

From the 40th Annual American Society of Clinical Oncology Meeting

Overcoming the barrier of poor health literacy

Healthy People 2010, a national health promotion and disease prevention initiative, has made increased health literacy a target objective for improving the health of Americans. If patients cannot absorb and process information about their health and treatment needs, they cannot receive the best possible medical assessment and treatment. Defined as how well individuals can obtain, process, and understand basic health information and services needed to make appropriate health decisions, health literacy represents a problem for over 45% of American adults.

Poor literacy has been linked to poor health status, advanced cancer stage at presentation, and limited awareness and use of cancer screening tests, according to Michael S. Wolf, PhD, MPH, and colleagues of Northwestern University in Chicago. Physicians can identify individuals at risk using practical assessment tools available to measure literacy, although few use them routinely. It takes just 3–5 minutes to administer the Rapid Estimate of Adult Literacy in Medicine (REALM) screener and just 8–10 minutes to give the Test of Functional Health Literacy in Adults (TOFHLA), but physicians often do not have that time to spare. Thus, physicians and nurses may miss valuable opportunities to recognize and respond to health literacy problems during office visits.

REALM of possibilities

To simplify the task of screening

for health literacy and to minimize screening stigma, Dr. Wolf and colleagues sought to develop and validate a shorter, easy-to-use version of the REALM screener. At the 40th annual meeting of the American Society of Clinical Oncology, the team presented its analysis of a derivation dataset of 1,336 patients from primary care, oncology, urology, and gastroenterology clinics who were surveyed previously using the REALM-66, an individually administered reading screening test in which patients pronounce 66 medical words. Although word recognition tests do not measure comprehension, they can signal poor literacy; REALM-66 scores correlate significantly with longer reading comprehension tests ($r = 0.97$).

The team predicted the total REALM-66 score using individual items in a stepwise multiple regression analysis. *A priori* item retention criteria included $P < 0.05$ and partial $R^2 > 0.01$, meaning that each item retained had to explain at least 1% of the variation in REALM-66 total score. The investigators found that seven words were retained: menopause, antibiotics, exercise, jaundice, rectal, anemia, and behavior. These seven words (REALM-7) carried a correlation of $r = 0.95$ with the REALM-66 total score for the development sample and an $r > 0.93$ for two validity samples.

The investigators then used the total REALM-7 score to construct maps of reading-grade levels that were defined by factors of the total REALM-66 score. They categorized reading

levels for grade 3 and below, grades 4–6, grades 7 and 8, and grades higher than grade 8. They found almost perfect mapping from REALM-7 scores to reading-grade level based on the REALM-66 and noted no evidence of Simpson's paradox for simple stratification by site, gender, or race. For example, the cumulative percent sample of correctly pronounced words for the REALM-66 were grade 3 and below, 4.0; grades 4–6, 13.4; grades 7 and 8, 45.2; and above grade 8, 100. In comparison, the cumulative percent sample of the correctly pronounced words in the REALM-7 was almost the same: grade 3 and below, 3.8; grades 4–6, 12.9; grades 7 and 8, 45.2; and above grade 8, 100.

Investigators found a few limitations to using the REALM-7 test that may be addressed in future studies. Patients with vision problems may have difficulties with the test. Further, the test currently is available only in English; because it is a word-recognition test, it cannot be translated into another language. This narrows its applicability, particularly in certain geographic areas. Finally, word recognition in itself may not be a true indicator of health literacy.

Improved health literacy is a key to effective screening and treatment of cancer and, literally, every medical issue. Dr. Wolf concluded that the REALM-7 test is an easy-to-use screening tool that quickly assesses patients' health literacy. Before patients are evaluated for health needs, physicians or nurses may use this tool in the office setting to identify patients who may not understand cancer screening or treatment materials. Healthcare professionals then could use poor-literacy communication skills training, enhanced print health information, and other strategies, including multimedia or family intervention, to improve understanding of critical medical information.