# Letter to the editor: Multicentre external validation of the Canadian Syncope Risk Score to predict adverse events and comparison with clinical judgement

I read with interest the article on validation of the Canadian Syncope Risk Score (CSRS) at six Italian hospitals. I applaud the efforts of Solbiati *et al* to validate the CSRS.[1] However, the study has a few methodological flaws to trust the conclusions as reported.

First, the sample size. With just 345 patients of whom 43 patients with 30-day serious adverse event is a sample that is inadequate for a validation study. Unfortunately, the study has less than half of the recommended sample size: at least 100 patients with events and non-events, or 10 patients with events per predictor.[2 3] Second, is the accurate application of the CSRS tool as per on the original study criteria. The study by Solbiati *et al* states that arrhythmias prior to ED monitoring were excluded. It is unclear if arrhythmias detected during index ED monitoring were included as a study outcome which will further decrease the number of patients with true occult serious outcomes jeopardising the sample size. The study also included outcomes that were not part of the CSRS studies: cortical strokes (syncope is caused by transient global hypoperfusion and cortical strokes which are focal ischaemic events are not a sequelae of syncope), and recurrent syncope with resulting trauma or hospitalisation (which are better predicted by a clinician based on non-syncope-related factors including the living situation). One cannot expect the CSRS to predict outcomes that it is not expected to.

The paper does not report the types of adverse events among the study patients. Additionally, reporting the types of adverse events among low-risk CSRS patients and the time and place of occurrence/identification would have been useful to the reader.

The BAsel Syncope EvaLuation IX study that primarily evaluated the prognostic performance of cardiac biomarkers as a secondary objective externally validated the CSRS (area under the curve 0.88; 95% CI 0.85 to 0.90), and reported that the CSRS performed better than the biomarkers and several previously published risk tools.[4] This study recruited patients from eight countries including Italy (other countries include Switzerland, Spain, Germany, Poland, New Zealand, Australia and the USA). Additionally, a recent systematic review and meta-analysis reported that of all risk scores, CSRS is the most accurate validated prediction tool for unexplained syncope.[5]

Finally, the CSRS provides risk estimates for 30-day occult serious outcomes. Such estimates can be obtained by using our recently published online calculator ( www.teamvenk.com/csrs) in this journal.[6] Using these predictions, local groups can develop practice guidelines based on patient preference, local practice pattern and the medicolegal implications. Additionally, these estimates can also be used as an aid to shared decision-making with patients, especially for those classified as medium-risk.

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