Critical Appraisal Skills Programme

CASP Checklist:
For clinical prediction rule

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. Is the Clinical Prediction Rule (CPR) clearly defined?	☐ Yes ☐ No ☐ Can't Tell
CONSIDER: • *is the type of patients to whom the CPR will be applied clearly defined* • *are the variables included in the rule clearly defined* • *is the outcome relevant and is it clinically reasonable (the outcome can be expressed as a probability or as a course of action)*	
2. Did the population from which the rule was derived include an appropriate spectrum of patients?	☐ Yes ☐ No ☐ Can't Tell
CONSIDER: • *Is it adequate the way the patients were selected* • *The spectrum of patient, to whom the rule will apply, is represented well*	
3. Was the rule validated in a different group of patients?	☐ Yes ☐ No ☐ Can't Tell
CONSIDER: • *it's not good enough that the rule had a good performance on the patient group used to derive it. The rule should be validated in a different set of patients* • *the validation was done in a group of patients similar to the one used to derive it*	
4. Were the predictor variables and the outcome evaluated in a blinded fashion?	☐ Yes ☐ No ☐ Can't Tell
CONSIDER: • *did people evaluating the outcome know the predictor variables* • *did people evaluating the predictor variables know the outcome*	
5. Were the predictor variables and the outcome evaluates in the whole sample selected initially?	☐ Yes ☐ No ☐ Can't Tell

CONSIDER:
- *are exclusions and dropouts well described and do the authors discuss the reasons for them*
- *sometimes the outcome cannot be measured in the same way in all patients*

6. Are the statistical methods used to construct and validate the rule clearly described?	☐ Yes ☐ No ☐ Can't Tell

CONSIDER:
- *were all important variables included and the positivity criteria explained*
- *is the statistical method adequately described*
- *was the reliability of the rule considered*

Section B: What are the results?

7. Can the performance of the rule be calculated?	☐ Yes ☐ No ☐ Can't Tell

	Outcome +	Outcome -
Rule +	a	b
Rule -	c	d

CONSIDER:
- *performance results can be presented as: Sens, Sp, +LR, -LR, ROC curve, calibration curves etc.*
- *sensitivity = a/(a+c)*
- *specificity = d/(b+d)*
- *LR+ = sens/(1-sp)*
- *LR- = (1-sens)/sp*

8. How precise was the estimate of the treatment effect? *(did they try to refine the rule with other variables to see whether the precision could be improved or the rule simplified?)*	☐ Yes ☐ No ☐ Can't Tell

CONSIDER:
- *the sample size and the number of variables included in the CPR*
- *is the rule robust, has there been any attempt to refine it*

Section C: Will the results help locally?

9. Would the prediction rule be reliable and the results interpretable if used for your patient?	☐ Yes ☐ No ☐ Can't Tell
CONSIDER: • *is your setting too different from that of the study*	
10. Is the rule acceptable in your case?	☐ Yes ☐ No ☐ Can't Tell
CONSIDER: • *the ease of use and the availability of the rule and the costs* • *if the rule is reasonable from a clinical point of view*	
11. Would the results of the rule modify your decision about the management of the patient, or the information you can give to him/her?	☐ Yes ☐ No ☐ Can't Tell
CONSIDER: • *in addition to your opinion, might there be studies analysing the impact (in monetary terms or health results) of the rule* • *if nothing will change, the rule is at best useless in terms of benefit to the patients* • *how the initial estimation has changed after applying the rule, and the effect it has had on the action threshold*	

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. clinical prediction rule Checklist.) [online] Available at: insert URL. Accessed: insert date accessed.

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