-655. https://doi.org/10.5005/jp-journals-10024-2314
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23	Primasari A, Octiara E, Yanti N. Risk factor of secretory immunoglobulin A and salivary lysozyme level in children aged under 3 years to severe early childhood caries[C]. IOP Conference Series: Earth and Environmental Science. IOP Publishing, 2019, 305(1): 012001. https://iopscience.iop.org/article/10.1088/1755-1315/305/1/012001/meta
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26	Razi M A, Qamar S, Singhal A, et al. Role of natural salivary defenses in the maintenance of healthy oral microbiota in children and adolescents[J]. Journal of Family Medicine and Primary Care, 2020, 9(3): 1603-1607. https://doi.org/10.4103/jfmpe.jfmpe_1134_19
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30	Yassin H N. Comparison of immunoglobulin IgA level in the stimulated saliva of caries-free and caries-active children aged 7-10 years[J]. Journal of Baghdad College of Dentistry, 2016; 28(3):155-158. https://jcodental-uobaghdad-edu.org/index.php/jbcd/article/view/1443 .