Reviewer’s report

Title: Does clinical examination aid in the diagnosis of urinary tract infections in women? A systematic review

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Reviewer: Guido Schmiemann

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Review on the article
“Does clinical examination aid in the diagnosis of urinary tract infections in women? A systematic review

by
Medina-Bombardó D and Jover-Palmer A

Objective:
This systematic review focuses on an adequately formulated and relevant clinical question. The focus on diagnostic tests in the primary care setting is of special importance

Method:(Major revision)
With Medline and Embase the authors concentrated on the most relevant databases. Although systematic reviews and metaanalysis were excluded from the search the Cochrane Database should be searched as well – at least to find studies within references of systematic reviews that were missed with the search used.

The search is two years old (December 2008) – a more recent search / an update should be conducted as relevant articles have been published since (especially the work of Paul Little and colleagues).

Exclusion criteria:(Major revisions)
According to Figure 1 bacteriological findings lead to exclusion of some studies (depending on bacterial count) there is no explanation in the text. Why should a study with bacterial count >10(3) be excluded?

Part of the search strategy was, that “the decisions made by the reviewers” were discussed. Does this mean that all abstracts /articles were independently assessed by two (?) reviewers? If so, this should be explicitly stated as a demonstration of a thorough process.

The manual search for papers is not described very clearly – were the references of all included articles searched for further articles?
Running title: (Discretionary revisions)
I suggest changing the title since the review focuses on history taking rather than clinical examination to diagnose a UTI.

Method: (Major revisions)
Neither method nor the results of a quality assessment are described in detail. What gold standard was used (did all patients in both groups receive a urine culture, what cut-off was used for diagnosis, some articles were excluded because of a Gold standard of >10(2) and 10(3) cfu/ml).
Are there any differences in clinical presentation depending on the cut off values of the gold standard?
Was the consecutive recruitment of patients an explicit inclusion criterion?

Analysis (Minor revision)
“The likelihood ratio (LR) describes how many times more likely a person with disease will receive a particular test compared with a person without disease.” I disagree with this definition – the LR is a characteristic of the test under examination – the result is the probability of this patient regarding the diagnosis – not that this patient will receive a test.

Analysis (Major revisions)
When heterogeneity was found, the threshold effect was analyzed using the Moses-Shapiro-Littenberg method.
I cannot judge the appropriateness of this test
Why did the authors choose a fixed effects method rather than a random effect recommended for assessing heterogeneity,
The authors state that “heterogeneity was assessed via Chi-square tests and I2 inconsistency tests” – what are the results of the tests? Did the results of I2 support the use of a fixed effects model?
According to the attached file a study by Verest et al was included; on what grounds was this study included? It is the only study without information on a clinical sign that has been evaluated.

Discussion: (Minor revision)
“Randomized samples would be ideal; however, there have been [no ??] published studies of diagnostic tests based on randomized samples.” Here a word seems to be missing.

Conclusion: (Major revision)
The review suggests that clinical findings are less important than previously thought- the conclusion seems to be very farfetched. The consequence cannot
be to rely a therapeutic decision on results of dipstick results alone. This would lead to overtreatment of asymptomatic bacteriuria – symptoms and the clinical presentation are mandatory for the diagnosis of a urinary tract infection otherwise we would treat “pathologic dipsticks” instead of patients.

When judging the poor LR of the different findings one has to keep in mind the high prevalence of urinary tract infection in the included studies. This high rate is at least partly the result of a selection by the treating physicians (on the ground of patients history and/or clinical presentation).

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests'