Data Extraction Form

Start of Block: Article id & designs

INSTRUCTIONS   
  
 To complete this form please: Open the csv file containing all the references in Excel  find the online version of the relevant article scan the article and it's supplementary material (5 mins max) Answer the questions below.

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Article ID copy and paste in the article ID from the csv file close Excel

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Copy and paste the article's title

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Your initials

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What study designs do the authors state they used?  search article & relevant supplementary material for all these terms: **'case' | 'nested' | 'sectional' | 'cohort' | 'longitudinal' | 'follow' | 'prevalence' | 'incidence' | 'prospective' | 'retrospective' | 'control' | 'group' | 'expos' | 'comparis')** examine methods, results & all supplementary material check all that apply

* Cohort (a.k.a. follow-up, retrospecitive cohort, prospective cohort) (1)
* Cross-sectional (a.k.a: prevalence) (2)
* Case-control (a.k.a: nested case-control, case-reference, case-comparison, case-crossover) (3)
* The authors did not state that they used a case-control, cross-sectional or cohort study design (4)

Display This Question:

If What study designs do the authors state they used? search article & relevant supplementary materi... != The authors did not state that they used a case-control, cross-sectional or cohort study design

Copy and paste in the authors statement regarding their study designs.

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Box 1 is copy and pasted from the STROBE elaboration & explanation article.  
     
   
**Box 1. Main study designs covered by STROBE**   
    
 Cohort, case-control, and cross-sectional designs represent different approaches of investigating the occurrence of health-related events in a given population and time period. These studies may address many types of health-related events, including disease or disease remission, disability or complications, death or survival, and the occurrence of risk factors. In **cohort studies**, the investigators follow people over time. They obtain information about people and their exposures at baseline, let time pass, and then assess the occurrence of outcomes. Investigators commonly make contrasts between individuals who are exposed and not exposed or among groups of individuals with different categories of exposure. Investigators may assess several different outcomes, and examine exposure and outcome variables at multiple points during follow-up. Closed cohorts (for example birth cohorts) enrol a defined number of participants at study onset and follow them from that time forward, often at set intervals up to a fixed end date. In open cohorts the study population is dynamic: people enter and leave the population at different points in time (for example inhabitants of a town). Open cohorts change due to deaths, births, and migration, but the composition of the population with regard to variables such as age and gender may remain approximately constant, especially over a short period of time. In a closed cohort cumulative incidences (risks) and incidence rates can be estimated; when exposed and unexposed groups are compared, this leads to risk ratio or rate ratio estimates. Open cohorts estimate incidence rates and rate ratios. In **case-control studies**, investigators compare exposures between people with a particular disease outcome (cases) and people without that outcome (controls). Investigators aim to collect cases and controls that are representative of an underlying cohort or a cross-section of a population. That population can be defined geographically, but also more loosely as the catchment area of health care facilities. The case sample may be 100% or a large fraction of available cases, while the control sample usually is only a small fraction of the people who do not have the pertinent outcome. Controls represent the cohort or population of people from which the cases arose. Investigators calculate the ratio of the odds of exposures to putative causes of the disease among cases and controls (see Box 7). Depending on the sampling strategy for cases and controls and the nature of the population studied, the odds ratio obtained in a case-control study is interpreted as the risk ratio, rate ratio or (prevalence) odds ratio [16,17]. The majority of published case-control studies sample open cohorts and so allow direct estimations of rate ratios. In **cross-sectional studies**, investigators assess all individuals in a sample at the same point in time, often to examine the prevalence of exposures, risk factors or disease. Some cross-sectional studies are analytical and aim to quantify potential causal associations between exposures and disease. Such studies may be analysed like a cohort study by comparing disease prevalence between exposure groups. They may also be analysed like a case-control study by comparing the odds of exposure between groups with and without disease. A difficulty that can occur in any design but is particularly clear in cross-sectional studies is to establish that an exposure preceded the disease, although the time order of exposure and outcome may sometimes be clear. In a study in which the exposure variable is congenital or genetic, for example, we can be confident that the exposure preceded the disease, even if we are measuring both at the same time.   
 You reported that the authors did not state that they used a case-control, cross-sectional or cohort study design. Please indicate which designs you **think** the authors used based on the definitions provided above in Box 1. (Check all that apply)

* Case-control (1)
* Cross-sectional (2)
* Cohort (3)

Display This Question:

If What study designs do the authors state they used? search article & relevant supplementary materi... = The authors did not state that they used a case-control, cross-sectional or cohort study design

Please provide a rationale for your response. You may copy and paste in evidence from the article to support your judgement.

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End of Block: Article id & designs

Start of Block: Reporting quality - not STROBE

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Did the authors state that they followed STROBE?  search article & relevant supplementary material for all these terms:**'reporting' | 'guideline' | 'checklist' | 'STROBE' | 'followed' | 'equator'**)

* Yes - the authors state that they followed the STROBE guidelines (1)
* No - the authors state they did not use STROBE or any reporting guidelines (2)
* NI -the authors made no statement regarding their use of reporting guidelines (3)
* Other reporting guidelines used - they state they used reporting guidelines other than STROBE. (please specify which reporting guidelines they said they used) (4) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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If Did the authors state that they followed STROBE? search article & relevant supplementary material... != NI -the authors made no statement regarding their use of reporting guidelines

Copy and paste in the authors statement regarding their use of reporting guidelines

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If Did the authors state that they followed STROBE? search article & relevant supplementary material... != NI -the authors made no statement regarding their use of reporting guidelines

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If the authors do follow STROBE or other reporting guidelines do they cite these guidelines?

* Yes (1)
* No (2)

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Do the authors state that the studies contained in the article were registered?   search article & relevant supplementary material for all these terms: '**regist' | 'protocol'** | '**plan' | 'publis'**)

* Yes -before data analysis (1)
* Yes - after data analysis (2)
* Yes - don't state when (3)
* No - state that the studies were not registered (4)
* NI - no statement regarding registration (5)

Display This Question:

If Do the authors state that the studies contained in the article were registered?  search article &... != NI - no statement regarding registration

Copy and paste in the authors' statement regarding registration

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If Do the authors state that the studies contained in the article were registered?  search article &... != NI - no statement regarding registration

Copy and paste in the registration's reference number, DOI or other identifier (leave blank if none provided)

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Do the authors reference the UK Biobank ID numbers for all the variables? examine any strings of numbers found in the methods, results and all supplementary material

* Always (1)
* Most of the time (2)
* About half the time (3)
* Sometimes (4)
* Never (5)

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The UK Biobank requires that any publication of results includes the following credit: “This research has been conducted using the UK Biobank Resource.”. Do the authors do this? search article & relevant supplementary material for all these terms: '**UK' | 'Resource'**

* Yes - exact wording (i.e. “This research has been conducted using the UK Biobank Resource.”) (1)
* Yes - almost exact wording (e.g. "This work was conducted with the UK Biobank Resource, we conducted this research using the UK Biobank Resource", "This work used the UKB Resource", "This work was conducted using the UK Biobank") (2)
* No - the authors mention they used data from the UK Biobank but do not explictly credit it (e.g. our sample included 100,000 participants from the UK Biobank) (3)

Copy and paste the author's reference to the UK Biobank (if there are multiple references copy and paste the one that closest resembles “This research has been conducted using the UK Biobank Resource.”)

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End of Block: Reporting quality - not STROBE

Start of Block: STROBE

**STROBE STATEMENT INSTRUCTIONS**   
    
The following tables are adapted from the STROBE checklist. As done by Rao et al. (2016) the 22 item checklist was divided up into its sub-items.    
    
**Instructions**   
  Open the STROBE Explanation and Elaboration article (<https://doi.org/10.1371/journal.pmed.0040297>). It discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with it. Indicate if the authors report the items If you responded 'Yes', 'Partially', 'Unsure' or 'External', provide evidence for your response in the textboxes. Do not copy and paste any evidence into the textboxes.  Give it's location by stating the document it can be found in (i.e. article or supplementary material), on what page (e.g. page. 1) and where on this page (e.g. first para of 'Methods' section).   If the evidence in the supplementary material you will need to say which it is in (e.g. supp 3) Format should be: **[document name]; page [number]; [location description]** Use semi-colons as deliminators   
  **Response options**  
   
 **Yes** = the authors fully reported this information  
 **NI =**the authors did not report any of this information  
 **Partially =**the authors partially reported this information  
 **Unsure =**I am unsure that the authors reported this information either partially or fully  
 **NA** = this information was not relevant to any of the studies  
 **External =**the authors report that this information can be found in an external source, i.e. not in the article or supplementary material

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Indicate if the authors report the following items

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|  | **Yes (1)** | **NI (2)** | **Partial (3)** | **Unsure (4)** | **NA (5)** | **External (6)** |
| 1. (a) Indicate the study’s design with a commonly used term in the title or the abstract (4) |  |  |  |  |  |  |
| 1. (b) Provide in the abstract an informative and balanced summary of what was done and what was found (5) |  |  |  |  |  |  |
| 2. Explain the scientific background and rationale for the investigation being reported (8) |  |  |  |  |  |  |
| 3. State specific objectives, including any prespecified hypotheses (11) |  |  |  |  |  |  |
| 4. Present key elements of study design early in the paper (12) |  |  |  |  |  |  |
| 5. (i) Describe the setting (72) |  |  |  |  |  |  |
| 5. (ii) Describe the locations (14) |  |  |  |  |  |  |
| 5. (iii) Describe the relevant dates including periods of recruitment (73) |  |  |  |  |  |  |
| 5. (iv) Describe the relevant dates including periods of exposure (74) |  |  |  |  |  |  |
| 5. (v) Describe the relevant dates including periods of follow-up (75) |  |  |  |  |  |  |
| 5. (vi) Describe the relevant dates including periods of data collection (76) |  |  |  |  |  |  |

Display This Question:

If What study designs do the authors state they used? search article & relevant supplementary materi... = Cohort (a.k.a. follow-up, retrospecitive cohort, prospective cohort)

Or Box 1 is copy and pasted from the STROBE elaboration & explanation article.   Box 1. Main study d... = Cohort

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Indicate if the authors report the following items **for the cohort studies included in the article**

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|  | **Yes (1)** | **NI (2)** | **Partially (3)** | **Unsure (4)** | **NA (5)** | **External (6)** |
| 6. (a) (i) Cohort study - Give the eligibility criteria (17) |  |  |  |  |  |  |
| 6. (a) (ii) Cohort study - Give the sources of participants (86) |  |  |  |  |  |  |
| 6. (a) (iii) Cohort study - Give the methods of selection of participants (87) |  |  |  |  |  |  |
| 6. (a) (iv) Cohort study - Describe methods of follow-up (88) |  |  |  |  |  |  |
| 6. (b) (i) Cohort study - For matched studies, give matching criteria (20) |  |  |  |  |  |  |
| 6. (b) Cohort study - For matched studies, give number of exposed and unexposed (94) |  |  |  |  |  |  |

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If What study designs do the authors state they used? search article & relevant supplementary materi... = Case-control (a.k.a: nested case-control, case-reference, case-comparison, case-crossover)

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Indicate if the authors report the following items **for the case-control studies included in the article**

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|  | **Yes (1)** | **NI (2)** | **Partially (3)** | **Unsure (4)** | **NA (5)** | **External (6)** |
| 6. (a) (i) Case-control study - Give the eligibility criteria (18) |  |  |  |  |  |  |
| 6. (a) (ii) Case-control study - Give the sources of case ascertainment and control selection (89) |  |  |  |  |  |  |
| 6. (a) (iii) Case-control study - Give the methods of case ascertainment and control selection. (90) |  |  |  |  |  |  |
| 6. (a) (iv) Case-control study - Give the rationale for the choice of cases and controls (91) |  |  |  |  |  |  |
| 6. (b) Case-control study - For matched studies, give matching criteria and the number of controls per case (21) |  |  |  |  |  |  |

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|  | **Yes (1)** | **NI (2)** | **Partially (3)** | **Unsure (4)** | **NA (5)** | **External (6)** |
| 7. (i) Clearly define all outcomes (24) |  |  |  |  |  |  |
| 7. (ii) Clearly define all exposures (86) |  |  |  |  |  |  |
| 7. (iii) Clearly define all predictors, (87) |  |  |  |  |  |  |
| 7. (iv) Clearly define all potential confounders (88) |  |  |  |  |  |  |
| 7. (v) Clearly define all effect modifiers (89) |  |  |  |  |  |  |
| 7. (vi) Give diagnostic criteria, if applicable (91) |  |  |  |  |  |  |
| 8\*. (i) For each variable of interest, give sources of data (27) |  |  |  |  |  |  |
| 8\*. (ii) For each variable of interest, give details of methods of assessment (measurement) (93) |  |  |  |  |  |  |
| 8\*. (iii) Describe comparability of assessment methods if there is more than one group (95) |  |  |  |  |  |  |
| 9. Describe any efforts to address potential sources of bias (29) |  |  |  |  |  |  |
| 10. Explain how the study size was arrived at (32) |  |  |  |  |  |  |
| 11. Explain how quantitative variables were handled in the analyses. (35) |  |  |  |  |  |  |
| 11. (ii) If applicable, describe which groupings were chosen (98) |  |  |  |  |  |  |
| 11. (iii) If applicable, describe why groupings were chosen (99) |  |  |  |  |  |  |
| 12. (a) Describe all statistical methods, including those used to control for confounding (39) |  |  |  |  |  |  |
| 12. (b) Describe any methods used to examine subgroups and interactions (40) |  |  |  |  |  |  |
| 12. (c) Explain how missing data were addressed (41) |  |  |  |  |  |  |

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Indicate if the authors report the following items for the study designs included in the article

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|  | **Yes (1)** | **NI (2)** | **Partially (3)** | **Unsure (4)** | **NA (5)** | **External (6)** |
| 12. (d) Cohort study - If applicable, explain how loss to follow-up was addressed (42) |  |  |  |  |  |  |
| 12. (d) Case-control study—If applicable, explain how matching of cases and controls was addressed (43) |  |  |  |  |  |  |
| 12. (d) Cross-sectional study—If applicable, describe analytical methods taking account of sampling strategy (44) |  |  |  |  |  |  |

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|  | **Yes (1)** | **NI (2)** | **Partially (3)** | **Unsure (4)** | **NA (5)** | **External (6)** |
| 12. (e) Describe any sensitivity analyses (45) |  |  |  |  |  |  |
| 13\*. (a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed (46) |  |  |  |  |  |  |
| 13\*. (b) Give reasons for non-participation at each stage (47) |  |  |  |  |  |  |
| 13\*. (c) Use a flow diagram (48) |  |  |  |  |  |  |
| 14\*. (a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders (49) |  |  |  |  |  |  |
| 14\*. (b) Indicate number of participants with missing data for each variable of interest (50) |  |  |  |  |  |  |

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Indicate if the authors report the following items for the study designs included in the article

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|  | **Yes (1)** | **NI (2)** | **Partially (3)** | **Unsure (4)** | **NA (5)** | **External (6)** |
| 14\*. (c) Cohort study—Summarise follow-up time (eg, average and total amount) (51) |  |  |  |  |  |  |
| 15\*. Cohort study—Report numbers of outcome events or summary measures over time (52) |  |  |  |  |  |  |
| 15\*. Case-control study—Report numbers in each exposure category, or summary measures of exposure (53) |  |  |  |  |  |  |
| 15\*. Cross-sectional study—Report numbers of outcome events or summary measures (54) |  |  |  |  |  |  |

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|  | **Yes (1)** | **NI (2)** | **Partially (3)** | **Unsure (4)** | **NA (5)** | **External (6)** |
| 16. (a) (i) Give unadjusted estimates (95) |  |  |  |  |  |  |
| 16. (a) (ii) If applicable, give confounder-adjusted estimates (106) |  |  |  |  |  |  |
| 16. (a) (iii) If applicable, give the confounder-adjusted estimates' precision (eg, 95% confidence interval) (107) |  |  |  |  |  |  |
| 16. (a) (iv) Make clear which confounders were adjusted for (108) |  |  |  |  |  |  |
| 16. (a) (v) Make clear why confounders were included (109) |  |  |  |  |  |  |
| 16. (b) Report category boundaries when continuous variables were categorized (96) |  |  |  |  |  |  |
| 16. (c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period (97) |  |  |  |  |  |  |
| 17. Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses (98) |  |  |  |  |  |  |
| 18. Summarise key results with reference to study objectives (100) |  |  |  |  |  |  |
| 19. (i). Discuss limitations of the study, taking into account sources of potential bias or imprecision. (101) |  |  |  |  |  |  |
| 19. (i) Discuss both direction and magnitude of any potential bias (110) |  |  |  |  |  |  |
| 20. Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence (102) |  |  |  |  |  |  |
| 21. Discuss the generalisability (external validity) of the study results (103) |  |  |  |  |  |  |
| 22. (i) Give the source of funding for the present study (105) |  |  |  |  |  |  |
| 22. (ii) Give the the role of the funders for the present study (111) |  |  |  |  |  |  |
| 22. (iii) If applicable, give the source of funding for the original study on which the present article is based (112) |  |  |  |  |  |  |
| 22. (iv) If applicable, give the role of the funders for the original study on which the present article is based (113) |  |  |  |  |  |  |

End of Block: STROBE