**Home-Based telesurveillance and rehabilitation after stroke: a real - life pilot study**

**Simonetta Scalvini, MD**

Simonetta Scalvini, Fabio. Vanoglio, Doriana Baratti,Roberta Morini, Silvana Rocchi, Alberto. Luisa,. Palmira. Bernocchi

**Introduction**. Stroke is the most common cause of disability in adults and one of the most frequent causes of death. At one year after the acute event, about one-third of those surviving have a high degree of disability. The primary objective was to evaluate the feasibility of implementing an home-based telesurveillance and rehabilitation program to optimize the patient’s recovery by reducing the degree of dependency.

**Methods**. Post-stroke patients were consecutively screened. 26 patients enrolled: 15 were sub-acute (time since stroke: 112±39 days) and 11 were chronic (time since stroke: 470±145 days). For 3 months, patients were followed at home by a nurse-tutor, who provided structured phone support and vital signs telemonitoring, and by a physiotherapist who monitored rehabilitation sessions by videoconferencing.

**Results**. Twenty-three patients completed the program; 16.7±5.2 phone contacts/patient were initiated by the nurse and 0.9±1.8 by the patients. Eight episodes of atrial fibrillation that required a change in therapy were recorded. Physiotherapists performed 1.2±0.4 home visits, 1.6±0.9 phone calls and 4.5 ± 2.8 videoconference-sessions per patient. At least 3 sessions/week of home exercises were performed by 31% of patients, two sessions by 54%. At the end of the program, global functional capacity improved significantly (p<0.001), in particular, static (p<0.001) and dynamic (0.0004) postural balance, upper limb dexterity of the paretic side (0.05), and physical performance (p=0.01). Symptoms of depression and caregiver strain also improved.

**Conclusion**. The home-based program was feasible and effective in both sub-acute and chronic post-stroke patients, improving their recovery, and maintaining the benefits reached obtained during inpatient rehabilitation.