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Visual Deficits and Occupational Therapy

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BACKGROUND

In rural occupational therapy practice it is essential to have a basic understanding of a variety of clinical conditions and treatment options, however, it is equally important to ensure ethical standards for practicing within our scope and making appropriate referrals as needed. Thus, patients presenting with visual deficits may present themselves in any setting.

Vision and processing includes three basic components: visual acuity, visual fields, and oculomotor control.[2] Among these, is visual perception which is an aspect of cognition that is responsible for processing visual input in order to interpret the environment.[2] At diagnosis of injury, disorder, or disease, the visual system may become impaired in different locations. When disability occurs, the body's inability to appropriately process visual input may pose a significant decrease safety awareness and increase prevalence of depression.[2]

Homonymous hemianopsia (HH) is a specific deficit to the visual system that impairs the same visual field of both eyes, either right or left field cuts.[4] This impairment affects the patient's ability to complete tasks, including deficits in peripheral vision notable with driving.[4] Initially, the patient may not perceive discrepancy in the visual fields of both eyes, as together the visual system overlaps to assist with complete vision.[4] HH can be a short-term deficit, with spontaneous recovery, however, it may also persist and become life-long.[4]

Vision, including processing and structures, are directly related to independence levels. Independence limitations associated with vision include inability to drive or read and decreased spatial awareness leading to falls or inability to navigate obstacles.[4] Clients may also have decreased quality of life challenges and inability to participate in leisure activities that increase the prevalence of depressive episodes.[4, 2]

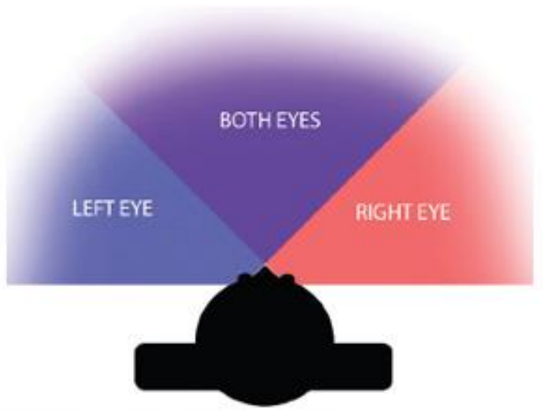
Within occupational therapy's scope of practice, the profession can begin to evaluate current level of independence, social environments, and how the two interact.[3] After evaluation, the occupational therapist can intervene with appropriate recommendations on adaptive devices, education on compensatory strategies, and provide further support to the interdisciplinary team.[1, 3]

CLIENT HISTORY

Patient D.L. is an 87-year-old male diagnosed with right homonymous hemianopsia. He as a history of T2D, HTN, hyperlipidemia, CKD, and a recent community fall leading to surgical L1 kyphoplasty.

Prior to obtaining visual deficits, patient was living independently in a rural home while requiring no assistance for completion of I/ADLs, including driving and working. Patient noted the onset of symptoms in December 2019 while driving. He reported immediate voluntary cessation of community driving until symptoms have subsided. Since L1 injury, patient has resided with son and daughter-in-law in order to receive assistance with IADLs.

Patient presents with right visual field deficits in each eye, however, there was insufficient medical evidence of a stroke or underlying heart condition that would promote these visual impairments.



https://www.2020mag.com/ce/why-you-dont-want-homonymous

RESEARCH QUESTION

What are effective practice methods for occupational therapists to treat visual field deficits in a rural setting?

METHODS

A comprehensive interview of patient revealed relevant history of present impairment including mechanism of injury and/or etiology of illness. At time of eval, patient and patient's interdisciplinary team was unable to determine cause of impairment and/or underlying health conditions.

Discussed patient's current living environment and desired outcomes and goals to achieve through therapy. Patient was previously living independently, however, recently moved in with family due to fall resulting in L1 injury. He has ceased community driving due to onset of HH. Patient is currently using single point cane (SPC) for functional mobility. He reports goals for therapy to include return to PLOF of living independently, increased community mobility, and increasing overall strength.

Patient advised through multiple sessions to adapt environment in order to provide the most supportive environment for success. He can complete basic self-care activities with minimal to no assistance from family, however, relies on assistance for IADLs such as meal preparation, housework, and community mobility.

After evaluation, patient seen to promote independence in ADLs through extensive education and implementation of compensatory strategies. Patient advised to complete extensive eye sweeping during tabletop activities and functional mobility to ensure safety awareness.

Further, patient educated regarding home and behavior modifications. Specifically, patient was advised to increase amount of time spend on activities, align self to right during mobility in hallways, use SPC in R UE, provide stimulation on R of room, and promote BUE strengthening for carryover to ADLs and functional transfers.

Lastly, patient trialed Hart Chart activity in attempts to increase accommodative flexibly and saccadic training. Patient was instructed through activity by beginning seated across from large Chart. Using smaller card, patient was able to shift focus between near/far cards and sequentially repeat letters. The activity was graded by increasing speed requiring to complete task and increasing distance between patient and chart. Expanding the task, four large charts were taped to the wall, requiring the patient to transition reading from each chart without head movements.

RESULTS

Throughout the education, intervention, and recommended modifications, the patient was able to demonstrate carryover into daily tasks with appropriate implementation.

Notably, the patient had documented adaptations in behavior, such as greater safety awareness with mobility and increased scanning to compensate for decreased visual fields. Patient had also adapted to using SPC with R UE in order to further aid in compensation for visual deficits.

Ultimately, patient was recommended seek out vision specialists for expert and experienced assistance. Unfortunately at MCHHS, patient demonstrated difficulty with transportation for attendance, therefore, treatment was terminated after three sessions.

https://psychology.wikia.org/wiki/Homonymous_hemianopsia

BOTTOM LINE FOR OT

Although there is specialized training for the rehabilitation of visional impairments, it is important for occupational therapists to have a basic knowledge of visual field cuts and how impairments may affect our participation in daily activities. Further, as occupational therapists it is our job to ensure safety during completion of tasks by implementing education and recommendations of appropriate modifications or adaptations to behaviors and environments.

REFERENCES

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