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Older Adults With Vision Impairment: Living Their Best Life

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Purpose

The purpose of this paper is to synthesize evidence from a review of literature and interviews with vision loss experts to offer recommendations for older adults living with vision impairment, their family members, community members, and health care providers to foster functional independence and quality of life.

Background

The term "vision impairment" (VI) describes difficulty in accomplishing activities of daily living (ADLS), instrumental activities of daily living (IADLs) or other functions due to an inability to see well. 9% of adults age 65 and older experience VI with the highest prevalence among those over age 80 (25%). VI is associated with depression, social isolation, low quality of life, loss of independence, and cognitive decline. Individuals may not be aware of strategies to diminish the impact of VI.

Method

We performed a search for peer-reviewed articles published between 1980–2022 using the CINAHL, Medline, and PubMed databases. Search terms included: *older adult*, *vision impairment*, *blind*, *activities of daily living*, *independence*, *quality of life*, *magnification*, *lighting*, and *older adults.* Eleven relevant articles were selected. We also spoke with several experts, including a certified occupational therapist's assistant who specializes in geriatrics, a licensed clinical social worker specializing in older adults with vision impairment, and a blindness rehabilitation sensory impairment specialist.

Recommendations

Recommendations fall into two categories: lived environment modifications and interpersonal interactions. Environment modifications include lighting, magnification, contrast, and nonvisual skills to augment remaining vision. Interpersonal interactions, such as following certain guidelines when entering or exiting a room and respecting personal boundaries, can increase autonomy and independence. Older adults receive regular eye exams to be assessed for refractive error and eye disease. When simple changes are made and maintained by older adults with VI and those who interact with them, increased independence and quality of life can be achieved.

Background and Introduction

The term "vision impairment" (VI) describes difficulty in accomplishing activities of daily living (ADLS), instrumental activities of daily living (IADLs) or other functions due to an inability to see well. Visual impairment (VI) is prevalent among older adults and is increasing as the U.S. population ages, affecting 9% of adults over 65 and 25% of adults over 80 (Patel et al., 2020). VI is most often the result of age-related macular degeneration, age-related cataracts, glaucoma, and diabetic retinopathy (Pelletier et al., 2016) each of which are exclusive to the senior population. Vision impairment also creates a significant financial burden on older adults and the country. A recent study found that VI produces an economic burden of 134 billion dollars annually in

the United States, with the largest burden affecting those sixty-five and older through direct medical costs, nursing home costs, and decreased involvement in the general labor force (Rein et al., 2022).

VI may create difficulty during two types of activities: activities of daily living (ADLs) which include eating, dressing, or bathing, as well as instrumental activities of daily living (IADLs) such as paying bills, shopping, watching television, reading, or other leisure activities. VI can decrease independence and well-being (Bouscaren et al., 2019; Xiang et al., 2020). A lack of functional independence due to VI significantly increases the risk for social isolation, depression, cognitive decline, and low quality of life (Elliott et al., 2010; Frank et al., 2019; Maruta et al., 2020). Although VI can happen at any age, its impact may be higher among older adults since it can coincide with age-related chronic illnesses such as heart disease, diabetes, or arthritis. Regardless of age and circumstances, older adults with VI can benefit from interventions that help reduce barriers while living in what is often regarded as a highly visually-dependent environment.

Purpose

The purpose of this paper is to synthesize evidence from a review of literature and interviews with vision loss experts. We offer recommendations that older adults with VI, their family members, community members, and health care providers can use. These suggestions can improve quality of life for older adults living with VI and promote independence in performing ADLs and IADLs.

Methods

To develop our recommendations, we performed a search for current, peer-reviewed articles published between 2006–2022 using the CINAHL, Medline, and PubMed databases. Search terms included: *older adult*, *vision impairment*, *blind*, *activities of daily living, instrumental activities of daily living*, *independence*, and *quality of life*. A second literature search was conducted using expanded dates and terms including *low vision*, *magnification*, *contrast*, *lighting*, and *older adults* using CINAHL, Medline, and PubMed with a date range of 1980–2022. Eleven relevant articles were selected. We also spoke with several field experts, including a certified occupational therapist's assistant who specializes in geriatrics, a licensed clinical social worker specializing in older adults with vision impairment, and a blindness rehabilitation sensory impairment specialist.

Recommendations and Discussion

Along with family members, community members, and healthcare providers, individuals with VI can utilize low-cost, effective strategies to mitigate the impact of VI to improve their functional independence and quality of life. Additional resources could be sought out through occupational therapists with special training in low-vision therapy.

Table 1. Recommendations for Older Adults with VI

Environmental Modifications	
Lighting	Adequate lighting in rooms
	Adjustable bright lamp with different brightness, hue, and height options, possibly also with magnification
	Simply moving closer to object
Magnification	Handheld magnifying class, possibly with built-in light
	Large print calendar, menus, TV guide, phone numbers, leisure reading, recipes, etc.
	Magnifier function on computer
	Use of binoculars to see objects far away
	Take picture on smart phone and then zoom in; use kindle, iPad, and electronic magnifiers for enlarging reading materials, books, and other materials
Contrast	Dark-colored placemat with lighter-colored dishes and silverware, or vice versa. White paper towel on bathroom counter to set hairbrush, toothbrush on
	Large, bold labels can also aid in organization and consistency. For example, labels on a bathroom counter to indicate the placement of a toothbrush, toothpaste, and comb should always be kept. Homemade labels can be placed on medication bottles, canned goods, etc.
	Use of Dycem (sticky surface that prevents objects from falling) keeps belongings organized and provides contrast)
Nonvisual Skills	The Library of Congress Library for the Blind and Physically Disabled provides alternate format (braille, audio, large print) books and magazines, which are mailed free of charge to individuals
	Lipped/sectional plate to keep food organized and prevent food from accidentally being pushed off
	Tactile dots can be used for labeling appliances, thermostats, and other surfaces
	Voiceover can be used on smartphones to read aloud web pages, social media pages, and email
Interpersonal Interactions	
Entering/Leaving Room	Knock and make presence known, announce when leaving
	State name
Contact	Ask for permission before touching individual
	State exactly where and what you'll be doing to individual
Sighted Guide Technique	Sited guide technique allows the individual who is visually impaired to be in control while still receiving help navigating a walkway.
Clock Technique	Arrange food on plate using clock numbers as reference
Additional Resources	
	National Eye Institute: https://www.nei.nih.gov/learn-about-eye-health/eye-conditions-and-diseases/low-vision
	Lighthouse for the Blind: https://lighthouse-sf.org/

Note: Recommendations and resources for older adults living with vision impairment

These recommendations fall into two categories: environmental modifications and interpersonal interaction. Not only do modifications to the lived environment allow older adults with VI to optimally use their remaining vision, the same adjustments enable the use of other senses to perform desired activities. Strategies that enhance interpersonal interactions can improve communication and preserve dignity of the older adult living with VI. A summary of all recommendations are listed below and in Table 1.

Environmental Modifications

Lighting

Low-cost and highly adjustable, lighting can be used to modify the environment to optimize vision (Brunnström et al., 2004). To avoid too much or insufficient lighting, it is recommended that one experiment with ways to create an ideally-lit area in the home so visually intensive tasks like sorting pills

or paying bills can be accomplished. A desk lamp with a solid metal shade can be used to direct light to the area where it is needed. Some individuals may see better when using a full-spectrum light that closely resembles daylight, or they could also try using lighting with different hues.

Magnification

The value of using a magnifying tool as a strategy is often underestimated. Increasing the apparent size of text, pictures, or screens can make a significant difference for those with VI (Gopalakrishnan et al., 2020). Accommodations can be as simple as moving a TV closer to an individual's chair or using a word processor to enlarge the font size of printed text. Devices such as smartphones, tablets, and electronic magnifiers may also be used to enhance reading materials.

Contrast

Contrast between darker and lighter colors can easily maximize remaining vision (Rubin & Legge, 1989). For instance, this can be achieved by placing light-colored objects against a dark-colored background. Another example could involve purchasing a white toothbrush if countertops are a darker color, or situating a light-colored bowl on a dark placemat. Not only does this maximize residual vision, it also helps organize belongings for the older adult and all others who interact in the same space.

Nonvisual skills

Tasks can be performed non-visually by using the sense of touch, hearing, or smell. Tactile cues such as raised stickers are useful in activities that include using the touchpad of a microwave or oven, setting a thermostat, and other daily tasks. Available in either an audio or electronic format, books can be read using a screen reading app. Screen readers will also read aloud content from websites, email, and social media pages. Relying on the sense of smell can help identify spices, foods, and hygiene products.

Interpersonal Interactions

Entering or leaving a room

For the visually impaired, it can be difficult to discern who or when someone is entering a room. This can cause them to become startled or confused. Caregivers can address this issue by clearly and consistently making their presence known whenever they enter a room by knocking, introducing themselves, and stating the reason for being there. When leaving the room, the caregiver should also be sure to inform those with vision loss of their exit.

Contact

Asking for and receiving consent before touching someone who has VI is a vital way to show respect and make them aware of what is happening. Obtaining consent beforehand also increases independence by allowing the individual to be involved in their own care and make decisions for themselves.

Sighted Guide Technique

The term "sighted guide technique" describes a method for guiding someone with VI through a physical space, such as moving from room to room or from a car into a building. In this technique, the sighted guide asks the individual with VI to place a hand on their upper arm, giving them the ability to recognize when the guide starts walking or makes a turn. If the individual wants to stop, they should be instructed to remove their hand from the guide, allowing them to maintain their autonomy.

Clock Technique

Opportunities to participate in mealtimes may be enhanced by using an intervention referred to as the clock technique. Before handing a plate of food to someone with VI, arrange items in a way so that their specific placement resembles a clock face. For example, caregivers can arrange a sandwich at 12:00, chips at 3:00, apple slices at 6:00, and cookies at 9:00, then inform the individual so they can identify on their own which food they are eating.

Conclusion

Vision impairment is highly prevalent in later life and has a significant impact on an individual's ability to function independently, remain socially connected, and experience a high quality of life. Regular eye exams to screen for eye disease and refractive error are recommended. Additionally, utilizing strategies such as modifying the environment and improving interpersonal interactions may remove barriers caused by VI and help older adults live their best life.

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