

V. Canonico, G. Corbi, G. Conchiglia, F. Fortunato, M. Abitabile, F. Rengo. Use of a data transmission system for neuropsychological evaluation in adult and elderly patients. *Gerontechnology* 2008; 7(2):85. The use of information systems and telecommunication in medicine has been increasingly growing in recent years and there are many examples of data, scans and images transmission between different and distant places of care (health clinics, polyclinics, hospitals, nursing homes, rehabilitation centres, and home services). This application can be especially useful in settings where it is not always possible to have high professional specialization, such as facilities for elderly patients, both in outpatient and hospital. In the field of dementia a valid experience and expertise of personnel with specific training for the diagnostic and the complex therapeutic management is required and not all outpatient or residential structures in the national territory have the qualified personnel, in particular staff able to perform neuropsychological assessment, by means of tests analysing specific functional cerebral areas complicated by lesions¹. Often highly specialized personnel are required for the administration of tests that allow a differential diagnosis between different forms of dementia². Whereas the most effective diagnostic approach is direct contact between patient and professional (doctor or psychologist), it is possible to foresee the connection between a reference centre with highly qualified personnel, and one or more peripheral units, where staff trained by the reference centre could take the history, in presence of the patient, and could perform one or more neuropsychological tests and send on-line the results at the referral center, which ultimately will make a competent judgement on diagnosis, therapy or required further investigations.

Methods Our preliminary experience is based on using equipment dedicated to the connection through interactive web-cam between two structures, the first (basic structure) where, at the presence of the patient and the operator, the neuropsychological assessment is performed, the second (referral centre), at distance, that receives the results of tests performed by the patient on graphics tablet (Wacom Intuos 3 A3 USB Dtp pen specification) and directly interact with the operator for any need or ask for clarification on some aspects. A prior specific training was given to the staff of the structures concerning administration of tests and procedures for data transmission. It was possible to perform and transmit electronically the main tests for the evaluation of functional and neuropsychological dementia concerning the overall assessment, the evaluation of cognitive functions, functional assessment, the insight of disease, behavioral disorders, depression, and caregiver stress. **Results and discussion** We carried out an experimental preliminary assessment on 20 patients: 10 subjects under 65 years old (average 57±5 years) and 10 patients over 65 years old (71±6 years). We did not find any differences between the two groups for the use of the system, so we believe that we can easily use it, even in elderly patients, even without highly specialized personnel.

References

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