Journal Club Guidelines for Candidates

You are required to critique a paper for journal club and discuss it with your colleagues and a University of Liverpool academic during a synchronous session during this module. There are normally two papers selected for each session, you are only required to submit a detailed critique for the paper to which you have been assigned but you should read and be prepared to answer questions on both papers.

You will need to prepare a 500 (approx.) word summary of your critique of the paper which answers the following questions:

- **What is the EBVM research question being asked?**
- **What is the design of this study? Study type, population, randomisation, inclusion and exclusion criteria etc.**
- **What is your assessment of the study's validity – is the method thorough? Is there bias?**
- **What is your assessment of the study's results – strengths and weaknesses?**
- **What is the study's generalisability and applicability – will it change your practice?**

Notes for guidance

Please note: A variety of papers may be selected by your hosts if sections of this guidance are not applicable to the paper that has been selected please don't worry, these further notes simply provide a rough framework to help you prepare your answer.

1. **What is the EBVM research question being asked?**

Break up the question using the PICO format (Patient/ intervention/Comparison /Outcome)

- What patients or populations are being studied?
- What type of intervention or treatment is being studied?
- Is there a comparison group
- What are the outcomes

In some papers there may be many questions and outcomes which can confuse the issue – try to identify what question is being asked by the researchers or alternatively choose the question that you feel best suits your own interests.

2. **What is the design of this study?**

This is may be clear from the abstract but research articles in the veterinary literature include:

- Controlled trials – randomised or not
- Cohort Studies
- Case- control studies
- Experimental study
- Retrospective case series

Try to decide broadly what design they've used before narrowing it down – is this a study of populations (epidemiological study), of clinical cases? Or an experimental study? Has there been an intervention or not?

Be careful of assuming that because a study has some statistical analysis that is must be some sort of interventional or experimental study.

The best study design depends on what is being asked! There is no perfect study.

3. **What is your assessment of the study's validity?**

   This is probably the most important part of the process

   - Was the study conducted so that the results are valid for the samples studied?
   - Does the study answer the question the researchers asked in the first place?
   - Were the appropriate outcomes measures used? Could these have been improved upon?
   - Were drop outs accounted for and how?

   Search for bias– does the sample of animals studied reflect the general population? Bias normally over estimates the effects of the results

   Bias is commonly caused by sampling methods, methods of data collection, methods of analysis and methods of reporting. Different types of study will be affected by different types of bias

   - Selection bias – selected animals do not reflect the general population or the population at risk or the population you wish the study to reflect
   - Performance bias – are groups of animals studied managed in a way where the only difference is the applied intervention or treatment or are there other management factors which may affect the outcome?
   - Detection bias – are the outcomes from different groups assessed in the same way? Are the outcomes from animals treated with drug A assessed the same way as those treated with drug B?
   - Recall bias – has the study relied on owner or vets recall to measure outcomes?

   Poor reporting is another issue which can affect a study's validity

   - Is the reporting clear – are the animals used clearly described?
   - Is there a clear description of the diagnostic methods used?
   - Is there clear documentation of the materials and methods? Otherwise we can't really assess that study effectively – an invalid study may not be worth reading. Are there flaws in the materials and methods?

4. **What is your assessment of the study's results?**
   Hopefully complex statistics should have been peer reviewed but what is your assessment? Descriptive statistics describe who was in the study. Comparison/ inferential statistics tell us how the groups compare.

   - Do you understand the statistics – have they been well explained?
   - Have they explained how they obtained their sample size e.g. using power or sample size calculations?

- Are significant results clearly indicated and represented?
- Is the data presented in enough detail that you can gauge the differences without having to rely on P values.

5. **What is the study's generalisability and applicability – will it change your practice?**

- Which patients would this apply to in the future? (Generalisability)
- Does this evidence apply to my patients now? (Applicability)
- Does the outcome really matter? – Statistical significance does not always equate to clinical significance!
- Will this paper change your practice?