

A “Prosthetic” Approach for Individuals With Dementia?

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AN UNRESOLVED ISSUE IN DEVELOPING EFFECTIVE AND specific care for individuals with severe dementia is focusing on the main outcome of the caring process from which the approach, the indicators of quality, and the results heavily depend.¹ Severe dementia still lacks effective pharmacological treatment, such that drugs to treat symptoms only modify the curve of declining cognitive function or help somewhat in attenuating the intensity and frequency of noncognitive symptoms.² Thus, most problems that affect patients and cause stress for caregivers have not been solved.

The “clinical” goal of making the diagnosis and providing therapy for patients with dementia is a necessary but not sufficient approach. Such a model is not only limited by the absence of a therapeutic cure, but some of the most troubling problems do not end but rather begin after the diagnosis is made. For instance, attempts to eradicate symptoms have led to the wide use of psychotropic drugs that are potentially harmful and not of definite benefit for patients with dementia.³ As a consequence, nonpharmacologic approaches for maintaining cognitive function by providing an adequate amount of cognitive stimulation are gaining more attention and relevance.

Attempts to rehabilitate individuals with dementia are usually performed through standard training methods such as cognitive stimulation⁴ and development of a reorienting environment. However, these attempts to stimulate cognitive functions usually fail or fall short because of the degree of memory loss and cognitive impairment among individuals with moderate to severe dementia.

Hence, most stimulating interventions can be cautiously applied only in the first stages of the dementing disease process, although the results of studies evaluating these interventions are limited in effect size and duration.⁵ However, because patients with dementia, mainly Alzheimer disease, spend most of their care-needing time in the moderate to severe and late stages of the disease, it is crucial to define a goal, and consequently a quality approach that also might prove effective for these stages.

A potentially useful “prosthetic” model for dementia involves applying the principles of a model first developed by Jones.⁶

An individual with degenerative advanced impairment of the brain, such as severe Alzheimer disease, whose brain is reduced in size and number of neurons and synapses,⁷ needs external support for maintaining at least some cognitive function. The key theoretical concept is that individuals with dementia can obtain from external sources what they cannot from inside. The usual definition of *prosthesis* (“artificial part supplied to replace a missing body part”)⁸ is limiting, because physicians use several prosthetic interventions in their practice that do not necessarily replace a structural part of the body, such as the use of insulin for individuals with diabetes.

The prosthetic model for dementia identifies deficits in function in the patient and builds a “prosthesis of care” for each individual that is intended to compensate for the lost function(s). The main goal of the prosthesis is not to regain cognition or function, but to deal with the well-being of the person, to achieve the best status in absence of distress and pain. To potentially help brain function, a complex prosthesis is needed, made up of 3 basic elements: the individuals with whom the person with dementia interacts, the physical space in which the person lives, and the programs and activities in which the person engages.

Most disturbed behaviors and functional impairments can be considered as the expression of an imbalance between the abilities of the individual with dementia and environmental demands, and not merely the expression of the pathology. Therefore, even if it is not possible to enhance the cognitive function of individuals with dementia, it may be possible to reduce their distressing symptoms through a change of the environment, an informed approach by others with whom the individual with dementia interacts, and daily programs.

Physical space is recognized to influence the behavior of individuals with dementia⁹ and a specially designed envi-

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ronment has been proposed. In the prosthetic environment, the most important features are safety, comfort, and access, rather than stimulation. For instance, if an individual with dementia paces or wanders, this person needs a safe environment rather than devices or interventions that prevent walking.

Relatives, staff, and anyone else in contact with an individual with dementia must understand the nature of the deficits caused by dementia so they do not blame or assign responsibility for behaviors to the affected person. Empowering involves approaches making an effort to maintain function and quality of life as long as possible for everyone involved: the patient, the family, and the staff. Caregivers have the duty to craft the right dimension of the prosthesis: if too large, it can induce a learned disability; if too small, it can be stressful and may generate behavior disturbances.

Programs and activities for individuals with dementia should reflect the same philosophy so they are not focused on producing goods or events but on giving patients the satisfaction that arises from the feeling of being the right person in the right place. Any caring practice, such as giving assistance in dressing, bathing, or eating, should be converted to a pleasant activity. Evaluating normal daily activities and adapting them to the residual ability of each individual with dementia is the core of “prosthetic activities.” Prosthesis for individuals with severe dementia is not complicated because it is constituted by only 3 parts, but is complex because its 3 elements—physical space, persons, and programs—are interconnected. For instance, if an individual with dementia lives in an unsuited environment that is not free of barriers and is potentially harmful, more individuals are needed to care for the person to ensure safety and security. Conversely, an environment with a rich infrastructure that promotes interaction and initiative requires fewer formal activities for involving an otherwise disinterested patient.

The prosthetic approach has the potential to help promote well-being, reduce caregiver stress, possibly decrease

the frequency and intensity of behavioral problems, and perhaps even help maintain functional levels of individuals with dementia, while increasing satisfaction of the formal and informal care process. However, to date, only limited observational data are available on possible benefits of the prosthetic concept.¹⁰ Therefore, randomized controlled trials are needed to assess the effectiveness of the prosthetic approach. Meanwhile, it seems reasonable to consider aspects of this approach for appropriate individuals with dementia.

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