Is there an association between STARD statement adherence and citation rate?

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Purpose:
To determine if adherence to the Standards for Reporting of Diagnostic Accuracy (STARD) checklist is associated with post-publication citation rates.

Methods:
A comprehensive search of multiple databases including PubMed, EMBASE and Cochrane was performed to identify published studies that have evaluated adherence of diagnostic accuracy studies to the STARD statement. Each study was searched in PubMed and Reuters Web of Science to yield a date of publication, journal impact factor (IF), and a citation rate (citations/month). Univariate correlations were performed to identify any association between post publication citation rate and STARD score as well as impact factor. A multivariate analysis was performed to explore the effect of journal impact factor.

Results:
Our search included 1002 eligible articles from 8 studies. The median journal IF was 3.97 (IQR: 2.32-6.21), the median STARD score was 15 (IQR 12-18), and the median citation rate was 0.0073 citations/month (IQR 0.0032-0.017). A weak positive correlation of STARD score with citation rate was identified (r=0.096, p=0.0024). There is a moderate positive correlation between impact factor and citation rate (r=0.58, p<0.0001). A weak positive correlation of impact factor with STARD score was identified (r=0.13, p<0.0001). A multivariate analysis revealed that when the effect of impact factor is partialled out, the positive correlation of citation rate with STARD score does not persist (r=0.026, p=0.42).

Conclusions:
There is a positive correlation between journal impact factor and citation rate and impact factor and STARD score. When adjusted for journal impact factor, the positive correlation of citation rate with STARD score does not persist.