Numeracy and Medicine: Key Family Physician Attitudes about Communicating Probability with Patients

To the Editor: Communicating information about risk provides the foundation for preventive counseling, yet recent research challenges assumptions that providing objective, statistical information facilitates meaningful comprehension of probability.[1] We sought to understand how family physicians currently value the use of numerical versus non-numerical formats for talking with patients about risk in everyday practice and how confident they were with each mode of communication.

We mailed a brief questionnaire to all members of the Massachusetts Academy of Family Practice (MAFP) (n = 691) with 2 follow-up contacts to nonresponders at 3-week intervals. The questionnaire included a physician ID that was linked to the MAFP demographic database for comparison of responders and nonresponders. Confidence was measured in response to the following 2 items: "I can effectively communicate risk numerically (probability, percent)." and, "I can effectively communicate risk qualitatively ('high,' 'low')." Importance was measured in response to the following statement accompanying each of the self-efficacy items: "I consider this important to my practice." Pilot testing among family physicians confirmed that the term "qualitative" best captured the realm of subjective, non-numerical communication. Responses were recorded on a 4-point ordinal scale (strongly agree to strongly disagree). The Boston University School of Medicine Institutional Review Board approved this study.

Three hundred family physicians returned the survey (43% response rate). Responders were more likely to be female than nonresponders (46.1% vs 36.0%; $P < .01$) but no differences were found with regard to mean age (44.7 versus. 45.9 years; $P = .72$) or years since medical school graduation (16.9 vs 17.1; $P = .79$).

Importance

Ninety-three percent of physicians agreed with the statement that communicating risk qualitatively was important to their practices (42% strongly agreed). Seventy-six percent perceived numerical risk communication to be important (26% strongly agreed). Only 5.7% percent did not consider communicating risk in either domain to be important to their practice. In terms of relative importance, 189 of 300 (63%) endorsed qualitative and numerical communication as equally important. Of the remaining 111 physicians, 94% endorsed the importance of communicating qualitatively more strongly than numerically.

Confidence

Eighty-seven percent agreed (26% strongly) with the statement that they could communicate risk effectively in the qualitative format. In contrast, only 36% agreed (9% strongly) with the same statement regarding the numerical format. Approximately 1 in 10 (11.3%) considered themselves ineffective in communicating risk either with or without the use of numbers. In terms of relative confidence, 104 of 300 (34.7%) felt equally confident in their qualitative and numerical communication skills. Of the remaining 196, 97% more strongly endorsed their confidence with communicating qualitatively than numerically.

This study found an overwhelming endorsement of the clinical importance of risk communication and a relatively higher confidence with qualitative versus numerical formats. Consistent with the Theory of Reasoned Action[2] and the Theory of Self-Efficacy,[3] these findings would suggest that family physicians are likely to communicate about risk with their patients and that they are predisposed to using qualitative over numerical methods for doing so. Although we do not know how nonresponders might differ from responders, we expect any response bias might reflect more enthusiasm for risk-based counseling. Therefore, our findings might overestimate the proportion of those perceiving risk communication to be important to their practice. However, because the perceived importance seems highly correlated with confidence, response bias should not threaten the validity of our main finding of the *relative* propensity for engaging qualitative over numerical risk communication with patients. As more models for predicting future health events are used in preventive decision making, researchers and policy-makers should be aware of this existing propensity to use non-numerical methods for discussing probability in clinical practice.

References

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