

SUBJECTIVE COMPARISON OF PATIENT RESPONSE WITH AND WITHOUT A
LOW VISION MANUAL.

by

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SUBJECTIVE COMPARISON OF PATIENT RESPONSE WITH AND WITHOUT A LOW VISION
MANUAL

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ABSTRACT

Background: Many low vision patients, who may at one time have been fully functional and independent, struggle to manage and accept their visual disability at an emotional, physical and psychological level. For this reason, maximizing a low vision patient's education in coping with their impairment is a goal for optometrists specializing in low vision rehabilitation.

Methods: Two groups of patients were utilized in this study. One group received normal low vision treatment and counseling (control group), and the other group was given the same experience as the control group with the addition of a take home low vision patient education manual.

Results: Both groups were satisfied with the low vision examination and education they received.

Conclusions: No significant differences between the two data sets could be concluded, given the largely positive feedback received from both groups. However, questions asked specifically about the helpfulness of the low vision manual also received primarily positive responses. This would suggest that patients may still benefit from receiving supplement material to take home with them following an appointment for a low vision consultation.

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Introduction:

A low vision patient is defined as someone who suffers from a visual impairment that cannot be corrected with spectacles, contact lenses, medication, or surgery, and usually has a visual acuity of 20/70 or worse.¹ A person with low vision often has difficulty performing everyday tasks such as reading and driving because of their poor contrast sensitivity and resolution capability.² Low vision can be caused by many ocular diseases such as Glaucoma, Age-Related Macular Degeneration, Diabetic Retinopathy, Retinitis Pigmentosa, and Cataracts. According to the National Eye Institute, there are currently 3.3 million Americans age 40 and over suffering from low vision. The institute projects that by the year 2020 that figure will increase to 5.5 million. Although low vision can affect people of every age, it is especially prominent in patients 65 or older.³

The anticipated increase in low vision patients requires an increase in eye care professionals who specialize in low vision. Currently, out of the 57,000 O.D.s and M.D.s who practice in the USA, there are only about 1000 doctors that belong to the American Optometric Association's Vision Rehabilitation Section or the Vision Rehabilitation Committee of the American Academy of Ophthalmology.⁴ Because of the low patient to doctor ratio, it is especially important to find an efficient and effective method to best educate low vision patients.

A great deal has changed in the way low vision patients are managed in the past 40-50 years. Before the 1920's and 1930's people suffering from low vision were often simply considered or labeled as blind, and they were rarely assisted with their vision impairments. It wasn't until around 1953 that the first low vision clinics began to operate.⁵ The continued advancements in low vision services and technology has largely been spurred along by years of

advancements in optics and the growth and involvement of organizations of and for people who are blind.⁶ There has also been an increasing number of studies focused on finding techniques and devices that can increase the functionality of people with low vision. It has been shown that providing patients with vision impairments, such as Age-Related Macular Degeneration, with appropriate low vision aids improves the patient's reading abilities, with a highly significant increase in reading speed.⁷ However, at this point in time, studies are lacking that focus on educational techniques and materials that help support both patients and their families in coping with the lifelong challenges of visual impairments.

This study focuses on an educational manual designed to be an informative and easy to use supplement for the patient after leaving the traditional low vision consultation appointment with the doctor. Because low vision is a lifelong affliction, patients and their families can sometimes have a difficulty coping with the loss of vision and it can cause an emotional strain on the patient as well as the people around them. Additional resources are traditionally offered or provided to assist patients in better understanding the pathology of their disability and increase their knowledge of how to manage it at home. Low vision rehabilitation eye care professionals must often gather loose pieces of information and paper resources to give to patients leaving the examination for further information. Gathering and dispersing the information can be messy, inefficient and impractical. Other doctors practicing low vision rehabilitation may orally discuss where additional resources can be found but not provide any themselves. The University Eye Center's 100-page Vision Rehabilitation Manual covers what low vision is, what causes low vision, optical and non-optical visual aids, computer accessibility and provides helpful resources for the patient and their family.

Methods:

In order to assess patient perception of the effectiveness of vision rehabilitation education and compare effectiveness with and without the vision rehabilitation manual, two groups of new patients were each given a take-home survey. One group received a normal low vision exam, treatment, and counseling (control group). The other group was given the same experience as the control group with the addition of receiving a vision rehabilitation patient education manual to take home with them in either print or PDF with audio versions. At the exam conclusion, patients were selected at random by the low vision technician not present during the examination to either receive a take-home survey and low vision manual or just the take-home survey. The low vision optometrist and student interns were not aware of who would be receiving the manual. After completing the survey, patient returned the survey in prepaid envelopes.

The surveys were constructed to evaluate the patients overall experience in coping with their visual impairment, and how integrating low vision devices into their lives has assisted in their activities of daily living. Patients responded to each question using a sliding grade scale of 1 thru 5, with 1 representing strongly agree, 2 agree, 4 disagree, 5 strongly disagree, and 3 being a neutral response. In addition to the standard questions that both groups received, the group that had received the vision rehabilitation manual had an additional page of questions added to the back of the standard questions. These questions inquired about information pertaining specifically to the patient's overall experience with the manual. Finally, both surveys provided an area to write any subjective comments they wished to make.

The survey questions were asked in the following order (Patients not receiving the manual received only question 1 thru 6):

- 1) My appointment at the University Eye Center helped increase my understanding about my visual condition.
- 2) I left my appointment at the University Eye Center with increased awareness about available device options.
- 3) My appointment at the University Eye Center increased my knowledge about tools and/or strategies to better help me cope with my visual challenges.
- 4) I left my appointment at the University Eye Center with increased awareness about state and/or community resources providing additional services and support for dealing with my visual condition.
- 5) I left my appointment at the University Eye Center supplied with adequate written information and resources to better understand and cope with my condition.
- 6) I prefer provided information and resources in paper form versus electronic or computer-based with audio.
- 7) The low vision manual was easy to read and understand.
- 8) I appreciated that the manual was available in my choice of print or computer based with audio formats.
- 9) The layout and font size of the manual was appropriate.
- 10) The images and diagrams in the manual were helpful.
- 11) The manual helped me to better understand the reason for my visual impairment.
- 12) The manual gave me helpful hints and suggestions to help me cope with my low vision challenges.
- 13) The manual made it easier to understand my low vision devices and how they are used.
- 14) The manual helped my friends and/or family with understanding and coping with my visual challenges.

- 15) I appreciated the "resources" section at the end of the manual.
- 16) The manual was a good supplement to the education I received at the University Eye Center Vision Rehabilitation Clinic.
- 17) I would recommend this manual to other patients who are coping with visual impairments.

The responses to surveys that were returned were then analyzed for any significant difference between the two groups.

Results:

During the course of this study, 23 patients were surveyed in which 13 received the survey and a vision rehabilitation manual and 10 received just the survey. The survey response rate was 48%. Surveys from 7 of the patients receiving the manuals and 4 from patients who had not received the manual were returned. From the surveys returned, a majority showed a trend of satisfaction with the information and services rendered.

Only two patients returned surveys followed a trend of dissatisfaction. Of these two patients, one expressed general satisfaction with the non-manual specific questions (questions 1-6), however, gave a trend of dissatisfaction with question pertaining to the helpfulness of the manual. This included a written subjective comment stating that the patient could not see well enough to read it. The second patient showed a trend of dissatisfaction throughout all areas of the survey. However, the reliability this patient's responses are controversial. Although this patient's responses to the sliding grading scale questions were unfavorable, the patient's written subject comments stated great satisfaction with the staff and the work being done at the eye clinic, indicating a possible misunderstanding about the 1-5 scale and how it was to be utilized. For sake of completeness, this participant has been included in the study.

The following table shows the number of responses received for each question to the survey. Patients not receiving the manual were only asked questions 1-6 and are recorded within parentheses.

Patient Responses To Survey Question						
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
Question 1	5 (3)	1 (1)	0	0	1	
Question 2	6 (4)	0	0	0	1	
Question 3	6 (4)	0	0	1	0	
Question 4	5 (3)	1 (1)	0	0	1	
Question 5	6 (4)	0	0	0	1	
Question 6	5 (3)	0	1 (1)	1	0	
Question 7	4	1	0	0	2	
Question 8	4	1	1	0	1	
Question 9	4	1	0	2	0	
Question 10	4	1	0	2	0	
Question 11	5	0	0	1	1	
Question 12	5	0	0	2	0	
Question 13	4	1	1	1	0	
Question 14	3	0	0	0	0	4 "unknown" response
Question 15	3	1	2	0	1	
Question 16	4	1	1	1	0	
Question 17	5	0	1	1	0	
*Numbers inside (x) indicate responses from patients not receiving a manual						

Discussion:

Detailed analysis of the data collected is somewhat difficult, due to the small sample size of this study. Without a larger return subject size and return of surveys, accurate conclusions of any significant differences between the experimental and control groups is difficult.

Keeping in mind the small sample size, the general trend in the responses in this study would suggest that a low vision focused exam and consult does not need to be supplemented with a take-home low vision patient education manual to satisfy a patient's expectations. However, this conclusion is muddled by the overwhelmingly positive response patients have to low vision rehabilitation appointments and education received at those appointments. The manual specific questions indicate that most patients appreciate having the addition of a manual to further explain their condition and give helpful advice in coping at home. It should also be noted that all but 2 patients who had received the manual said they would "strongly recommend" the low vision manual to others.

Given these findings, eye care professionals who often routinely provide vision rehabilitation examinations, may want to consider supplementing their exams and consultations with additional "take-home" material to help reinforce both patient and family understanding of the patient's visual impairments, limitations, expectations, and options.

It should be noted that although most patients appreciated receiving the low vision manual, one stated that his or her visual impairment was severe enough to prevent them from reading the manual altogether. The availability of the audio PDF format was meant to aid this problem; however few patients chose to receive this version. Perhaps the computer use required deterred patients from choosing this method. In the future, offering the manual in audible base formats without the need for a computer, such as on a CD or MP3 player or other forms of delivery may prove to help a greater range of visually impaired patients.

Conclusions:

Given the small sample size of the study and the largely positive feedback received from both groups, no significant differences between the two data sets could be concluded. Results

are a testimonial to the patient perception of success of low vision rehabilitation appointments in general. However, questions asked specifically about the helpfulness of the low vision manual also received primarily positive responses. This would suggest that patients may still benefit from receiving supplemental material to take home with them following an appointment for a low vision consultation. Any eye care professionals who regularly work with low vision patients may want to consider supplementing their office visits with some degree of a take-home low vision education manual.

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