Letters

Evaluation of the Haemoglobin Colour Scale

Editor – The article by J.J. Paddle in this issue of the *Bulletin* suggests that a benevolent and inappropriate analysis of the performance of the Haemoglobin Colour Scale resulted in its unjustified promotion by WHO (*1*). However, as discussed below, the arguments to support this view are not corroborated by the evidence.

- The focus in Paddle's paper is mainly on the inappropriateness of the coefficients of correlation as a performance indicator. However, in previous evaluations of the Colour Scale (*2–5*) the correlation coefficient was only one of the indicators considered in addition to sensitivity, specificity, positive predictive value, negative predictive value, precision within ±1 g/dl and ±2 g/dl haemoglobin, and Student's *t*-test on differences in paired results. This is reflected by the observation that the "innovative" analysis conducted by Paddle gives results that are compatible with those obtained by other studies (78% of readings within ±2 g/dl haemoglobin by the reference method).
- The main difference between the view of Paddle and that of the WHO group involved in evaluating the Colour Scale is in the interpretation of such performance indicator results. It is widely recognized, and not a new observation, that a digital haemoglobinometer (HemoCue), is one of the more accurate tools to measure haemoglobin under field research conditions. However, the HemoCue is an expensive instrument — each test uses a costly disposable cuvette and a power supply is needed. It is therefore, in our view, not appropriate for routine activities in the peripheral health services of least developed countries. Accordingly, WHO recommends clinical examination (i.e. pallor of mucosa, conjunctiva, and nail bed) as the routine approach for haemoglobin evaluation at peripheral level health centres (*6*). The Colour Scale is a *clinical* tool to supplement clinical examination and is not intended as an alternative to a digital haemoglobinometer, where such an instrument is available. This has been stated in several publications, but regrettably is not mentioned in the paper by Paddle (*2–4*).

Thus, the final paragraph: "The wide limits of agreement on the Bland–Altman plot highlight the shortcomings of the Colour Scale, particularly in view of the good agreement demonstrated in the present study and elsewhere for devices such as the HemoCue" sounds like the suggestion made by Marie-Antoinette, Queen of France. Having heard from her advisers that the people of Paris were demonstrating because they had no bread, she asked: "Why don't they eat cake?" (*7*).

In conclusion, we believe that the accuracy of Haemoglobin Colour Scale is far superior to clinical assessment, currently the only alternative method to evaluate haemoglobin in least developed countries. ■

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