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The use of tablet computers to determine visual function in patients with macular degeneration using novel and innovative computer software

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Aims: To access the rotating dot illusion test as a potential test for AMD paracentral vision loss using an automated computer software called The Mobile Assessment of Vision by Interactive Computer (MAVERIC) and its feasibility of use among older patients to monitor vision changes.

Method: an observational feasibility study. It was a serial case observation study of consenting patients. This involved the use of a new automated tablet computer housed in a booth and their data was recorded on a questionnaire. Test 10 known as rotating dot illusion test is part of series of tests in MAVERIC was administered to 18 middle-aged adults. The study had two trials to it. 8 patients took part in the initial trial (Trial 1) and did the test once while 10 patients took part in the second trial (Trial 2) and did it twice. Patients eligible for the study were determined via their case notes and through their VA results. The feedback from Trial 1 was used to refine the test for TRIAL 2. Results from this study were analyzed using Microsoft Excel spreadsheet tools.

Result: Equal number of males and females participated even though they differed in sub-groups. The older patients were more willing to do the test at home even though they had fewer passes while the youngest age group had more passes and observed differences on the dot in the test. Also, there was repeatability of the test which always improved on the second trial at a reduced time

Conclusion: There is great potential in this test detecting macular changes in the aged and detection of early changes or even onset of disease in the young as shown by their ability to notice differences in the parafoveal region of this test.

Biography

Nnenna Uwa Onu is currently a lecturer at the department of optometry in the Abia State University Uturu, Nigeria where she teaches a variety of courses ranging from epidemiology to ocular pathology. She had completed her master's in Public health for eye care in London School of Hygiene and Tropical Medicine and also in Investigative Ophthalmology and vision sciences in University of Manchester, England.

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