Commentary

Attention to Detail in the Selection of Words in Epidemiologic Research Reports

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A recent article in the Journal by Whelton et al. (Am J Epidemiol. 2013;178(7):1076–1084) prompted this commentary about the use of the word “elevated” in medical reports. We believe that the word used in that particular report should have been “higher.” The exposure variable was not actually elevated according to what we understand the word to mean in epidemiologic research. Consistent with the elimination of the inappropriate use of elevated and according to correct clinical chemistry usage, we suggest that the word “level” should also have been avoided in that context. We discuss the specific example of C-reactive protein in the article by Whelton et al. Appropriate word selection underpinning accurate reporting should avoid unnecessarily misleading readers about the meaning of epidemiologic findings.

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C-reactive protein is a particular case in point. Concentrations in the plasma or serum of healthy individuals and those with diseases range from approximately 50 µg/L to more than 500 mg/L (10,000-fold higher), but the median value in healthy US and European adults is 1–2 mg/L. In 90% of healthy subjects, the plasma C-reactive protein concentration is less than 3 mg/L, and this value has been frequently considered the cutpoint between normal and elevated. However, there is no actual threshold at the concentration of 3 mg/L, and the use of the term elevated creates confusion as to nature of the relationship of acute inflammation and infection and/or tissue damage with high values of C-reactive protein that still fall within the normal range versus that with truly increased concentrations.

Kohli and Cannon (3) recently emphasized the importance of matching language to the type of research (e.g., higher values versus increased values or higher risk versus increased risk) so as not to mislead the reader of an observational study into thinking that the data derive from an interventional study. Similarly, authors need to use precise language to describe increased concentrations; for example, they must distinguish between values of C-reactive protein that fall within the upper limits of the reference range for healthy subjects and the much higher values in subjects who are mounting an acute phase response to a clinically significant pathological process. By striving for improved accuracy in reporting, we may avoid unnecessarily misleading the reader as to the meaning of the findings.
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REFERENCES

