

# Reliability of HEARTSMAP as a Tool for Evaluating Psychosocial Assessment Documentation Practices in Emergency Departments: A Methodologic Issue

Related articles appear on pages 1375 and 1473.

## To the Editor:

We were interested to read the paper by Gill and colleagues.<sup>1</sup> The authors aimed to determine the reliability of HEARTSMAP as a standardized tool for evaluating the quality of psychosocial assessment documentation of pediatric mental health presentations to the emergency department (ED). The inter-rater agreement among reviewers was assessed by using Cohen Kappa statistic.<sup>1</sup> The authors achieved these results that the near perfect inter-rater agreement ( $\kappa = 0.99-1.00$ ) regarding the presence of documentation and good to perfect agreement ( $\kappa = 0.71-1.00$ ) regarding whether sufficient information was documented to score a severity level for every component of an emergency psychosocial assessment and also, they reported that the inter-rater agreement regarding whether referrals or resources were documented for identified needs was good to very good ( $\kappa = 0.62-0.98$ ).<sup>1</sup>

Initially, kappa value has two important limitations as follow: First, the value of kappa extremely depends on the prevalence in each category, which means that it can be possible to have different kappa values having the same percentage for both concordant and discordant cells. Table 1 demonstrates that in both (A) and (B) position, the prevalence of concordant cells are 90% and of discordant cells, 10%; however, we get different kappa values (0.4 as moderate and 0.8 as very good, respectively). Kappa value also depends on the number of categories.<sup>2-5</sup> In such a situation that we have more than two categories, applying weighted kappa can be suggested.

The authors concluded the HEARTSMAP tool can be reliably used to assess pediatric psychosocial assessment documentation across a diverse range of EDs; however current documentation practices are variable and often inadequate, and the HEARTSMAP tool can aid in quality improvement initiatives to standardize and optimize care for the growing burden of pediatric mental illness. Taking into account the above-mentioned limitations of kappa value to assess reliability, such a conclusion may be a misleading message. Therefore, misinterpretation cannot be avoided.<sup>2-5</sup>

In this letter, we discussed limitations of kappa value to assess reliability. Any conclusion in reliability analysis should be supported by the above-mentioned methodologic and statistical issues.

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