Critical Appraisal Skills Programme

CASP Checklist:
For case control studies

Reviewer Name:	
Paper Title:	
Author:	
Web Link:	
Appraisal Date:	

During critical appraisal, never make assumptions about what the researchers have done. If it is not possible to tell, use the "Can't tell" response box. If you can't tell, at best it means the researchers have not been explicit or transparent, but at worst it could mean the researchers have not undertaken a particular task or process. Once you've finished the critical appraisal, if there are a large number of "Can't tell" responses, consider whether the findings of the study are trustworthy and interpret the results with caution.

Section A: Are the results of the study valid?	
1. Did the study address a clearly focused issue?	☐ Yes ☐ No ☐ Can't Tell
CONSIDER: *An issue can be 'focused' In terms of* • *the population studied* • *whether the study tried to detect a beneficial or harmful effect* • *the risk factors studied*	
2. Did the authors use an appropriate method to answer their question?	☐ Yes ☐ No ☐ Can't Tell
CONSIDER: • *is a case control study an appropriate way of answering the question under the circumstances* • *did it address the study question*	
3. Were the cases recruited in an acceptable way?	☐ Yes ☐ No ☐ Can't Tell
CONSIDER: *We are looking for selection bias which might compromise validity of the findings* • *are the cases defined precisely* • *were the cases representative of a defined population (geographically and/or temporally)* • *was there an established reliable system for selecting all the cases* • *are they incident or prevalent* • *is there something special about the cases* • *is the time frame of the study relevant to disease/exposure* • *was there a sufficient number of cases selected* • *was there a power calculation*	
4. Were the controls selected in an acceptable way?	☐ Yes ☐ No ☐ Can't Tell
CONSIDER: *We are looking for selection bias which might compromise the generalisability of the findings* • *were the controls representative of the defined population (geographically and/or temporally)* • *was there something special about the controls* • *was the non-response high, could non-respondents be different in any way* • *are they matched, population based or randomly selected* • *was there a sufficient number of controls selected*	

5. Was the exposure accurately measured to minimise bias?	☐ Yes ☐ No ☐ Can't Tell
CONSIDER: *We are looking for measurement, recall or classification bias* • *was the exposure clearly defined and accurately measured* • *did the authors use subjective or objective measurements* • *do the measures truly reflect what they are supposed to measure (have they been validated)* • *were the measurement methods similar in the cases and controls* • *did the study incorporate blinding where feasible* • *is the temporal relation correct (does the exposure of interest precede the outcome)*	
6. a) Aside from the exposure, did the groups have similar characteristics?	☐ Yes ☐ No ☐ Can't Tell
CONSIDER: *List the ones you think might be important, that the author may have missed* • *genetic* • *environmental* • *socio-economic*	
6 b) Have the authors taken account of the potential confounding factors in the design and/or in their analysis?	☐ Yes ☐ No ☐ Can't Tell
CONSIDER: • *restriction in design, and techniques e.g. modelling, stratified-, regression-, or sensitivity analysis to correct, control or adjust for confounding factors*	
Section B: What are the results?	
7. Was the treatment effect large?	☐ Yes ☐ No ☐ Can't Tell
CONSIDER: • *what are the bottom-line results* • *is the analysis appropriate to the design* • *how strong is the association between exposure and outcome (look at the odds ratio)* • *are the results adjusted for confounding, and might confounding still explain the association* • *has adjustment made a big difference to the OR*	
8. Was the estimate of the treatment effect precise?	☐ Yes ☐ No ☐ Can't Tell

CONSIDER: • *size of the p-value* • *size of the confidence intervals* • *have the authors considered all the important variables* • *how was the effect of subjects refusing to participate evaluated*	
9. Do you believe the results?	☐ Yes ☐ No ☐ Can't Tell
CONSIDER: • *big effect is hard to ignore!* • *can it be due to chance, bias, or confounding* • *are the design and methods of this study sufficiently flawed to make the results unreliable* • *consider Bradford Hills criteria (e.g. time sequence, does-response gradient, strength, biological plausibility)*	
Section C: Will the results help locally?	
10. Can the results be applied to your patients/the population of interest?	☐ Yes ☐ No ☐ Can't Tell
CONSIDER: • *the subjects covered in the study could be sufficiently different from your population to cause concern* • *if your local setting is likely to differ much from that of the study* • *can you quantify the local benefits and harms*	
11. Do the results of this study fit with other available evidence?	☐ Yes ☐ No ☐ Can't Tell
CONSIDER: • *all the available evidence from RCT's Systematic Reviews, Cohort Studies, and Case Control Studies as well, for consistency*	

Remember One observational study rarely provides sufficiently robust evidence to recommend changes to clinical practice or within health policy decision making. However, for certain questions observational studies provide the only evidence. Recommendations from observational studies are always stronger when supported by other evidence.

APPRAISAL SUMMARY: *List key points from your critical appraisal that need to be considered when assessing the validity of the results and their usefulness in decision-making.*		
Positive/Methodologically sound	**Negative/Relatively poor methodology**	**Unknowns**

Referencing recommendation:

CASP recommends using the Harvard style referencing, which is an author/date method. Sources are cited within the body of your assignment by giving the name of the author(s) followed by the date of publication. All other details about the publication are given in the list of references or bibliography at the end.

Example:

Critical Appraisal Skills Programme (2024). CASP (insert name of checklist i.e. case-control study Checklist.) [online] Available at: insert URL. Accessed: insert date accessed.

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