Reviewer's report

Title: The diagnostic accuracy of the MyDiagnostick to detect atrial fibrillation in primary care

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Reviewer: Klaus Linde

Reviewer's report:

The manuscripts reports a diagnostic accuracy study on an automated device for detecting atrial fibrillation. The study has minor shortcomings (convenience sample, the same unblinded researcher performed both the – automated – index and the reference test (which was then assessed by a blinded rater)), but given the somewhat exploratory character of the study the methods seem adequate. Overall, the reporting is straightforward and concise.

Minor essential revision:
- convenience sample with 30/191 participants without atrial fibrillation: when first reading the paper I was somewhat confused and wondered why the authors choose such a small number of these patients. Only when reading further I found a possible explanation: to end up with a prevalence of atrial fibrillation of about 50% (as assumed in their sample size calculation). As other readers might be confused, too, it might make sense to explain your reasons in the methods - study population section. You might (or not) also consider to delete the first phrase in the results section of the abstract (there I was confused the first time)

Minor discretionary revisions:
- methods section – atrial fibrillation: First phrase - did the tester know the clinical status (chronic/paroxysmal atrial fibrillation/no history)? Third phrase – you might want to emphasize that the single-lead ECG was analyzed „automatically“. Were there any unsuccessful attempts (device did not work, wrong placement etc)?
- Analysis: you might want to say a phrase why analyzing the three measurements separately is somewhat problematic (dependent data).
- Discussion: I miss a discussion on whether high sensitivity (needed for reliable ruling out) or high specificity are of particular importance (in comparison with other devcices)

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'