AWARENESS OF LOW VISION REHABILITATION SERVICES WITHIN THE
GERIATRIC POPULATION

by

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This paper is submitted in partial fulfillment of the
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GERIATRIC POPULATION

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AWARENESS OF LOW VISION REHABILITATION SERVICES WITHIN THE GERIATRIC POPULATION

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ABSTRACT:

Background: A survey was generated for the geriatric population, age 60 and older, inquiring about their level of awareness of Low Vision Rehabilitation Services provided by the optometric community. The population targeted by this survey was senior citizens who attend senior centers during the day for activities and meals. Methods: A survey was drafted and distributed at lunchtime to geriatric individuals over the age of 60 years at senior centers. Questions in the survey explored if the person had low vision, if they were receiving low vision services, if they were aware of low vision services, if they know anyone who had utilized low vision services, and other questions helping to reveal the geriatric population’s awareness of the services offered by low vision providers. Results: 75% of the geriatric population who were surveyed are unaware of low vision rehabilitation services. There is also a significant number of patients with decreased vision due to retinal disease in one or both eyes who have not heard of low vision rehabilitation services. Conclusion: Participants who had visited their eye care provider within the last year were more likely to be aware of low vision rehabilitation services. Those individuals who have retinal disease in one or both eyes and/or are legally blind should have these services recommended to them by their eye doctor. They should ideally be educated multiple times and the recommendation should also be presented to any caregivers or children present at their appointment leading to the awareness of the hope that low vision rehabilitation services can provide for individuals with decreased visual function.
ACKNOWLEDGMENTS

Thank you to all of those who had a part in my optometric education and who have encouraged me along the way. I want to especially thank my parents and family for their support in this endeavor.

Thank you to my advisor who guided me in this project, Dr. Sarah Hinkley, and to Rebecca Reiman at the Bay County Division on Aging for assisting me in contacting the various dining centers and getting approval from the various individuals necessary to complete this project. Additionally, I would like to thank the dining center supervisors of Bay County for helping me with the distribution of the surveys.
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INTRODUCTION

Since there are many different patients with a variety of visual needs, there are many specialty areas of optometry that help to meet these visual needs. Some optometrists specialize in contact lenses, vision therapy, pediatrics, sports vision, and low vision rehabilitation. This research paper is focused on the area of low vision rehabilitation.

Low vision is defined as visual impairment that is not able to be corrected by standard glasses, contact lenses, medicine, or surgery.\textsuperscript{1} A survey that was conducted by Lighthouse International, which is a leading provider of low vision rehabilitation services, reported that by 2010 there will be 10 million Americans that will experience visual problems even with glasses or contacts.\textsuperscript{2} This means that there are patients with visual needs which are unfulfilled. The purpose of low vision rehabilitation services is to offer patients with visual impairment ways in which to utilize their remaining functional vision to its utmost capacity thereby providing them with the maximum possible independence.

Low vision rehabilitation services are offered to individuals by a variety of different professionals. There are social workers, occupational therapists, psychologists, rehabilitation specialists, certified driving instructors, teachers of the visually impaired, optometrists, and others who help to provide low vision patients with the services necessary to cope with the loss of vision they have experienced. These professionals collaborate to help find the best treatments for the patients so that they can maintain their independence. Low vision rehabilitation services often help people to remain in their homes and place of employment so that they can continue with their normal lifestyle.\textsuperscript{2}
The incidence of vision impairment goes from 1 in 6 for those over 45 years of age to 1 in 4 for those over 75 years of age. As the population in the United States ages, there will be an increase in the number of people with low vision. The eye care community must prepare to meet the needs of those who experience visual impairment by providing low vision rehabilitation services and/or recommending such services if the eye care practitioner does not provide these services.

METHODS

There are many different ways to collect data from the geriatric population to evaluate their level of awareness of low rehabilitation services. This particular research utilized a survey that was prepared and distributed in person to those 60 and older during lunchtime at local dining centers in Bay County, Michigan. Questions in the survey explored if the person had low vision, if they are receiving or have received low vision services, if they were aware of low vision services, if they knew anyone who has utilized low vision services, and additional questions that helped reveal the geriatric population’s awareness of the services offered by low vision providers. The survey was offered to willing participants while informing them of their anonymity. Those willing to participate completed the survey with no identifying information and they were placed into a sealed envelope. The surveys were distributed at the dining centers during mealtimes and picked up before the senior citizens left the dining center. One hundred and seventy one surveys were collected in this manner but only one hundred sixty eight were counted due to three of the surveys being incomplete. The survey consisted of thirteen questions that inquired about the individual’s vision and the awareness of low vision rehabilitation...
services that are offered by the optometric community. Results were calculated and analyzed, and are as follows.

RESULTS

The first survey question asked the participant's age, which was split up into ten year intervals beginning at age 60, so that there were a total of five categories with the last category being over 100 years old. There were 45 seniors between the ages of 60-69, 58 seniors between the ages of 70-79, 56 seniors between the ages of 80-89, and 9 seniors between the ages of 90-99 no participants were over 100 years old. This is summarized in the chart below.

![Age Distribution of Seniors Surveyed](chart.png)

The participants were then asked when their last eye examination occurred. The choices included: less than 3 months, 3-5 months, 6 months- 1 year, 1-2 years, and more than 2 years. This question was designed to better understand if there is a correlation between seeing an eye doctor on a regular basis and a patient's awareness of low vision rehabilitation services. There were 35 participants who had been to the eye doctor less
than 3 months ago, 24 who had been to the eye doctor between 3-5 months ago, 61 people who had been to the eye doctor between 6 months to 1 year ago, 32 people who had been to the eye doctor 1-2 years ago, and 15 people who had been to the eye doctor more than 2 years ago. One participant was unsure of the last time he or she had been to the eye doctor.

The next question asked the participants if they went to an optometrist, ophthalmologist, or both for their vision examinations. There was also an “unsure” option, although if they asked for clarification they were usually able to determine if their eye doctor was an optometrist or and ophthalmologist. Thirty six individuals were seen by only an optometrist, fifty eight individuals were seen by only an ophthalmologist, fifty one participants were seen by both an optometrist and an ophthalmologist, and twenty three were unsure about what type of an eye doctor they see. This question will help to determine if there appears to be any correlation with an individual’s awareness of low vision rehabilitation services and whether they visit an optometrist or an ophthalmologist.
The participants were then asked if they have ever been told by their eye care provider that they had decreased vision due to retinal disease such as glaucoma, or any other ocular diseases in one or both eyes. Forty seven participants said that their eye care provider had informed them that they had an ocular disease while 108 said that they had no ocular disease, and 13 stated that they were unsure of whether or not they had any ocular disease.
The next question asked the participants if they were legally blind. Four individuals said they were legally blind while 164 said they were not legally blind. This question will help to determine which of the participants would possibly benefit from low vision rehabilitation services.

The following two questions discussed whether or not the patient continued to drive; and if he/she did not drive, then why not? This question had several possible answers: poor vision, decreased reaction time, cognitive issues, family has decided that it is not wise, or
"other" with a blank line to explain. 156 of the participants reported that they still drive while 22 reported that they no longer drive. Of the twenty two individuals who no longer drive, the reasons for driving were as follows: 4 had poor vision, 2 had family who felt that it was not wise, 6 had cognitive issues, 2 have never driven, 1 had a disability, and 7 gave no answer as to why they did not drive.

![Do You Still Drive?](image)

![Reason Why Participants Do Not Drive](image)
If the participants have utilized low vision services, they were asked what kinds of devices were prescribed for them to help utilize their remaining functional vision. There were options of magnifiers, telescopes, reading machines/electronic devices, lighting, non-optical devices (such as clocks, telephones, etc.), and other. The participant was instructed to circle all of the devices that were prescribed for him/her which means that one person could circle all of the devices listed. Eleven individuals used magnifiers, one used a telescope, two used reading machines/other electronic devices, three utilized lighting, and three used non-optical devices.

An additional question in the survey asked if the participant had ever known of anyone who had visited an eye doctor who specialized in low vision rehabilitation services. Twenty seven individuals knew someone who had received low vision rehabilitation services while 134 were not aware of anyone who had received such services and seven people did not answer the question. This question lends insight into whether or not seniors have actually heard of low vision rehabilitation services that are available to individuals with decreased vision.
Finally, those surveyed were asked if they were aware of an eye doctor who provided low vision rehabilitation services would they utilize these services if they had decreased vision. This question was meant to assess whether individuals are willing to use services offered by low vision rehabilitation specialists. One hundred and seven participants responded that they would be willing to access low vision rehabilitation services if they needed them and they were aware of a doctor who provided those services while 39 said they would not use low vision rehabilitation services even if they needed them; 26 people did not answer the question.
The participants were then asked if they have ever heard of low vision rehabilitation services, if they have been told that they may benefit from these services, and if they have utilized the services offered by low vision rehabilitation specialists. These questions were asked to gain an understanding of this geriatric population's awareness of low vision services. Forty participants in the surveyed population were aware of low vision rehabilitation services while 126 participants had never heard of these services and 2 individuals did not answer the question. Only six of the surveyed individuals were recommended for low vision rehabilitation services while only five individuals have actually utilized low vision rehabilitation services.
DISCUSSION

The need for optometrists practicing in the specialty of low vision rehabilitation is increasing. The reason for this is due to the aging population of the United States. As the population ages, the incidence of ocular disease increases and therefore the demand for low vision rehabilitation services also increases. There was a roughly equal number of respondents between the ages of 60-69, 70-79, and 80-89. There were fewer respondents in the 90-99 age bracket and no respondents in the 100 or over category which is likely due to the fact that there are fewer elderly people who live to reach these ages and if so, may be less active or less likely to visit senior centers. It may be also due to the fact that individuals that are this age are less likely to be mobile and may not visit the senior dining centers for their meals, instead they are possibly utilizing the Meals on Wheels program in Bay County to deliver the meals to their homes. Roughly one quarter of participants in each age group were aware of low vision rehabilitation services. It appears that slightly more individuals in the older age brackets have heard of low vision services compared to fewer individuals in the younger age category. This may be due to the fact that the older individuals are more likely to have decreased vision due to aging changes of the eye, may be more likely to know someone who has received low vision services, or may have been exposed to the term from life experience.

For patients who had been to the eye doctor within the past three months 25.7% of them were aware of low vision services. 29.2% of those individuals surveyed who were last seen at the eye doctor 3 to 5 months ago were aware of low vision services. 31.1% of those who last saw their eye doctor 6 months to 1 year ago were aware of low vision services.
rehabilitation services. 17.4% of those who had last been to their eye doctor 1-2 years ago were aware of low vision services. 6.7% of those surveyed who had last been to their eye doctor more than 2 years ago were aware of low vision services. This shows that those who went to their eye care provider on an annual or semi annual basis were more likely to be aware of low vision rehabilitation services which could be due to the fact they take a more proactive approach to maintaining eye health which may translate to active medical self-education. In addition, 6-12 months examination intervals are common for many retinal diseases including age related macular degeneration and is the standard of care set forth by the American Optometric Association. This could also be due to the fact that those individuals who do not see their eye doctor on a regular basis have fewer problems with their eyes and are not in need of low vision rehabilitation services.

Next, the participant’s awareness of low vision services was analyzed in regard to whether they saw an optometrist or an ophthalmologist. Within the 60-69 year old bracket 14.3% of the people who saw an optometrist were aware of low vision services. 37.5% of the people who saw an ophthalmologist within this age category were aware of low vision rehabilitation services. Of the individuals who saw both an optometrist and an ophthalmologist, 26.7% were aware of low vision rehabilitation services. None of the individuals who were unsure of the eye care provider they saw were aware of low vision rehabilitation services.

In the 70-79 year old age bracket 15.4% of those individuals who saw only an optometrist were aware of low vision rehabilitation services. 25% of those individuals who saw only
an ophthalmologist were aware of low vision services. 43.8% of the people who saw both an ophthalmologist and an optometrist were aware of low vision rehabilitation services. Once again, of those people who were unsure of whether they saw an optometrist or an ophthalmologist, none of them were aware of low vision rehabilitation services.

From the age of 80-89, 12.5% of those surveyed who saw only on optometrist were aware of low vision services. 30.8% of those who saw only an ophthalmologist were aware of low vision rehabilitation services. For those who saw both an optometrist and an ophthalmologist 29.4% were aware of low vision rehabilitation services. Only one person of five who were unsure about their type of eye doctor was aware of low vision rehabilitation services. Within the 90-99 year old age bracket 22.2% were aware of low vision services and those individuals were seen by both an optometrist and an ophthalmologist.

Within each of the four age brackets there were fewer individuals who went to an optometrist and were aware of low vision rehabilitation services and more individuals who were seen by an ophthalmologist and were aware of low vision services. This may be due in part to the fact that senior citizens who are seeing an ophthalmologist are more likely to have retinal or other ocular disease and are therefore more likely to be informed of the low vision services, whereas those individuals who see an optometrist are less likely to have an ocular disease that would warrant low vision rehabilitation services. There was a higher percentage of participants with an awareness of low vision services
who saw both an optometrist and an ophthalmologist than of those in the category who saw only an optometrist. This does lead to the fact that individuals who saw both are more likely to have ocular disease and need low vision rehabilitation services. The results are a bit surprising since optometrists are the most common providers of low vision services. This question did not explore whether the ophthalmologist or optometrist recommended the services.

28% of the people surveyed stated that they had decreased vision due to retinal or other ocular diseases in one or both eyes. Of these participants with ocular disease, 31.9% of them reported that they were aware of low vision rehabilitation services. Of the fifteen people with decreased vision due to retinal or other ocular disease who were aware of low vision services, two of them (13.3%) were never recommended to have a low vision evaluation by an eye care provider but did utilize low vision rehabilitation services even though they had not been recommended. Only 20% of individuals with decreased vision due to retinal or other ocular disease who were aware of low vision rehabilitation services were recommended for a low vision examination. This shows the discrepancy that exists between those individuals who would benefit from low vision services and eye care providers recommending those individuals for services. Both optometrists and ophthalmologists need to be more proactive in referring patients with decreased vision for low vision rehabilitation services to help improve the quality of the patient’s life.

Twenty two of the participants surveyed did not drive while only four of those individuals who no longer drove reported that they were legally blind. Individuals who
are legally blind in Michigan may apply for or be referred for benefits from the state such as Low Vision Rehabilitation Assessments by therapists through the Michigan Commission for the Blind or other agencies for the visually impaired. An additional follow up question worth investigating would be how many of the legally blind participants had worked with The Michigan Commission for the Blind. For the ages of 60-69, seven out of the eight participants who said they no longer drove recorded that it was due to cognitive issues or a disability. Only one person out of the eight was considered legally blind. That individual had heard of low vision rehabilitation services but had never been recommended for or received any of these. This individual was seen by both an optometrist and an ophthalmologist. This shows that there are individuals who are not being informed by their eye care professionals about the different options available to help them utilize their remaining vision functionally or else did not listen or remember the recommendation by the eye doctor. None of the participants surveyed in the 70-79 year old category were legally blind and the 3 individuals who did not drive attributed it to cognitive reasons, disability, and one person was unsure. Within the 80-89 year old age category there were 14.3% who no longer drove. Only one of these individuals was legally blind. Another participant stated he/she was legally blind but continued to drive and was aware of low vision rehabilitation services. This participant’s eye care provider(s) (he/she is currently being seen by an optometrist and an ophthalmologist) had recommended low vision rehabilitation services which he/she did utilize. It is unknown as to whether this participant had been told that he/she is not a legal driver. Of the 14.3% who no longer drive within the 80-89 year old category, 25% gave no answer as to why, another 37.5% had poor vision, 12.5% never began driving,
and 25% responded that their family had decided that it is not wise for them to drive. 37.5% of the individuals who no longer drove were aware of low vision rehabilitation services while only one of these individuals had been recommended for a low vision rehabilitation evaluation. The two people who had heard of low vision services but had not been recommended to utilize them saw only an ophthalmologist while the other individual who was recommended for low vision services saw both an optometrist and an ophthalmologist. Of the three people who no longer drive due to poor vision, within the 80-89 year old category, two of them were aware of low vision rehabilitation services but only one was recommended for an evaluation. Within the 90-99 year old age category 1 of the 3 individuals who no longer drive is legally blind. Of these three people who no longer drive, one of them said that he/she was turned down by the state licensing driver's exam which could be due to poor vision, cognitive impairment, or other reasons. The participant who was legally blind had never heard of low vision rehabilitation services and had therefore not utilized them. These results show that there are visually impaired patients who are not being recommended for low vision rehabilitation services who would benefit from such services, some of whom have lost independence due to lack of driving. There are likely more individuals who are legally blind who do not realize it or do not understand the definition of legal blindness.

The survey also asked people what kind of low vision devices they were currently using. Sixteen people reported that they utilized low vision devices even though only five people responded that they utilized services offered by eye doctors specializing in low vision rehabilitation. This is likely due to the lack public awareness of low vision but the
awareness of magnifiers and other devices to aid with vision is better known. Also, of the sixteen people who utilized low vision devices, eleven had decreased vision due to ocular disease in one or both eyes. The others are likely using these devices because they also have decreased vision but have never been informed of low vision rehabilitation services. Eleven people responded that they were using magnifiers though only 3 of those had ever had a low vision examination. This shows that even if doctors do not meet the patients’ needs the patients will seek out devices that they think may help them on their own. Therefore, it behooves the eye care practitioner to inform the patient of the low vision rehabilitation services that are available so that magnifiers, telescopes, and other optical and non-optical devices can be tailored to the patients to help them maximally use remaining vision. There were 47 patients who reported that they had decreased vision in one or both eyes due to ocular disease. Each of these patients should have been informed of the availability of low vision rehabilitation services so that their remaining vision could be maximized. One reason that they are possibly not being referred for low vision rehabilitation services is perhaps the eye doctors are waiting until the patient is legally blind to refer them for these services. 16.1% of the participants knew of someone who had utilized low vision rehabilitation services. This reveals that patients who receive low vision services talk to others about the services that they have received. Forty of the participants were aware of low vision rehabilitation services. Only six of the forty had been recommended to utilize these services which means that 34 participants were aware of the services without ever having been told by a doctor. Some patients though not made aware of low vision rehabilitation services from their eye doctor have heard of these services through someone who has received these services,
likely friends, family, or acquaintances. It is surprising with as many friends and family members as most people have, that 134 participants did not know anyone who had utilized low vision services.

The participants were asked if they were aware of an eye doctor who provided low vision rehabilitation services and if the participant was in need of these services would they utilize these services? 63.7% of the individuals surveyed responded that they would make use of low vision rehabilitation services. Only 23.2% of those surveyed said they would not use these services while 13.1% did not answer the question. This may be due to the fact that they did not understand what the question was asking and they did not know how to answer it or due to the fact that the question was hypothetical in nature. These numbers show that when patients are in need of low vision rehabilitation services, they are receptive to what we as the eye care provider recommend. Patients appear willing to seek services that will maximize functional ability and maintain the quality of their lives. It is therefore imperative that we remember to recommend those individuals for low vision rehabilitation services who would benefit from such services.

Limitations of this project are the fact that this information is specific for Bay County, Michigan and it may vary between geographic regions. It is also specific to those from the geriatric population who attend senior dining centers.

Some of the participants who are visually impaired reported that they were unaware of low vision rehabilitation services. There are several reasons for this: the eye care
provider is not informing them of this option, they have forgotten that this service was recommended for them, or they were not listening when it was explained. One way to overcome the latter two obstacles is by informing a caregiver or family member about the possibility of utilizing low vision rehabilitation services. Another way doctors may remind patients that this service may benefit them is by mentioning it more than one time during an eye care visit or at several different visits during the continuing care of the patients. Eye care providers need to become more proactive and recommend low vision rehabilitation services to those who are visually impaired, including those with all levels of visual impairment.

This study confirms a lack of public knowledge and understanding within the geriatric population about low vision rehabilitation services. This is unfortunate in terms of providing high quality comprehensive patient care from a primary eye care perspective. Increasing public education on rehabilitation services for the visually impaired would be of great benefit to geriatric patients and society as a whole.
REFERENCES


Awareness of Low Vision Rehabilitation Services within the Geriatric Population

SURVEY INSTRUMENT:

This is an anonymous survey through the Michigan College of Optometry at Ferris State University. By completing this survey you are consenting to allow your responses to be used for research purposes. There will be NO names, dates of birth, or social security numbers used in this survey. Questions about this project can be directed to Sarah Hinkley, OD, FCOVD, Assistant Professor at the Michigan College of Optometry at 231-591-2185. All other questions may be directed to: Connie Meinholdt, Chair
E-mail: HumanSubjectsResearchCommittee@ferris.edu
Phone: 231-591-2759

Circle only the best answer to the following:

1.) What is your age: 60-69  70-79  80-89  90-99  100 or over

2.) About how long ago were you last examined by your eye doctor (circle the best answer)?

   Less than 3 months  3-5 months  6 months- 1 year  1-2 years more than 2 years

3.) What type of eye doctor currently provides your care?

   Optometrist only  Ophthalmologist only  Both optometrist & ophthalmologist  unsure
4.) Have you been told that you have decreased vision in one or both eyes due to retinal disease, glaucoma, or other eye diseases?  

YES  NO  unsure

5.) Are you legally blind?  

YES  NO  unsure

6.) Do you still drive?  

YES  NO  (If you answered no to #6, please answer #7)

7.) If you no longer drive, why not?  

(circle only one choice that best answers the question)

Poor vision  Decreased reaction time

Cognitive issues  Family has decided it is not wise

Other _______________________

8.) Have you ever heard of “low vision rehabilitation services”?  

YES  NO

9.) Has your eye doctor ever told you that you may benefit from “low vision rehabilitation services”?  

YES  NO

10.) Have you ever utilized services offered by eye doctors specializing in “low vision rehabilitation”?  

YES  NO  (if yes please go to #11, otherwise skip to #12)
11.) If so, what kind of low vision devices were prescribed for you (circle all that apply)? Magnifiers telescopes reading machines/electronic devices lighting non-optical devices (such as clocks, telephones, etc) other: ____________________________

12.) Do you know of anyone that went to an eye doctor who specializes in “low vision rehabilitation services”? YES NO

13.) If you were aware of an eye doctor who offered “low vision rehabilitation services”, would you utilize these services if they were needed? YES NO

Thank you for your participation in this survey! Your responses will allow eye care practitioners to better meet patients’ visual needs.