Supplementary text

Newcastle–Ottawa Scale - adapted for cross-sectional studies [1]

Selection: (Maximum 5 stars)

1) Representativeness of the sample
a) Truly representative of the average in the target country or region* (all subjects or random sampling)
b) Somewhat representative of the average in the target country or region* (non-random sampling)
c) Selected group of users
d) No description of the sampling strategy

2) Sample size
a) Pre-determined and calculated*
b) Not pre-determined or calculated.

3) Non-respondents
a) Comparability between respondents' and non-respondents' characteristics is established, and the response rate is satisfactory* (70% response rate).
b) The response rate is unsatisfactory, or the comparability between respondents and non-respondents is unsatisfactory (70% response rate).
c) No description of the response rate or the characteristics of the responders and the non-responders.

4) Ascertainment of the exposure (risk factor)
a) Validated measurement tool**
b) Non-validated measurement tool, but the tool is available or described*
c) No description of the measurement tool

Comparability: (Maximum 2 stars)

1) The subjects in different outcome groups are comparable based on the study design or analysis. Confounding factors are controlled for.
a) The study controls for toothbrushing (select one)*
b) The study controls for other demographic factors*

Outcome: (Maximum 3 stars)

1) Assessment of the outcome
a) Independent blind assessment**
b) Record linkage**
c) Self-report*
d) No description

2) Statistical test:
a) The statistical test used to analyse data is clearly described and appropriate, and measurement of the association is presented, including confidence intervals and the probability level (p value)*
b) The statistical test is not appropriate, not described, or incomplete

This scale has been adapted from the Newcastle–Ottawa Quality Assessment Scale for cohort studies to perform quality assessment of cross-sectional studies for the systematic review entitled 'Are Healthcare Workers' Intentions to Vaccinate Related to their Knowledge, Beliefs and Attitudes? A Systematic Review'

Newcastle–Ottawa Scale – Case–control studies [2]

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.

Selection: (Maximum 4 stars)
1) Is the case definition adequate?
    a) Yes, with independent validation*
    b) Yes, e.g. record linkage or based on self-reports
    c) No description
2) Representativeness of the cases
    a) Consecutive or obviously representative series of cases*
    b) Potential for selection biases or not stated
3) Selection of Controls
    a) Community controls*
    b) Hospital controls
    c) No description
4) Definition of Controls
    a) No history of disease (endpoint) *
    b) No description of source
Comparability: (Maximum 2 stars)
1) Comparability of cases and controls on the basis of the design or analysis
    a) Study controls for toothbrushing *
    b) Study controls for other demographic factors*

Exposure: (Maximum 3 stars)
1) Ascertainment of exposure
    a) Secure record*
    b) Structured interview where blind to case/control status*
    c) Interview not blinded to case/control status
    d) Written self-report or medical record only
    e) No description
2) The same method of ascertainment for cases and controls
    a) Yes*
    b) No
3) Non-response rate
    a) The same rate for both groups*
    b) Non-respondents described
    c) Different rate and no designation

Study Quality [3] (case–control study)

The following are accepted thresholds for converting the Newcastle–Ottawa scales to AHRQ standards (good-, fair-, and poor-quality studies):

- "Good quality: 3 or 4 stars in the selection domain AND 1 or 2 stars in the compatibility domain AND 2 or 3 stars in outcome/exposure domain"

- "Fair quality: 2 stars in the selection domain AND 1 or 2 stars in the comparability domain AND 2 or 3 stars in the outcome/exposure domain"

- "Poor quality: 0 or 1 star in the selection domain OR 0 stars in the comparability domain OR 0 or 1 stars in the outcome/exposure domain"

Study Quality (cross-sectional study)

- "Very good quality: 9-10 points"

- "Good quality: 7-8 points"

- "Satisfactory quality: 5-6 points"

- "Unstatisfactory quality: 0-4 points"

115 **Supplementary Table S1. Risk of bias assessments for cross-sectional studies – Newcastle–Ottawa Scale (adapted version)**

Source	Selection				Comparability based on design and analysis	Outcome		Total	Assessment
	Representativeness of the sample	Sample size	Non-respondents	Ascertainment of the exposure		Assessment of outcome	Statistical test		
Moreira, 2021 [4]	1	1	1	2	1	2	1	9	Very good
Abbass, 2019 [5]			1	1	2	2	1	6	Satisfactory
Lee, 2019 [6]	1	1	1	2	2	2	1	10	Very good
Lee, 2020 [7]	1	1	1	2	2	2	1	10	Very good
Pujara, 2016 [8]			1	1	1	2	1	6	Satisfactory
Shimazaki, 2008 [9]			1	2	2	2	1	8	Good
Al-Zahrani, 2006 [10]	1	1	1	2	1	2	1	9	Very good
Nishida, 2000 [11]	1	1	1	2	1	2	1	9	Very good

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117 **Supplementary Table S2. Risk of bias assessment for case–control studies – Newcastle–Ottawa Scale**

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Source	Selection				Comparability based on design and analysis	Outcome			Total	Assessment
	Is the case definition adequate?	Representativeness of cases	Selection of controls	Definition of controls		Assessment of exposure	The same method of ascertainment for cases and controls	Non-response rate		
Pulikkotil, 2020 [12]	1		1		1		1	1	5	Fair

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