**SUPPLEMENTAL MATERIAL**

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| **Table S1. Hemoglobin concentrations by AHA and HemoCue** | | |
|  |  | **Hemoglobin, g/dL1** |
|  | **n** | **GM (95% CI)** |
| **Overall** | 896 |  |
| Hemoglobin, HemoCue |  | 12.1 (12.0, 12.2) |
| Hemoglobin, (AHA) |  | 11.9 (11.7, 12.0) |
|  |  |  |
| ***Sensitivity Analyses*** |  |  |
| HemoCue analysis by main laboratory technician | 816 |  |
| Hemoglobin, HemoCue |  | 12.1 (12.0, 12.2) |
| Hemoglobin, (AHA) |  | 11.8 (11.7, 12.0) |
|  |  |  |
| Non-smokers | 850 |  |
| Hemoglobin, HemoCue |  | 12.1 (12.0, 12.2) |
| Hemoglobin, (AHA) |  | 11.9 (11.8, 12.0) |
|  |  |  |
| Hb≥8.0 g/dL (no severe anemia) | 870 |  |
| Hemoglobin, HemoCue |  | 12.3 (12.2, 12.4) |
| Hemoglobin, (AHA) |  | 12.0 (11.9, 12.1) |
|  |  |  |
| WRA <18 y | 44 |  |
| Hemoglobin, HemoCue |  | 12.0 (11.4, 12.6) |
| Hemoglobin, (AHA) |  | 11.7 (11.1, 12.4) |
|  |  |  |
| WRA ≥18 y | 852 |  |
| Hemoglobin, HemoCue |  | 12.1 (12.0, 12.2) |
| Hemoglobin, (AHA) |  | 11.9 (11.7, 12.0) |
|  |  |  |
| WRA residing in rural households | 704 |  |
| Hemoglobin, HemoCue |  | 12.0 (11.8, 12.1) |
| Hemoglobin, (AHA) |  | 11.8 (11.6, 11.9) |
| 1Hemoglobin adjusted for smoking (14); Abbreviations: AHA: automated hematology analyzer; WRA: women of reproductive age | | |

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| **Table S2.** **Comparison of hemoglobin concentrations in venous blood, assessed by HemoCue and AHA** | |
|  | **AHA vs. HemoCue** |
| **Overall** |  |
| Linn’s Concordance Correlation Coefficient (CCC (95% CI)) | 0.82 (0.80, 0.84) |
| Bland-Altman relative bias (±2SD limits of agreement) | 0.2 (-1.8, 2.3) |
|  |  |
| ***Sensitivity Analyses*** |  |
| HemoCue analysis by main laboratory technician |  |
| Linn’s Concordance Correlation Coefficient (CCC (95% CI)) | 0.83 (0.80, 0.85) |
| Bland-Altman relative bias (±2SD limits of agreement) | 0.2 (-1.7, 2.2) |
|  |  |
| Non-smokers |  |
| Linn’s Concordance Correlation Coefficient (CCC (95% CI)) | 0.82 (0.79, 0.84) |
| Bland-Altman relative bias (±2SD limits of agreement) | 0.2 (-1.8, 2.2) |
|  |  |
| Hb≥8.0 g/dL (no severe anemia) |  |
| Linn’s Concordance Correlation Coefficient (CCC (95% CI)) | 0.76 (0.73, 0.79) |
| Bland-Altman relative bias (±2SD limits of agreement) | 0.2 (-1.9, 2.3) |
|  |  |
| WRA <18 y |  |
| Linn’s Concordance Correlation Coefficient (CCC (95% CI)) | 0.90 (0.82, 0.94) |
| Bland-Altman relative bias (±2SD limits of agreement) | 0.2 (-1.4, 1.9) |
|  |  |
| WRA ≥18 y |  |
| Linn’s Concordance Correlation Coefficient (CCC (95% CI)) | 0.81 (0.79, 0.84) |
| Bland-Altman relative bias (±2SD limits of agreement) | 0.2 (-1.9, 2.3) |
|  |  |
| WRA residing in rural households |  |
| Linn’s Concordance Correlation Coefficient (CCC (95% CI)) | 0.83 (0.80, 0.85) |
| Bland-Altman relative bias (±2SD limits of agreement) | 0.2 (-1.9, 2.3) |
| 1Hemoglobin adjusted for smoking status (14); Abbreviations: CCC: concordance correlation coefficient, SD: standard deviation, WRA: women of reproductive age | |

|  |  |
| --- | --- |
| **Table S3. Diagnostic accuracy parameters of anemia screening methods 1** | |
|  | **AHA vs. HemoCue** |
| **Overall** | % (95% CI) |
| Sensitivity | 74.8 (70.4, 79.2) |
| Specificity | 91.2 (88.8, 93.6) |
| Positive Predictive Value | 85.8 (82.1, 89.6) |
| Negative Predictive Value | 83.5 (80.5, 86.6) |
| Accuracy | 84.4 (82.0, 86.8) |
|  |  |
| ***Sensitivity Analyses*** |  |
| HemoCue analysis by main laboratory technician |  |
| Sensitivity | 74.6 (70.0, 79.2) |
| Specificity | 92.0 (89.5, 94.4) |
| Positive Predictive Value | 87.1 (83.2, 90.9) |
| Negative Predictive Value | 83.3 (80.1, 86.5) |
| Accuracy | 84.7 (82.2, 87.2) |
| Non-smokers |  |
| Sensitivity | 73.9 (69.2, 78.5) |
| Specificity | 91.5 (89.1, 94.0) |
| Positive Predictive Value | 86.0 (82.0, 89.9) |
| Negative Predictive Value | 83.3 (80.2, 86.5) |
| Accuracy | 84.3 (81.8, 86.7) |
| Hb≥8.0 g/dL (no severe anemia) |  |
| Sensitivity | 72.9 (68.2, 77.6) |
| Specificity | 91.2 (88.8, 93.6) |
| Positive Predictive Value | 84.6 (80.5, 88.7) |
| Negative Predictive Value | 83.5 (80.5, 86.6) |
| Accuracy | 83.9 (81.5, 86.3) |
| WRA <18 y |  |
| Sensitivity | 82.4 (64.2, 100.0) |
| Specificity | 88.9 (77.0, 100.0) |
| Positive Predictive Value | 82.4 (64.2, 100.0) |
| Negative Predictive Value | 88.9 (77.0, 100.0) |
| Accuracy | 86.4 (76.2, 96.5) |
| WRA ≥18 y |  |
| Sensitivity | 74.4 (69.9, 79.0) |
| Specificity | 91.3 (88.9, 93.8) |
| Positive Predictive Value | 86.0 (82.2, 89.9) |
| Negative Predictive Value | 83.3 (80.1, 86.4) |
| Accuracy | 84.3 (81.8, 86.7) |
| WRA residing in rural households |  |
| Sensitivity | 77.9 (73.2, 82.6) |
| Specificity | 91.1 (88.3, 93.9) |
| Positive Predictive Value | 86.6 (82.6, 90.7) |
| Negative Predictive Value | 84.8 (81.5, 88.2) |
| Accuracy | 85.5 (82.9, 88.1) |
| 1Hemoglobin adjusted for smoking status (14); Abbreviations: 95% CI: 95% Confidence Interval | |

**Supplemental Figure Legends**

**Figure S1.** Concordance of hemoglobin concentrations as assessed *via* HemoCue and AHA

**Figure S2.** Linn’s Concordance Correlation Coefficient for hemoglobin concentrations assessed *via* HemoCue and AHA

**Figure S3.** Bland-Altman plot of differences in hemoglobin concentrations evaluated by HemoCue and AHA compared to mean hemoglobin concentrations, with discordant anemia results highlighted

**Figure S4.** Area under the curve for anemia and severe anemia

**Figure S1.** Concordance of hemoglobin concentrations as assessed *via* HemoCue and AHA

Chart, scatter chart

Description automatically generated

**Figure S2.** Linn’s Concordance Correlation Coefficient for hemoglobin concentrations assessed *via* HemoCue and AHA

Chart, scatter chart

Description automatically generated

**Figure S3.** Bland-Altman plot of differences in hemoglobin concentrations evaluated by HemoCue and AHA (HemoCue – AHA) compared to mean hemoglobin concentrations, with discordant anemia results highlighted

Chart, scatter chart

Description automatically generated

The solid line represents the mean difference (HemoCue –AHA; 0.2 g/dL) and dashed lines represent the limits of agreement (±2 Standard deviation of the difference: -1.8, 2.3). Markers that are bolded (black color) represent datapoints where anemia screening results differed by HemoCue vs. AHA assessment.

**Figure S4.** Area under the curve for anemia and severe anemia

Chart, line chart

Description automatically generated

The red line represents the ROC for severe anemia, and the dark blue line represents the ROC for anemia.