Anesthesia Provider Fingerbreadth and Preoperative Airway Assessment

To the Editor: The study by Kiser et al\(^1\) concludes that none of the anesthesia providers knew the measurements of their fingerbreadths, which is knowledge that is important to preoperative airway assessment. However, this conclusion is not supported by their findings because of a number of shortcomings in the study.

First, the statistical data on measurements were different than those that were stated in the purpose statement of the study. Instead of providing a range of error percentages for the group of anesthesia providers, the authors presented an average value for the discrepancies in the participants’ measurements. The shortcoming with using average values is that if one provider found measurements that were too small and the other found measurements that were too large, the resulting averages would have cancelled out and significant findings would have been missed. Thus, the average is likely to be an ineffective assessment of the differences between estimated and actual fingerbreadth measurements.

Second, there was no definition of what constituted an inaccurate estimate. The criteria concerning when estimates were considered accurate or not was not clear. The reason that this is a concern is because the finger widths were determined down to a hundredth of a centimeter, giving the impression that if an anesthesia provider was off by only one hundredth of a centimeter, this would have been counted as inaccurate.

Finally, the authors list various comparable articles, few of which agree on the exact distance that defines when a patient is at risk of difficult intubation. Even if the anesthesia providers had accurately estimated their fingerbreadth, it is unclear how this difference would translate into a meaningful risk assessment.

The study by Kiser et al\(^1\) has a large number of strengths including its use of all different types of anesthesia providers, its measurement of multiple finger combinations, its use of both genders as participants, and its sample size of 60 anesthesia providers. Because of the shortcomings described, however, the findings of this study cannot reach any definite conclusion.

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First, the statistical data on measurements were not different from those that were stated in the purpose. “The purpose of this study was to assess anesthesia providers’ estimated and actual fingerbreadth measurements...” The purpose did not state the statistical measurements to be employed.

Second, the readers were correct; there was no definition of what constituted an inaccurate estimate. The authors looked at each person’s estimate of his or her fingerbreadth(s) and measured that same person’s actual fingerbreadth(s). Two people correctly estimated that exact measurement of their index fingers; 1 person correctly estimated the exact measurement of the index and middle finger; 2 people estimated the exact width of their index, middle, and ringer fingers; and 2 people correctly estimated the exact measurement of their index, middle, ring, and little fingers. Forty people or 66.7% of the sample underestimated the size of their index fingers, while 18 (30%) overestimated the size of their index fingers. Thirty-nine (65%) underestimated the size of their index and middle fingers, while 20 (33.3%) overestimated the size. Thirty-seven (61.77%) underestimated the width of their index, middle, and ring fingers, while 21 (35%) overestimated the width; and the same held true for the estimated and actual width of the index, middle, ring, and little fingers. The finger widths were not determined down to a hundredth of a centimeter, but to a tenth of a centimeter.

Finally, this was a brief report to draw the anesthesia provider’s attention to the fact that use of fingerbreadths is for screening only, as validated by the discrepancies noted in the literature. We suggested that if the provider chooses to use fingerbreadths as one of the factors in preoperative assessment, he or she should know the exact measurement of his or her fingerbreadths and should update those measurements if weight is gained or lost. We also recommended that all 4 fingers, rather than just 3 fingers, should be used by those with slender hands.

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