

Improving patient education materials in ophthalmology

Patient education materials are an important resource for patients to understand their disease and treatment plan. Unfortunately, these materials are often written at a reading level that is too difficult to understand for many patients.

In our study, we sought to answer two main questions. First, what is the typical reading level of patient education materials in ophthalmology? Second, can we improve the reading level of ophthalmology education material at our institution?



Fig. 1. Word map of patient feedback on revised patient education materials.

We found that patient education materials in ophthalmology are consistently written at a level that is too challenging for most patients to understand. We identified 12 studies in our systematic review and also included the readability scores of our own patient education material, the Duke Glaucoma Guide. We reported readability using the Flesch-Kincaid Grade Level, which estimates the reading grade level of a text. Of the 950 patient education materials reviewed in these various studies, the median readability score was at the 11th grade reading level. In contrast, the U.S. Department of Health and Human Services recommends that materials score around the 6th or 7th grade levels.

It is clear that patient education materials in ophthalmology are written at too high of a reading level for patients to comprehend. Closer to home, we found that these readability metrics put our own Duke Glaucoma Guide at the 10th grade reading level. For the second aim of our paper, we sought to improve the Glaucoma Guide for our patients.

To improve our Glaucoma Guide, we collated guidelines on how to write easy-to-understand patient material from several national organizations. These recommendations included suggestions that included focusing on two or three main concepts, identifying action steps for the patient, using an active voice, and listing bullet

points instead of paragraphs when possible, among other recommendations (see Table 2 of our paper for the full list). We then applied these recommendations to change the reading and layout of our education materials, while preserving the main content.

Finally, we aimed to measure how effective we were at improving our materials. In addition to calculating the new reading grade level, we also used grading metrics from glaucoma specialists and qualitative interviews with glaucoma patients. We found that the calculated reading level improved from the 10th grade level to the 6th grade level after revision. Additionally, two glaucoma specialists applied a standard suitability grading scale, which determines appropriateness for a patient audience, to evaluate both the original and revised documents, finding significant global improvement after revision. Lastly, we brought these revised materials to glaucoma patients, who graded the handouts highly and whose subjective feedback reflected themes used in the revision process (for example, be concrete, keep it simple, and highlight key points).

In conclusion, our research demonstrates two main points. First, patient education materials are written at a level that is too high for many patients to understand. But, second, existing patient education materials can be revised using guidelines on writing easy-to-understand material, which can improve their calculated readability scores, their expert-determined suitability measures, and patient satisfaction with the educational material.

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