(S37) EVALUATION OF A LOW-COST VIDEOCONFERENCING APPLICATION FOR REMOTE NEUROLOGIC EVALUATION OF PATIENTS WITH MULTIPLE SCLEROSIS

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Background: Physician care is routinely carried out in physicians' offices and hospitals, requiring patients to travel to these facilities. Patients with multiple sclerosis (MS) are often separated from specialty care due to disability or distance. Low-cost webcams are being widely used in video chat programs; however, the value of regular webcams as a tool for remote neurologic examination has not been systematically evaluated. Objectives: A videoconferencing application utilizing low-cost webcams was developed to assist patients in virtual doctor visits. This study evaluated the feasibility of using regular webcams as a tool to aid in the management of multiple sclerosis (MS). Methods: A total of 20 consecutive patients with MS were recruited at the University of Maryland MS Center. Two clinicians experienced in MS examined each patient at the clinic located in Baltimore using the Kurtzke Expanded Disability Status Scale (EDSS). At a single visit, each patient underwent two identical sets of neurologic assessments: one clinician performed a traditional in-person evaluation and the other performed a remote evaluation using the videoconferencing system. The remote system used Logitech portable webcams and two personal computers running Windows XP. For the remote assessment, a research assistant without medical training functioned as a care provider for positioning and assistance. Results: The scores from Kurtzke's Functional Systems (FSS) and the EDSS were compared between the in-person and remote evaluations. EDSS scores and subcategories of the FSS (visual, brainstem, pyramidal, cerebellar, sensory, bowel/bladder, and cerebral functions) were analyzed by the Fisher exact test. For all scores, P values were greater than .05, indicating no statistically significant difference between in-person and remote assessments. Overall, the remote assessment system received positive ratings from both patients and providers: 100% of patients responded that they felt comfortable with the equipment used, and 90% of providers were able to obtain adequate information from interviewing the patients using the videoconferencing application. Conclusions: The videoconferencing application provided an efficient and reliable way of assessing patients with MS. It has potential for the remote evaluation of patients with MS.

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