

Adult numeracy demands of digitised health information

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Advances in communication technologies and medicine mean citizens are increasingly seeking, accessing and interpreting a growing volume of health information through digital means. In this study we seek to understand the impact of adult numeracy on how parents' access and use this information to support their children's healthy development. To do this we survey a cohort of parents/carers (n=155) of primary school aged children) living in a regional city characterised by high levels of social disadvantage. The survey makes use of the validated General Health Numeracy Test and we report on our initial analysis with respect to relationships between measures of health numeracy, the nature of information accessed (print vs. digital) and demographic factors (including SES, health status of associated children, education level, gender, language background and Aboriginality).

Introduction

Advances in communication technologies and medicine mean citizens are increasingly seeking, accessing and interpreting a growing volume of health information through digital means. The processing of this information requires a set of skills referred to as health literacy and health numeracy. This is a relatively new and emergent focus of study: Regarding adult literacy a more substantive and growing base of research exists in the health context whereas adult numeracy research has typically focused, for example, on the workplace context. In this study a principal focus is the impact of adult numeracy on how parents' access and use information that can support their children's healthy development. In our presentation we consider the adult numeracy demands of digital materials used in this context.

Method

As part of a larger program of research, this study brought together a team of literacy, numeracy and regional health specialists to investigate the health literacy, numeracy and information

usage of a cohort of parents (n=155 parents/carers of primary school aged children) living in a regional city characterised by high levels of social disadvantage. Our recruitment strategies enabled us to obtain a participant cohort considered more representative of the local population than parent survey cohorts usually are. This is relevant from the perspective of adult numeracy research, since the target populations for interventions and studies are often people with lower levels of education.

The survey contained 35 questions that combined quantitative and qualitative elicitations to build a detailed profile of participants' health literacy, numeracy and information usage, and the sources used to inform their decision making. With respect to adult literacy, the survey used the validated All Aspects of Health Literacy Scale (AAHLS). This instrument requires participants to respond to 13 statements; eleven 3-4 point frequency Likert scale and two using a dichotomous response format. With respect to adult numeracy, the survey incorporated the 6-item version of the validated General Health Numeracy Test (GHNT), which was designed with the goal of helping "providers and educators tailor [mathematics] education to patients" (see [here](#)). This instrument requires participants to respond to five open answer questions and respond to one dichotomous response format question.

In our presentation we will report on our analysis with respect to relationships between measures of health numeracy, the nature of information accessed (print vs. digital) and demographic factors (including SES, health status of associated children, education level, gender, language background and Aboriginality).

Expected findings

We expect to find a complex model of relationships between demographic factors, general literacy/numeracy, health-specific literacy/numeracy, health domains, and health outcomes. We predict that higher levels of education would be associated with higher performance on the GHNT, as well as the use of a greater diversity of sources inclusive of traditional, web-based and human sources. While we have smaller numbers of fathers, we could expect gender patterns regarding numeracy to play out in the GHNT measures. We also expect that performance in the AAHLS would be better than performance in the GHNT, partly because the AAHLS measures more than just the ability to comprehend information but is inclusive of health communication and critical health literacy.

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