Critical appraisal – Randomised controlled trial questions – Keita et al, 2007

Introduction	
Are the aims clearly stated?	Yes The objective of this study was to compare the clinical efficacy of a single intramuscular injection of a combination of long-acting oxytetracycline and flunixin to that of two long-acting oxytetracycline an tilmicosin alone in young calves suffering from acute RD
Methods	
Is the study design suitable for the aims?	Yes
Which population was studied?	150 pre-ruminant calves, 8-90 days old, with clinical signs of respiratory disease and body temperature of over 39.5^{o}C, split into 3 groups oxytetracycline and flunixin (N=50), oxytetracycline only(N=50) and tilmicosin only (N=50) 4 farms in France
Were the treatments randomly allocated? If yes, how was the randomisation done?	Yes Random number list
Were the groups comparable prior to intervention?	In the results it is stated there was homogeneity between groups in terms of age and weight.
Was the person who administered the interventions blinded?	No
Is it clear what measurements were carried out in the study?	Respiratory rate Rectal temperature Clinical severity score: Hyperpnoea, respiratory

	sounds, coughing, nasal discharge, demeanour
Were the correct measurements chosen? Do they reflect (or are they strongly related to) the outcome of interest?	Yes Yes
Were previously established validated methods used to make the measurements? (e.g. Glasgow pain score, International Units etc)	Yes for respiratory rate and body temperature Subjective scoring system used
What outcomes were measured?	Rectal temperature Respiratory rate Subjective clinical score Retreatment rates
Are the outcomes clinically relevant?	Yes
Were the outcomes assessed blind?	Yes
Are the statistical methods described?	Yes
Was the statistical significance level stated?	Yes
Was the sample size justified?	No
Was ethical approval obtained?	Not stated

Are the methods described in enough detail that you could repeat them?	Yes
Results	
Were the basic data adequately described?	No
Do the numbers add up? Are all subjects accounted for?	It is not made explicit that all results are for all calves.
Was the statistical significance (p value) stated in the results? Is this consistent with the methods? (It should be stated in the sample size or power calculation)	Yes Yes
Were any side effects of the intervention reported if applicable?	No
What were the main findings/key results?	Body temperature decreased in all groups and was statistically significant in the oxytetracycline/flunixin group compared to the groups treated with antibiotics alone (p <0.001) at 6 hours. The body temperature was significantly lower in the oxytetracycline/flunixin group compared to the oxytetracycline only group (p <0.001) at 24 hours. There was no significant difference in body temperature between treatment groups at 3, 7 and 10 days post treatment (p>0.05). There was no significant difference between groups in terms of respiratory rate, hyperpnoea, respiratory sounds, coughing, demeanor, re-treatment rates and overall clinical scores

	(p>0.05).
Discussion and conclusion	
What do the main findings/key results mean?	Flunixin may help in the first 24hours of illness by reducing rectal temperature but has limited impact on signs of clinical disease itself.
Are the negative findings discussed? How are the negative findings interpreted?	Yes
Does the discussion reflect the results?	Yes but focuses a lot of microbiological isolates rather than the clinical picture.
Interpretation	
What are the clinical implications of this study? Are the subjects in the study similar to those in the BET/your own?	Flunixin may be useful in calves with pneumonia to control body temperature Yes
General	
Who funded this study?	Not stated