

Chapter 13

Telemedicine and Alzheimer Disease: ICT–Based Services for People with Alzheimer Disease and their Caregivers

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ABSTRACT

The focus of this chapter is to assess a new model of care in dementia, particularly Alzheimer’s Disease (AD). According with sociotechnical approaches, the authors describe a proof of concept, Information and Communication Technologies (ICT) intervention, as a technical and organizational model of robust, reliable, and efficient clinical practice to meet the medical, psychological, and social needs of AD people and their family. The authors also propose the “Identification-Recognition-Evaluation-Application Model” as process methodology in a telemedicine project. In this perspective, the technology has to be analyzed as technology-in-use, a process coming out from an ecology of specific actions and actors. Finally, the authors describe their experience of a longitudinal study in which ICT networking technologies are used to implement coping strategies, in order to improve the quality of life of AD families.

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1 INTRODUCTION

1.1 Aging Population, Alzheimer Disease: Cost and Health Needs

A long life is a desirable goal, a significant indicator of quality of life in a Country, an expression of the advances in medicine, nutrition and technology. By 2050, almost 2 billion people in the world will be aged 60 years or over, with an average life expectancy of 75.4 years (Department of Economic and Social Affairs of the United Nations [DESA], 2007). The aging population is an important conquest of modern society, but few data about long-term trends in incidence or prevalence of chronic disease are available. At the present time the elderly usually have more healthy lifestyles, that are important protection factors against some chronic diseases. The deterministic combination of old age and disease seems to overcome but it is true that, in the coming decades, there will be a different society and we will need new models of lifestyle and new tools to cope with treatable but not curable diseases for those, who have more years to live.

The focus of this chapter is about new model of care in dementia, particularly Alzheimer's disease (AD). Dementia is a frequent chronic disease in the elderly population: the age is a risk factor. It is a neurodegenerative disease defined as progressive cognitive decline with important interferences in activities of daily living accompanied by any behavioural problems. On 2010 about 35.6 million people with dementia in the world are estimated with an important increase in countries with limited resources (Alzheimer's Disease International [ADI], 2010). The total estimated worldwide costs of dementia, including family care as well as direct medical and social care, are US\$604 billion in 2010 (ADI, 2010). AD is the primary cause of dementia among older people, representing 60-80% of diagnosed dementias. The cognitive impairment of AD patients and the loss of the ability in daily life make the disease course difficult to

cope for the patient and her/his family with direct and indirect costs for States and patient's family (Wimo, Winblad, & Jonsson, 2010; Brookmeyer, Johnson, Ziegler-Graham, & Arrighi, 2007). AD people need specific supports and services: drug therapy for cognitive and behavioural disorders, neuropsychological and psychosocial rehabilitation, environmental adaptations to reduce the impact of cognitive and behavioural symptoms, education and support for caregivers. The growing financial pressure and funding cuts have a negative effect on the possibility of an increase in usually health care services. Also, Alzheimer's disease is increasingly present in high as in low resource countries, where care systems are further less ready to provide specialized services. We need new affordable and specialized care delivery model to meet healthy needs of AD patients and their families.

2 BACKGROUND

2.1 Alzheimer Care: The Families' Perspective

The insidious onset and the slow and gradual progression characterize the beginning of AD. Every disease stage has specific behavioural and cognitive characteristics, that deplete a person of her/his ability to complete dependence on the other. In high and low resource countries, usually, the families care for AD person (ADI, 2010): an especial family member becomes the primary caregiver. The most studies on family caregiver are focused on problematic caregiving aspects (Rosa et al., 2010; Ravio et al., 2007; Schneider et al., 1999). AD patient's care may be a chronic distress with physical, emotional, social and economic burden for the caregiver (Wai-Chi Chan, 2010; Censis, 2007; Pearlin, Mullan, Semple, & Skaff, 1990). In particular, the cognitive impairment and disability in daily living activities increase caregiver's physical work (Amirkhanyan,

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