

PERCEPTIONS OF LOW VISION REHABILITATION OPTOMETRY AMONG
REHABILITATION PROFESSIONALS

by

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Doctoral Candidate

Date

ABSTRACT

Background: Low vision (LV) optometrists are eye care providers who specialize in LV rehabilitation. LV optometrists prescribe special assistive devices and techniques to help the patient with LV achieve their visual goals and are largely responsible for coordinating the care of patients with other LV professionals. Other LV professionals include, but are not limited to, ophthalmologists, occupational therapists, vision rehabilitation therapists, orientation and mobility specialists, and rehabilitation counselors. Because LV optometrists are involved in coordinating patient care with other rehabilitation professionals, a better understanding of the relationship between LV optometrists and other vision rehabilitation professionals is warranted. Gauging non-optometry LV rehabilitation professionals' perceptions of LV optometry may be useful in promoting positive interprofessional relationships. These positive relationships may ultimately improve LV rehabilitation outcomes through better continuity of care for the patient.

Methods: An anonymous 13-question survey was sent to over 95 vision rehabilitation professionals. Respondents assessed their level of agreement with 10 statements related to LV optometry, choosing from five options ranging from "strongly agree" to "strongly disagree". *Results:* A total of 44 respondents completed the survey. The vast majority of respondents (97.72%) agreed that there is a shortage of LV optometrists, and 90.91%

agree that LV optometrists play an important function in caring for the patient with LV.

Conclusion: More LV optometrists are needed to fill an important role in the multidisciplinary approach to caring for the LV patient. LV optometrists should serve a central role in coordinating care with other providers, and efforts should be made to improve communication to better accomplish this role.

ACKNOWLEDGMENTS

I would like to thank Dr. Sarah Hinkley, for her guidance throughout the research process, and more importantly, for laying a solid foundation in low vision optometry for me through her teaching of the low vision course at the Michigan College of Optometry. I hope to use the perspectives and skills learned under her teaching for years to come as I seek to help patients with low vision minimize the impact of their visual limitations and help them achieve their visual goals.

I would also like to thank my lovely wife, and the mother of our two children, for her tireless efforts in caring for our household during my hours away from home commuting, studying, researching and writing. Completing this research would not have been possible without your constant and willing support.

This paper is dedicated to my mother, Wendy Van Elk, who devoted years of public service as a vision rehabilitation therapist, providing valuable training to her students in the areas of life skills management, braille, computers, and cooking.

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CHAPTER 1

INTRODUCTION

At this time, it is estimated that 4.24 million people currently experience blindness and visual impairment in the United States. This number is projected to double by the year 2050.¹ A singular definition of low vision (LV) does not exist, but rather depends on the criterion used by an organization or government. In general, the term “low vision” encompasses both vision impairment and blindness. The World Health Organization defines LV as impaired visual function while using standard vision correction. It is further defined as either a reduced visual field of 10 degrees or less, or a visual acuity of less than 20/70 in the better eye with standard vision correction.² In contrast, blindness is defined in the United States as a best corrected visual acuity of 20/200 or worse or a visual field of 20 degrees or less.³ A variety of services are available which may benefit individuals with LV by helping these persons achieve the greatest possible level of independence in their activities of daily living.⁴ Those with mild visual impairment (for example, best corrected visual acuity of 20/40) and reduced contrast sensitivity may also benefit from LV rehabilitation services.⁵ There is widespread acceptance within the optometric community that any patient with impaired visual function or quality of life may benefit from low vision rehabilitation services.

Rehabilitation services are those efforts taken to minimize the effects of vision impairment or disability, in order for individuals to function optimally in their environment.⁶ Because of the wide range of ages and conditions in the realm of LV, these services focus on the individual's unique goals in order to create a plan suited to the individual's own condition and environment.⁶ LV rehabilitation is provided by a variety of professionals, creating a multidisciplinary approach aimed at reducing the impact of LV on an individual's life.^{7,8} Some of the various disciplines involved in the care of the patient with LV include ophthalmologists, optometrists, counselors, occupational therapists, social workers, orientation and mobility specialists, blind rehabilitation therapists, and teachers of students with visual impairments.⁸

Optometrists play a critical role in LV rehabilitation by assessing patient's visual goals; assessing visual function and level of visual impairment; prescribing optical devices, technologies and other compensatory devices and techniques; treating and managing the patient's ocular health; and coordinating rehabilitation care with other rehabilitation providers.⁹ In the state of Michigan, optometrists may obtain a special designation of "low vision certified" by undergoing a process that includes submitting case reports, submitting an application, completing an interview, and passing a written exam. However, Michigan optometrists are permitted to provide LV services without holding this certification.¹⁰

Because LV optometrists are involved in coordinating patient care with other rehabilitation professionals, a better understanding of the relationship between LV optometrists and other vision rehabilitation professionals is warranted. Gauging non-

optometry LV rehabilitation professionals' perceptions of LV optometry may be useful in promoting positive relationships between the two fields. These positive relationships may ultimately improve LV rehabilitation outcomes through better continuity of care for the patient.

CHAPTER 2

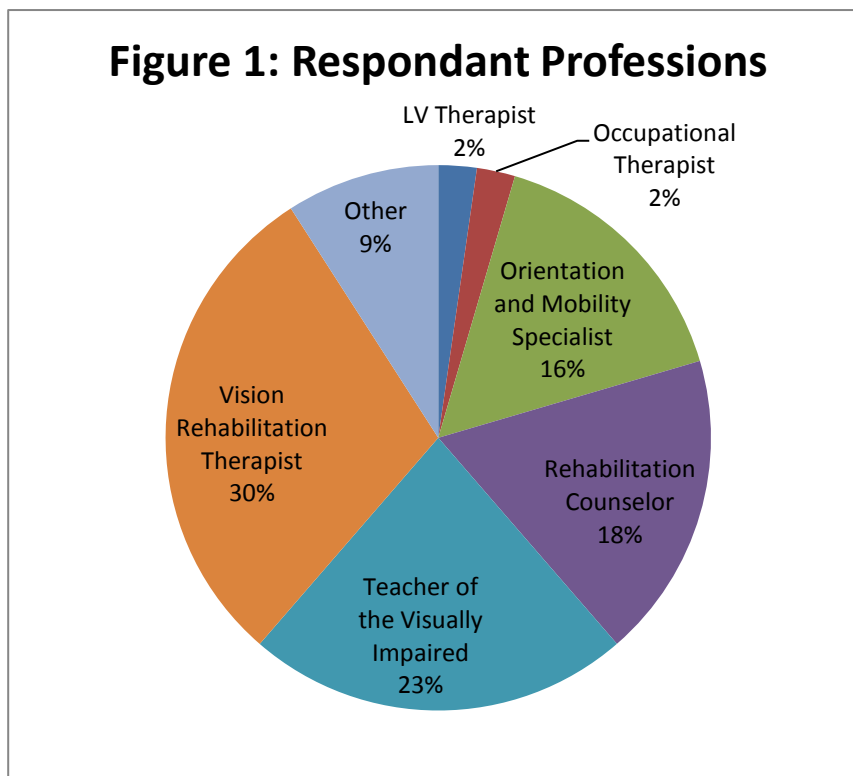
METHODS

In order to better understand non-optometry LV rehabilitation professionals' perceptions of LV optometry, an anonymous 13-question survey was administered to various vision rehabilitation professionals via an electronic survey created and managed online through the website www.QuestionPro.com. A recruitment email with a link to the QuestionPro survey was emailed to at least 95 vision rehabilitation professionals throughout the state of Michigan working in a number of settings including school districts, a non-profit vision rehabilitation clinic, a state vision rehabilitation bureau, a university's vision rehabilitation department, and a Veteran's Affairs rehabilitation clinic. It is not known exactly how many rehabilitation professionals received the survey, as some professionals forwarded the survey on to an unknown number of colleagues. Respondents assessed their level of agreement with 10 statements related to LV rehabilitation optometry, choosing from five options ranging from "strongly agree" to "strongly disagree". The participants were also asked to provide their age range, gender and occupation. A sample of the survey is provided (*see Appendix A*). The survey was approved by the Institutional Review Board of Ferris State University (*see Appendix B*).

CHAPTER 3

RESULTS

A total of 44 respondents completed the survey. Results are summarized in **Tables 1 and 2**. 83.33% of the respondents were female, and 16.67% were male. The age group with the most respondents (44.16%) was the 46-60 year-old group. The top four rehabilitation professions represented in the survey were vision rehabilitation therapist (n=13), teacher of the visually impaired (n=10), rehabilitation counselor (n=8), and orientation and mobility specialist (n=7) (*see Figure 1*). Of note in the survey results

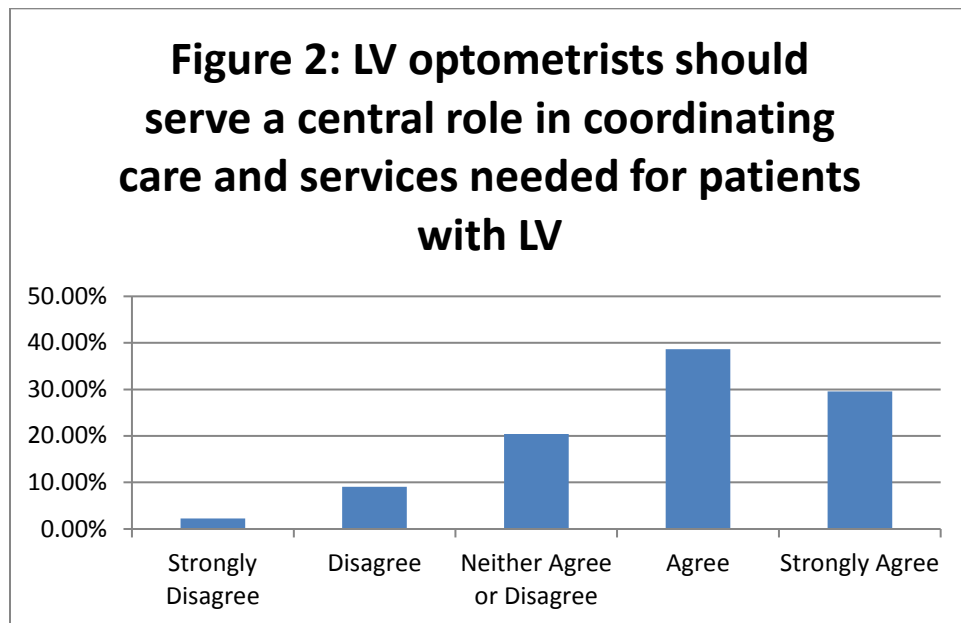


is the number of rehabilitation professionals who strongly agree that LV optometrists serve an important function in caring for patients with LV (90.91%), with the remaining respondents

agreeing with the statement. Another interesting result is the percentage of respondents (97.72%) who either agree or strongly agree with the statement that there is a shortage of

LV optometrists. Additionally, while the majority of the surveyed professionals (88.63%) agree or strongly agree that LV optometrists recommend appropriate and useful LV devices to patients, a large number were either neutral (38.64%) or disagreed (27.27%) with the next statement in the survey that LV optometrists provide appropriate training and education for the patient on the use of LV devices.

Another interesting finding is that 68.19% of respondents agree that LV optometrists should play a central role in coordinating other LV care for the patient (*see Figure 2*), yet only 45.45% of respondents agreed with the statement that LV optometrists are effective in coordinating this care.



CHAPTER 4

DISCUSSION

The American Optometric Association (AOA) seeks to set the standard of care for practicing optometrists through their clinical practice guidelines. In the AOA's LV rehabilitation clinical practice guidelines, one of the goals of LV optometry emphasizes the importance of providing appropriate referrals for the patient with LV.⁹ It is apparent through the results of the survey that LV optometrists are not meeting this goal in the opinion of a number of their rehabilitation peers, as 31.82% of survey participants either disagreed or strongly disagreed with the statement that LV optometrists are effective in appropriate referrals, and 22.73% were neutral to the statement. While this survey did not assess why respondents hold their opinions, there may be a number of reasons for their responses. Perhaps LV rehabilitation professionals have experienced situations where a patient could have benefited from services that they offer years prior, had the patient been referred appropriately. Perhaps some LV optometrists are unaware of their vision rehabilitation teammates' abilities and services offered to the patient, and therefore do not optimally refer patients.

Regardless of the reason, LV optometry must recognize the changing landscape of healthcare, which is moving toward a team-based approach, and learn to function effectively within this interdisciplinary method to vision rehabilitation, in order to improve the quality of life for the patient with LV.¹¹ There are a great deal of services

and resources available to the patient with LV that should be offered to the patient. Some of these services include local and state government rehabilitation, orientation and mobility, Veteran's Affairs visual impairment rehabilitation, digital audio books, psychiatry and psychology, social work, occupational therapy, descriptive videos, nutrition education, technology training, appropriate ophthalmology referrals (retina, glaucoma, pediatrics, etc.), and driving rehabilitation.⁹ Even though LV optometrists may not be appropriately referring patients, the opinions in the survey results (68.19% agree) show that LV optometrists should still play a central role in coordinating care for the patient with LV. Given this knowledge, LV optometrists should work to understand the services offered to patients with LV at the local, state and national level, and also work to understand how the other professionals can enhance patients' rehabilitation outcomes.

Another area of concern in the field of LV optometry is the apparent shortage of LV eye-care providers for the patient with LV. Only 25 optometrists have a current designation of LV certified in Michigan, while 66 Michigan Optometric Association (MOA) members report providing LV rehabilitation services in the MOA's online directory.¹² Although more optometrists in Michigan may provide LV services without gaining the certification, the perception that there is a shortage of such providers matches the apparent low number of providers reporting these services. Unfortunately, reduced access to LV services has been shown to lead to a decreased quality of life for the patient with LV.^{2, 13} The low number of providers and perceived shortage validate the notion that there is a need for a greater number of LV service providers in order to improve access to care for the growing number of individuals who require it.

It is clear that the majority of rehabilitation professionals surveyed believe that LV optometrists are doing a good job recommending LV devices to the patient, but that they are not sufficiently ensuring that the patient understands how to use the device. A device is only useful if the patient understands its purpose and usefulness. Perhaps introductory training should be performed in-office by the LV optometrist, and follow-up training could be performed by the rehabilitation therapist or other professional. Communication between the prescriber and the trainer is vital, so that the rehabilitation therapist knows what was discussed with the patient, why the optometrist prescribed the device, and the intended use of the device. This information allows patients to maximize the usefulness of the device, and ultimately allows patients to meet their individual goals and decrease the effects of their visual impairment.

CHAPTER 5

CONCLUSION

LV optometry serves an important role in providing care for the LV patient from the perspective of the rehabilitation professional. It is clear that there is a perceived shortage of LV optometrists that serve this important role. More LV providers are likely needed to avoid lapses in care for the LV patient. Is the shortage due to optometrists not pursuing the LV field because they do not feel comfortable with their subject knowledge in LV? Or is the shortage due to optometrists perceiving a lack of reimbursement for services rendered to the LV patient? Future studies should investigate why there is an apparent shortage of LV providers, and how to encourage optometrists to provide the vital service of LV rehabilitation. With the number of patients with LV expected to continue increasing through the year 2050, an effort should be made to recruit and train optometrists to provide these crucial services.

It is also evident from the study that LV providers should serve a central role in coordinating other LV care, but the execution of this role needs improvement. This survey was not designed to answer why other LV rehabilitation professionals hold their opinion of LV optometry, and future studies should investigate this, as these responses may yield fruitful discussions to improve patient care.

CHAPTER 6

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APPENDIX A:
SAMPLE SURVEY

In questions 1-10 participants rank their level of agreement with each statement by selecting one of the following: “strongly agree”, “agree”, “neither agree or disagree”, “disagree”, and “strongly disagree”.

1. There is currently a shortage of low vision optometrists
2. Low vision optometrists serve an important function in caring for patients with low vision
3. Low vision optometrists are good at communicating with other rehabilitation professionals
4. Low vision optometrists refer patients for other low vision services in an appropriate time frame
5. Low vision optometrists should provide low vision rehabilitation services, such as low vision device training, ADL training, eccentric viewing training, etc.
6. Low vision optometrists recommend appropriate and useful low vision devices to patients with low vision
7. Low vision optometrists provide appropriate training and education on use of low vision devices to patients with low vision
8. Low vision optometrists are effective in directing patients with low vision to appropriate low vision services, such as low vision rehabilitation, orientation and mobility, support groups, etc.
9. Low vision optometrists understand their role within the patient rehabilitation system
10. Low vision optometrists should serve a central role in coordinating care and services needed for patients with low vision
11. What is your rehabilitation profession? (select one)
 - A. Low Vision Therapist
 - B. Occupational Therapist
 - C. Orientation and Mobility Specialist

- D. Rehabilitation Counselor
- E. Teacher of the Visually Impaired
- F. Vision Rehabilitation Therapist
- G. Other; please explain:

12. What is your age? (select one)

A. 18-30

B. 31-45

C. 46-60

D. 61 and up

13. What is your gender? (select one)

A. Female

B. Male

APPENDIX B
IRB APPROVAL FORM



Date: Nov 9, 2017

To: Sarah Hinkley

From: Gregory Wellman, R.Ph, Ph.D, IRB Chair

Re: IRB Application *IRB-FY17-18-60 Perceptions of low vision rehabilitation optometry among rehabilitation professionals*

The Ferris State University Institutional Review Board (IRB) has reviewed your application for using human subjects in the study, *Perceptions of low vision rehabilitation optometry among rehabilitation professionals (IRB-FY17-18-60)* and approved this project under Federal Regulations Exempt Review Category 2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Approval has an expiration date of three years from the date of this letter. **As such, you may collect data according to the procedures outlined in your application until Nov 9, 2020** . Should additional time be needed to conduct your approved study, a request for extension must be submitted to the IRB a month prior to its expiration.

Your protocol has been assigned project number IRB-FY17-18-60. Approval mandates that you follow all University policy and procedures, in addition to applicable governmental regulations. Approval applies only to the activities described in the protocol submission; should revisions need to be made, all

materials must be approved by the IRB prior to initiation. In addition, the IRB must be made aware of any serious and unexpected and/or unanticipated adverse events as well as complaints and non-compliance issues.

This project has been granted a waiver of consent documentation; signatures of participants need not be collected. Although not documented, informed consent is a process beginning with a description of the study and participant rights, with the assurance of participant understanding. Informed consent must be provided, even when documentation is waived.

As mandated by Title 45 Code of Federal Regulations, Part 46 (45 CFR 46) the IRB requires submission of annual reviews during the life of the research project and a Final Report Form upon study completion. Thank you for your compliance with these guidelines and best wishes for a successful research endeavor. Please let us know if the IRB can be of any future assistance.

Regards,

A handwritten signature in black ink, appearing to read "Gregory Wellman". The signature is fluid and cursive, with a large initial "G" and a long, sweeping underline.

Gregory Wellman, R.Ph, Ph.D, IRB Chair
Ferris State University Institutional Review Board
Office of Research and Sponsored Programs

Table 1 Summary of Survey Results, questions 1-10					
Prompt	Answer choice; percent of respondents				
	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
1. There is currently a shortage of LV optometrists	0%	0%	2.27%	52.27%	45.45%
2. LV optometrists serve an important function in caring for patients with LV	0%	0%	0%	9.09%	90.91%
3. LV optometrists are good at communicating with other rehabilitation professionals	0%	15.91%	22.73%	47.73%	13.64%
4. LV optometrists refer patients for other LV services in an appropriate time frame	2.27%	15.91%	22.27%	40.91%	13.64%
5. LV optometrists should provide LV rehabilitation services, such as LV device training, ADL training, eccentric viewing training, etc.	6.82%	18.18%	29.55%	36.36%	9.09%
6. LV optometrists recommend appropriate and useful LV devices to patients with LV	0%	2.27%	9.09%	52.27%	36.36%
7. LV optometrists provide appropriate training and education on use of LV devices to patients with LV	0%	27.27%	38.64%	25%	9.09%
8. LV optometrists are effective in directing patients with LV to appropriate LV services, such as LV rehabilitation, orientation and mobility, support groups, etc.	2.27%	29.55%	22.73%	34.09%	11.36%
9. LV optometrists understand their role within the patient rehabilitation system	2.27%	4.55%	29.55%	47.73%	15.91%
10. LV optometrists should serve a central role in coordinating care and services needed for patients with LV	2.27%	9.09%	20.45%	38.64%	29.55%

Table 2 Summary of Survey Results, Questions 11-13							
11. What is your rehabilitation profession? (select one)	LV Therapist	Occupational Therapist	Orientation and Mobility Specialist	Rehabilitation Counselor	Teacher of the Visually Impaired	Vision Rehabilitation Therapist	Other; please explain:*
	2.27%	2.27%	15.91%	18.18%	22.73%	29.55%	9.09%
12. What is your age?	18-30	31-45	46-60	61 and up			
	16.28%	30.23%	44.19%	9.30%			
13. What is your gender?	Female	Male					
	83.33%	16.67%					

* Responses given: "COMS and CLVT", "Rehabilitation Counselor and Vision Rehabilitation Therapist", "Professor", "Professor, (previously a TCVI and O&M)"