

HEALTH LITERACY: IMPLICATIONS FOR CONCORDANCE AND COMPLIANCE

Nicola Gray argues that promoting good health literacy is crucial for successful concordance

In 2002, a study of diabetes patients published in *JAMA* was hailed as the first piece of research to show that poor health literacy had an adverse effect on health outcomes.¹ Subjects who were found, through testing, to have poor health literacy also exhibited poor glycaemic control and higher rates of retinopathy. The authors called for targeted interventions to improve diabetes outcomes among patients with poor health literacy. *The Pharmaceutical Journal* reported the results of this study, and showed particular interest in the racial and ethnic inequalities that had emerged.² A pharmacist offering a tailored service to a multiracial community in London responded that his success lay beyond simple translation of materials: engagement with community leaders and patients from these communities was essential.

One of the challenges in studying health literacy is its complex interrelationship with sociodemographic factors, such as ethnicity and level of education. Health literacy is, however, becoming recognised as a distinct measure in its own right. The *JAMA* diabetes study indicated that patients with “inadequate” health literacy had doubled odds of retinopathy after adjustment for other sociodemographic variables, but one-third of the subjects with a high school education or less had perfectly adequate health literacy. The 1992 National Adult Literacy Survey (NALS) in the US showed that almost half of the adult population had literacy or numeracy deficiencies or both.³ The American Medical Association (AMA) Ad Hoc Committee on Health Literacy noted that 5 per cent of those adults had learning difficulties, and 15 per cent were born outside the United States, but the committee noted that “the vast majority of adults with poor literacy are white, native-born Americans”.⁴ The underlying message from this research is that it is too easy to make assumptions about the understanding and ability of different population groups, and such assumptions should be avoided.

Further evidence comes from a large study of 3,260 US senior citizens aged 65 years or older enrolled in the Medicare national health insurance plan. It showed that 22 per cent could not calculate the correct timing for dosing drug therapy.⁵ When data were adjusted for level of education and cognitive impairment, age was found to be strongly associated with health literacy: 16 per cent of those aged 65 to 69 years had inadequate health literacy, compared with

58 per cent of those aged 85 years or older. This has significant implications for the safe use of medicines in this population, among whom polypharmacy is common.

The concept of health literacy, and the means by which it is measured, is all too often confined to issues of reading and writing. The implications for pharmacy practice are obvious: poor literacy skills will cause problems with reading the instructions on medicine labels and comprehending patient information leaflets. But the World Health Organization definition of health literacy⁶ embraces much broader issues: “Health literacy represents the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways that promote and maintain good health.”

Professor Donald Nutbeam, until recently head of public health at the Department of Health, outlined a tripartite framework for health literacy that included three elements of health literacy: functional, critical and interactive (see Panel 1).⁷ He believed that previous work had been unnecessarily narrow, and not in the broad spirit of the WHO definition.

FUNCTIONAL HEALTH LITERACY

The AMA Ad Hoc Committee on Health Literacy noted that a person’s functional health literacy might be significantly worse than his or her general literacy.⁴ This is because health materials of the same complexity as general materials have the added complication of unfamiliar vocabulary and concepts — functional literacy is context-specific. Studies of health literacy have, as yet, been limited to its functional aspects: an excellent recent review of this area by the US pharmacists Miranda Andrus and Mary Roth details major studies and issues for pharmacy practice.⁸ For example, a large study of functional health literacy among US hospital patients showed that 42 per cent of participants were unable to comprehend directions for taking medicines on an empty stomach.⁹

Andrus and Roth give summaries of seven measures of functional health literacy: two commonly used measures are described in Panel 2. The Test of Functional Health Literacy in Adults (TOFHLA)¹⁰ and the Rapid Estimation of Adult Literacy in Medicine (REALM)¹¹ have been developed in the US for this purpose. The shortened TOFHLA includes practical tests related to reading information on prescription labels and calculating dosage intervals. The score produced for patients who undertake the REALM test is linked to implications for their individual patient education: it is suggested that a patient with a low score of

Panel 1: Health literacy framework⁷

Functional literacy Sufficient basic skills in reading and writing to be able to function effectively in everyday situations

Critical literacy More advanced cognitive skills which, together with social skills, can be applied to analyse information critically, and to use this information to exert greater control over life events and situations

Interactive literacy More advanced cognitive and literacy skills which, together with social skills, can be used to participate actively in everyday activities, to extract information and derive meaning from different forms of communication, and to apply new information to changing circumstances

0–18 would need materials with illustrations or audio/video in order to comprehend any instructions, and patients with slightly higher scores of 19–44 would need low literacy written materials. Both groups would have difficulty reading standard prescription labels or patient information leaflets.

CRITICAL HEALTH LITERACY

Research relating to critical health literacy is lacking. Poor ability to evaluate and analyse information has important implications for safe and effective use of medicines. For example, advertisements for non-prescription medicines are attractive and sophisticated. The diversity of health information on the internet demands a high level of critical literacy from its users. External sources of information, such as friends, relatives and books, are all likely to impact on patients’ decisions about medicines use: the ability to compare and contrast information and judge the credibility of the source is crucial.

INTERACTIVE HEALTH LITERACY

Interactive health literacy has not yet been explored in health services research. The implications of poor skills in this area, however, are significant for pharmacists and their patients. Consider a patient who is trying to negotiate a repeat prescription ordering service. Such patients are required to communicate with health service workers in different locations, and to co-ordinate a process that takes several days to complete.

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Panel 2: Measures of functional health literacy

Test of Functional Health Literacy in Adults (TOFHLA)¹⁰ Used to measure functional health literacy — both numeracy and reading comprehension — using actual health-related materials such as prescription bottle labels and appointment slips. For example, a patient might have a prescription bottle with the label “Take one tablet by mouth every 6 hours as needed”. To test numeracy, the patient would be asked: “If you take your first tablet at 7am, when should you take the next one?” The correct answer is “1pm”.

Rapid Estimation of Adult Literacy in Medicine (REALM)¹¹ Subjects are asked to read lists of medical terms arranged in order of increasing complexity. When the subject either mispronounces a word, or does not attempt to pronounce it, points are deducted as “errors”. The resulting score is used as a measure of their literacy in medicine, and linked to reading grades used in the United States. Test words relating to medicines include pill, dose, prescription, medication and antibiotics.

Panel 3: Addressing poor health literacy

- Professionals’ assumptions about the health literacy of different population groups may be wrong — functional literacy is context-specific; offer all patients alternatives to written information
- Remember that elderly patients are high-risk for poor health literacy
- Use the Ask About Medicines Week medicines card as a stimulus to discuss the complexity of medical terms and any difficulties that patients might have with labels and information leaflets
- Review your pharmacy information leaflets and consider whether they are more or less suitable for patients with low health literacy
- Think critically about basic instructions on medicines labels such as taking medicines on an empty stomach, or dosage frequency, and consider how to explain the meaning of those phrases to patients
- Consider how to streamline the repeat prescription process for your patients
- Follow the American Medical Association’s “Six steps to improve interpersonal communication with patients”: (i) slow down, (ii) use plain, non-medical language, (iii) show or draw pictures, (iv) limit the amount of information provided and repeat it, (v) use the teach-back or show-me technique, and (vi) create a shame-free environment

Achieving a continuous supply of medicines is crucial to effective therapy, good compliance and ongoing concordance. But the health literacy skills demanded in this area could be overwhelming for many patients and their carers.

PRACTICAL INITIATIVES TO HELP PATIENTS WITH POOR HEALTH LITERACY

Principles from existing research and good practice that could help pharmacists to assist patients with low health literacy are summarised in Panel 3. They may seem familiar because they are at the root of good communication skills, but they deserve renewed emphasis in this context. Resource for health literacy issues in the US has been spearheaded by the AMA.¹² The AMA, with the aid of an educational grant from Pfizer, has produced a resource kit for doctors to use in their practices including badges for staff that say “Ask me — I can help”, and aides-memoires in simple language that encourage patients to ask questions, check understanding of doctors’ instructions before leaving the consultation, and to take all their medicines when they visit. The card that will be offered to patients during Ask About Medicines Week could serve a similar purpose.

One fundamental problem that has been recognised in research is the shame that many people with poor health literacy skills experience. The AMA exhorts doctors

to “create a shame-free environment” by encouraging patients to ask questions and to enlist the aid of family and friends to promote understanding. Again, the media publicity and professional activity surrounding Ask About Medicines Week should help patients to take a more active role, and thus promote concordance.

In March, Hazel Blears (in her former role as Parliamentary Under-Secretary of State for Public Health) cited US health literacy research in a speech to the Health Development Agency, outlining the difficulties that people with poor health literacy have when accessing health services, and linking this issue to health inequalities.¹³ A joint initiative with the Department for Education and Skills — “Skilled for health” — seeks to improve literacy, numeracy and language skills so that people understand their own health, make best use of the National Health Service and improve their life opportunities. Health materials have been developed to target teenage parents, ethnic groups and patients with long-term conditions. Topics include taking a temperature measurement, talking to NHS Direct, and understanding dosages of over-the-counter medicines. Promoting good health literacy is crucial to the effective and safe use of medicines; Ask About Medicines Week is an excellent opportunity for pharmacists to reflect on their contribution in practice and research.

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13. Speech by Hazel Blears MP to the Health Development Agency, 10 March 2003. Available at www.doh.gov.uk/speeches/blears-hda-mar03.htm (accessed 19 September 2003).

RESOURCES:

- AMA health literacy initiatives www.ama-assn.org/ama/pub/category/8577.html
- National Institutes of Health (US) Bibliography — health literacy: www.nlm.nih.gov/pubs/cbm/hliteracy.pdf
- Pfizer Health Literacy Initiative: www.pfizerhealthliteracy.com/