



VISION CENTER OF EXCELLENCE (VCE)
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Podcast 4

ASSOCIATION BETWEEN DEPRESSION AND FUNCTIONAL VISION LOSS IN PERSONS 20 YEARS OF AGE OR OLDER IN THE UNITED STATES

Introduction.

This series of podcasts is hosted by the Vision Center of Excellence, a joint program of the Department of Defense and Department of Veterans Affairs.

The podcast series provides concise summaries of issues and reports targeted to Department of Defense and Veterans Affairs vision providers overseeing care for our Service members and Veterans.

Body.

This particular podcast summarizes and comments on an article published in 2013 by the Journal of the American Medical Association of Ophthalmology, titled, "Association between depression and functional vision loss in persons 20 years of age or older in the United States." It was co-authored by Xinzhi Zhang and his colleagues.

The impact of vision loss can be physically and psychologically devastating to an individual. According to the authors of this article, blindness is one of the top four most feared health issues in the United States, along with AIDS, cancer and Alzheimer's disease. Given the increase in vision-related injuries resulting from military conflicts in Iraq and Afghanistan, vision impairment is an issue that is particularly distressing to Service members and Veterans. Though past research on the association between depression and vision loss has focused on elderly patients, this study by Zhang and his colleagues looks at the estimated prevalence of depression for adults aged 20 years and older. The study's key findings are particularly relevant because the population examined includes those of a comparable age to patients seen at US Military Health Service eye clinics.

The purpose of this study is to evaluate the rates of depression among patients with vision loss using data provided by the National Health and Nutrition Examination Study, also known as NHANES. NHANES is an ongoing investigation that examines medical characteristics of a nationally representative sample of the US population to develop vital national health statistics. The data reviewed by the authors in this case comprises a total of 10,480 US adults examined between 2005 and 2008 from whom NHANES collected data on self-reported functional vision loss, objective visual acuity impairment and depression. Functional vision loss refers to how visual changes affect an individual's ability to interact with their environment or complete activities of daily living, whereas visual acuity is the objective measurement of how clearly a person sees. In this study, functional vision loss was assessed using the National Eye Institute 25-Item Visual Functioning Questionnaire. To measure visual acuity, subjects were given vision examinations at a NHANES Medical Examination Center. Patients were also diagnosed for depression based on calculations from the 9-item Patient Health Questionnaire.

The results of the study found that the estimated prevalence of moderate to severe depression was 11.3 percent in adults with self-reported functional vision loss, versus 4.8 percent among adults who reported no functional vision loss. Among the 20-39 year age group, a range representative of the US military active duty force, the difference in depression prevalence rates

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between groups with and without functional vision loss was even greater. The estimated rate of moderate to severe depression was 13 percent among 20-39 year olds with self-reported functional vision loss, versus 4.7 percent among similarly aged patients without self-reported functional vision loss. Meanwhile, 10.7 percent of adults with visual acuity worse than 20/40 in their better seeing eye were estimated to have moderate to severe depression, as opposed to 6.8 percent of those with no visual acuity impairment. Regression analysis that accounted for demographic, lifestyle, and health factors indicated that the association between self-reported functional vision loss and moderate to severe depression was statistically significant. The association between presenting visual acuity impairment and moderate to severe depression, on the other hand, was not found to be statistically significant. According to Zhang, the cross-sectional nature of the study was not able to account for distinctions such as length of, or acuteness of, visual dysfunctions.

Interestingly, this is the first time the relationship between vision loss and depression has been reported in a nationally representative sample. The results of this analysis suggest that individuals with functional vision loss are at least 90 percent more likely to report depression than those with none. What is significant about this data is the evidence it provides linking functional vision loss to depression, while revealing that visual acuity bears no significant correlation to depression. In other words, a patient's perception of their vision and the impact to key activities of daily living, such as driving, are stronger factors in predicting negative changes to a person's psychological well-being. These results suggest that how providers view the impact of vision loss should be expanded to consider the patient's perceptions of how that vision loss affects their independence and daily functioning.

Given these findings, Zhang and his colleagues concluded that greater recognition of the effects of vision loss among providers is essential. It is recommended that eye care and primary care providers screen at-risk patients using tools such as the 9-item Patient Health Questionnaire and refer them for further treatment, if needed. Depression has significant public health implications and is a major cause of disability in the US. Effectively educating eye care professionals on the relationship between vision loss and depression is important. With this education, providers may be able to identify depressive symptoms, especially in patients whose activities of daily living have been compromised by other chronic conditions. Ultimately, increasing the awareness of referral services among health care providers may assist in improving the quality of patients' lives, including those of Service members and Veterans.

Conclusion.

This production was brought to you by the Vision Center of Excellence. Our mission is to lead and advocate for programs and initiatives to improve vision health, optimize readiness and enhance quality of life for Service members and Veterans. Working with TRICARE, the Military Health System, other Centers of Excellence and the Veterans Health Administration, the Vision Center of Excellence works to enhance collaboration between Department of Defense and Department of Veterans Affairs vision care providers, provide guidance for clinical practice and facilitate patient-centered support. For more information, visit us online at vce.health.mil or on Facebook.

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Depression and Functional Vision Loss

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Education, Training, Simulation and Readiness & Clinical Care Integration Directorates

APPENDIX

A: Phonetic Guide.

Phonetic Guide		
1	Xinzhi	sh ih n jee (or juh)
2	Zhang	j aw ng/sz uh n
3	NHANES	N-hanes