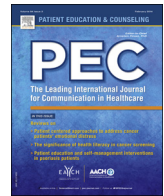




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Review

Optimal health literacy measurement for the clinical setting: A systematic review

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ABSTRACT

Objective: To identify the optimal measurement instrument for assessing health literacy in a clinical setting.

Methods: Seven databases were searched for studies evaluating health literacy instruments used with patients. Standardised systematic review methods were used by two reviewers independently assessing eligibility, extracting data and evaluating study quality. A narrative summary was produced.

Results: The searches identified 626 articles of which 64 were eligible. Forty-three different health literacy instruments were identified. The quality of these instruments, based on their psychometric properties, varied considerably. The majority of health literacy instruments were found to only assess communicative health literacy of which the numeracy element was often not represented. The NVS instrument was found to be the most practical health literacy instrument to use.

Conclusion: There is an urgent need to develop and psychometrically test a more encompassing health literacy instrument applicable in clinical settings as well as health promotion in general.

Practice implications: In the absence of a more comprehensive health literacy instrument, the NVS is a practical instrument to quickly assess for health literacy in a clinical setting.

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1. Introduction

Health literacy is emerging as a priority to enhance and maintain health, and is now recognised as an important determinant of population health [1], however there is no universally agreed measurement instrument to assess health literacy. There are many health literacy instruments and little existing evidence of the extent to which these capture all aspects of the concept of health literacy. A recent review by Sorensen et al. [2] found that there are currently 17 definitions of health literacy and 12 conceptual models. This myriad of conceptual models makes it difficult to determine the most appropriate health instrument to use to assess health literacy.

Health literacy assessment is not part of existing clinical practice in the UK. If this is to change, it is important to identify the most appropriate health literacy instrument for use in a busy clinical setting. In the absence of any synthesis of the evidence for these differing instruments, the extent to which they each fulfil the requirements for use in the usual clinical environment of the community is unknown. Selecting the most appropriate instrument is therefore a challenge for both researchers and practitioners.

Whilst there is no universally accepted health literacy definition there are elements common to most definitions. These elements refer to obtaining, understanding and applying information. Nutbeam described these three elements as functional (accessing information), communicative (the ability to understand) and critical health literacy (ability to use) [1]. Alternative terminology and elements cited in other definitions include, prose, document, quantitative, print, oral, functional, scientific, civic and cultural [3–5]. Whilst they differ in their breadth and approach they are essentially still variations of the three elements defined by Nutbeam. A good health literacy instrument should measure all of the elements within the definition.

Lag et al. [4] identified the importance of quantitative skills in health literacy. These findings were supported by Sheridan et al. [5] when considering interventions for individuals with low literacy as they demonstrated the need to assess numeracy skills within the health literacy assessment.

In addition to variation in the conceptual model of health literacy represented and the skills assessed, some health literacy instruments have been developed for generic use whilst others measure health literacy in a specific health context such as the Assessment of Colon Cancer Literacy (ACCL) instrument [6] which is developed to use in the health context of colon cancer screening. It is unclear from published literature if there is one universal instrument that can be used in numerous contexts and settings.

Health literacy measurement is essential for health literacy intervention targeting and evaluation. Instrument suitability within routine clinical practice is therefore an essential characteristic to evaluate. A key component is the time required to administer the instruments as routine patient consultations with a doctor of the UK National Health Service are scheduled to last 10 min [7]. Given the large and diverse range of health literacy assessment instruments, there is a need to identify the optimal instrument in terms of breadth and accuracy of skills assessed plus the utility, suitability and validity for use within the clinical environment. Therefore, the aim of this study was to identify the optimal measurement instrument for assessing health literacy in a clinical setting.

2. Methods

2.1. Search strategy

This systematic review was conducted according to the PRISMA guidelines and the Cochrane collaboration's tool for assessing risk

of bias in randomised trials [8,9] and the study protocol has been registered (PROSPERO register reference CRD42013003874).

Search strategies used appropriate MeSH terms and subject headings truncations (*), wild cards (\$), hyphens and other relevant Boolean operators where permitted by the databases. A search strategy representing the three concepts of health literacy, assessment tool and performance was developed following initial scoping searches. The search terms used were: health literacy or health competen*, Critical or functional or communicat* or motivation or cognitive or social skill or numeracy, measur* or instrument* and assess*, acceptab* or feasibl* or valid* or perform* or psychometric* or scor* or sensitive* or specific* or reliabl*. Studies published up to July 2013 were systematically searched for in the following databases MEDLINE, EMBASE, PsychINFO, CINAHL, PHARMLINE (provided through National electronic Library for Medicines (NeLM) and the Cochrane Database of Systematic Reviews (CDSR)). The search was restricted to publications in English. The bibliography of included studies was reviewed to further identify additional references. In addition, the reference section of the health literacy group website: <http://www.healthliteracy.org.uk> was searched for relevant papers, as was the reference sections of any review papers identified by the search.

2.2. Data extraction and synthesis

Studies included in this systematic review were those that were experimental and non-experimental in nature and:

- Were peer-reviewed
- Available in English
- Measured health literacy by testing individual patients
- Validated the instrument by either comparing it with an existing validated measure or by reporting other forms of validity, acceptability or feasibility

Excluded were reviews, opinion pieces, editorials, letters, books, non-peer-reviewed reports, theses, letter to the editor as well as articles published in languages other than English.

The extraction of the data followed a three stepped process filtering first by title, then by abstract and finally the full text were obtained and reviewed. All articles were screened by title and abstract by two independent reviewers (PD and QB). Data extraction was carried out using a form piloted using six randomly selected papers.

Data were independently collected by two researchers (PD and QB) and extracted to fulfil assessment of the six criteria of suitability outlined in Section 2.3. These included study details (such as year of publication, country of origin and study design), study characteristics (including setting, population, health literacy definition used), intervention details (including time required to test, health literacy instruments used, patient characteristics) and outcome details (including psychometric properties and patient dropout rates). The results were compared to ensure that a consistent approach was taken to evaluating the literature based selection criteria. In cases of discrepancy, consensus was agreed through discussion and where necessary, referral to a third independent reviewer (DB).

2.3. Quality assessment

The quality assessment process was undertaken independently by two reviewers, with consensus on the final quality classification reached through discussion. Three approaches were used to assess the study quality: risk of bias, psychometric robustness of the instruments, and the suitability of the instrument. The risk of bias

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