

## Reading skills of otolaryngology outpatients: implications for information provision

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### Abstract

The aim of this prospective observational study was to estimate the proportion of otolaryngology patients with poor reading skills, as a guide to information provision. The subjects were a consecutive series of 50 adult outpatients attending a general otolaryngology clinic at the Victoria Infirmary, Glasgow, and whose first language was English. Reading skills were estimated using the Rapid Estimate of Adult Literacy in Medicine. For comparison, the SMOG readability formula was used to estimate the reading skills required to understand the Department's 35 information leaflets, the standard elective admission notification letter and the surgical consent form. Fourteen (28 per cent) patients were found to have poor reading skills (8th grade or less). The surgical consent form required 11th grade reading ability, as did the standard admission letter, and the leaflets required 9th to 15th grade (graduate) reading ability (median 11th grade). Many patients could be expected to have difficulty understanding these written materials. Information must be written in plain English to be suitable for a wide range of patients, including those with poor reading skills.

**Key words:** Education; Informed Consent; Information Services

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### Introduction

Fewer than one per cent of UK adults cannot read at all, but a substantial proportion have reading skills that are so poor that they have difficulty with everyday tasks: about 22 per cent of UK adults are unable to fill in a form or compare two pieces of written information.<sup>1</sup> Sixteen per cent of UK adults with English as their first language are unable to read a parcel label.<sup>2</sup> People with poor reading skills tend to be unemployed, or in manual or unskilled work, and they report more symptoms of poor mental and physical health and poor self-esteem.<sup>2</sup>

Poor literacy is related to social deprivation, as is poor health. Certainly many common otolaryngology disorders are social class-related, including squamous cancer of the head and neck, chronic otitis media and otitis media with effusion. Because of this, it is quite possible that the poorly literate will form a larger proportion of our patients than the general population.

It is easy to overlook this group when providing information to patients, because they tend to be less demanding and vocal than their more affluent, articulate counterparts. Better doctor–patient communication can lead to improved clinical outcomes, greater patient satisfaction and less psychological

stress.<sup>3,4</sup> The current trend of providing internet websites for patients<sup>5</sup> will be welcomed by the affluent and well-educated, but will serve only to exaggerate the disadvantage for the less well-off. In the USA, for example, half the population has access to the internet or e-mail, but there are huge differences in access between poor and affluent households, and between racial groups.<sup>6</sup>

Many people have no computer, do not read broadsheet newspapers and do not watch educational television programmes, so the outpatient consultation may be the only opportunity to access health care information. Consultations are, unfortunately, brief and verbal information is quickly forgotten. Written information is an effective way to improve patients' knowledge.<sup>7,8</sup> Many leaflets, however, are written in language too complicated for most people to understand.<sup>9–14</sup> Specially designed leaflets written in plain language are more effective in improving the knowledge of poorly literate patients,<sup>11</sup> without patronising or alienating those with better reading skills.<sup>11,15</sup>

The aim of this project was to estimate the prevalence of poor reading skills in the otolaryngology outpatient population, and to compare this with

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the reading skills necessary to understand the surgical consent form, the standard admissions letter and patient information leaflets.

**Methods**

A consecutive series of adult patients from a general otolaryngology clinic at the Victoria Infirmary in Glasgow was asked to participate. Patients were excluded if English was not their first language, if they were health care workers, or if they had significant visual impairment. The Victoria Infirmary has a wide catchment area which includes some of the most affluent areas of Glasgow, and some of the most deprived.

The subjects were assessed using the Rapid Estimate of Adult Literacy in Medicine, which is a well-validated screening instrument for estimating medical literacy skills.<sup>16</sup> It consists of a list of 66 medical terms the subject is asked to read out loud. The number of words pronounced correctly has been shown to correlate strongly with the subject's reading comprehension. The results are referenced to the American education system, from 1st grade (reading skills of a child in their first year of elementary school) to 12th grade (reading skills of a child in their graduation year of high school). A reading level of 8th grade or less (primary school level) is taken to indicate poor reading skills.

In order to put the findings in context, a number of written materials were assessed using the Simple Measure of Gobbledegook (SMOG) formula. SMOG is a well validated reading ease formula based on average sentence length and word length, which has been shown to estimate the required reading age of a document to within a year and a half.<sup>17</sup> SMOG also produces results referenced to the American education system, from 1st grade (could be read by 50 per cent of children in their first year of elementary school) to 12th grade (could be read by 50 per cent of children in their graduation year of high school). SMOG was used to assess the surgical consent form, the standard elective admission notification letter, patient information leaflets, two daily newspapers and *The British Medical Journal* (BMJ). An attempt was made to identify every information leaflet produced by the Department of Otolaryngology at the Victoria Infirmary, Glasgow by searching the adult ward, the children's ward, the outpatient clinic and the day surgery unit.

TABLE I  
READING SKILLS OF 50 OTOLARYNGOLOGY OUTPATIENTS, AS ESTIMATED WITH THE 'RAPID ESTIMATE OF ADULT LITERACY IN MEDICINE'

Reading grade	No. of patients
Less than 4th	0
4th to 6th	2 (4%)
7th to 8th	12 (24%)
Higher than 8th	36 (72%)

TABLE II

READABILITY OF 35 PATIENT INFORMATION LEAFLETS FROM DEPARTMENT OF OTOLARYNGOLOGY, VICTORIA INFIRMARY, GLASGOW, AS ESTIMATED USING THE SMOG FORMULA

SMOG grade	No. of leaflets
9	3 (9%)
10	14 (40%)
11	12 (34%)
12	4 (11%)
13	1 (3%)
14	0
15	1 (3%)

SMOG = Simple Measure of Gobbledegook.

**Results**

Nobody refused to participate. Three health care professionals were excluded, as were four patients whose first language was not English. Fifty subjects were tested, comprising 25 men and 25 women, aged 18–84 (median age 48).

Of the subjects tested, 36 (72 per cent) read at better than 8th grade level, 12 (24 per cent) at between 7th and 8th grade, and two (four per cent) at between 4th and 6th grade. This is shown graphically in Table I. The age at which subjects left full-time education ranged from 14 to 17 (median 15) for those reading at less than 8th grade level, and 14 to 25 (median 16) for those reading at 8th grade level or better.

Thirty-five leaflets on all aspects of otolaryngology were identified at the Victoria Infirmary. Readability ranged from 9th to 15th (postgraduate) grade (median 11). The distribution of results is shown in Table II. The surgical consent form required 11th grade reading skills, as did the inpatient admission letter. For comparison, an editorial in *The Sun* newspaper had a SMOG score of 9th grade, an editorial in *The Times* 11th grade, and an editorial in *BMJ* 15th grade (graduate level).

**Discussion**

Twenty-eight per cent of this sample of general otolaryngology patients had poor reading skills. It was not possible to predict who they were solely on the basis of school-leaving age. While Glasgow undoubtedly has many socially deprived inhabitants, the hospital in this study serves a mixed urban population, similar to that of any other large city. Although literacy rates may vary across the country,<sup>2</sup> it is likely that all hospitals will have a sizeable minority of patients with poor reading skills.

Readability formulae have limitations, as they do not take into account the patient's familiarity with the vocabulary, or the presentation of the document. It is clear, however, that there is a large discrepancy between a patient's 8th grade reading skills, and a leaflet that requires 11th grade reading skills. It seems that doctors naturally write information materials at around the 10th–11th grade reading level,<sup>11,14</sup> and the leaflets from the Victoria Infirmary are by no means atypical. Given that 28 per cent of otolaryngology patients at the Victoria Infirmary

read at 8th grade level or below, we can expect that many will have difficulty understanding the leaflets they are given.

Readability is only one aspect of the appropriateness of written information. Availability, format, style and content are all important areas which, if not addressed, can act as barriers to patient access.<sup>18</sup>

The implications of this study go beyond information leaflets. The validity of a signature on the bottom of a surgical consent form can be questioned if no effort has been made to ensure that the patient can understand what has been signed. Research consent and information forms must also be written in plain English to ensure that they are comprehensible. Hospital appointment letters are often unclear and difficult to read, and it is possible that this may lead some poorly literate patients to default on their appointments.

Patients are becoming less willing to accept that 'doctor knows best', and are hungry for information to help them make informed choices about health care.<sup>18</sup> They are, however, often frustrated by the quality of information materials available to them.<sup>18</sup> Although a paper leaflet may seem a very pedestrian means of communication, the written word can be an effective way to reach out to the socially disadvantaged, and empower them to take part in the decision-making process. To be effective in this, however, written materials must be written with regard to the reading skills of the population at which they are aimed.

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