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Running head: vestibular function in adults with HIV

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Abstract

Auditory disturbances in HIV-positive individuals have been reported in the literature. Although ample research is available regarding hearing impairment in HIV-positive individuals, there is a lack of research on the effects of this virus on the vestibular system. The aim of this study was therefore to describe the audiological and peripheral vestibular characteristics of a group of HIV-positive individuals and to compare these findings with those of a group of HIV-negative individuals.

A non-experimental, descriptive, cross-sectional research design was employed for the purpose of this study. Purposive sampling was used to recruit the two participant groups. The first participant group (n_1) included 60 HIV-positive individuals (mean age = 41.4 years; ± 5.3; range: 23-50) whilst the second participant group (n_2) included 32 HIV-negative individuals (mean age = 32.5 years; ± 9.1; range: 18-50). The clinical test protocol for both groups consisted of: case history, the Activities-specific Balance Confidence (ABC) scale, otoscopy, tympanometry, pure tone audiometry, and the head impulse test paradigm (HIMP). The findings indicate a significantly higher occurrence of tinnitus in the HIV-positive participant group compared to the control group. However, no significant differences were found between the two participant groups in respect of the remainder of the test battery.

In conclusion, results from this study suggest that HIV does not seem to affect higher frequencies of the vestibulo-ocular reflex (VOR) pathway. However, as comparable fall risk and audiological results were also found between the two groups, the similar results may be attributed to new ARV guidelines and effective management. A strong agreement was found between the ABC scores and the HIMP in both participant groups.

Keywords: Balance, inner ear, semi-circular canals, vestibular function, tinnitus, quality of life (QoL), human immunodeficiency virus (HIV), activities-specific balance

confidence (ABC) scale, video head impulse test (vHIT), head impulse test paradigm (HIMP).