


Chapter 10

Changes in Social Cognition in Dementia

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ABSTRACT

Social cognition is an umbrella term for the brain process underlying social behavior. Neurodegenerative dementia might affect the social cognition domains in different ways and degrees. Therefore, each type of dementia has a distinct profile of social cognitive impairments. This chapter presents a discussion about social cognition in healthy aging and in the most prevalent dementia subtypes, Alzheimer's disease (AD) and frontotemporal dementia (FTD). The available data about mentalizing, emotional contagion, and perception of social cues in AD and FTD variants are analyzed based on the correlation between behavioral and neuroimaging findings.

INTRODUCTION

The prevalence of older adults with cognitive impairment is increasing globally, and this fact has been associated with rising healthcare costs and loss of independence (Prince et al., 2013; Jutkowitz et al., 2017). The current version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR, APA, 2022) includes dementia syndromes belonging to the group of “Major Neurocognitive Disorders (MND)”. It considers that they can occur due to multiple etiologies. In this chapter, we will

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Changes in Social Cognition in Dementia

use the term “dementia” to refer to the group of neurodegenerative disorders that commonly affect older adults.

Dementia is a clinical syndrome characterized by an inexorably progressive deterioration in cognitive domains, associated with several impairments in capacity for independent living. Although young-onset cases are increasingly recognized, dementia typically affects older people (Sousa et al., 2010). Alzheimer’s Disease (AD), vascular disease (VD), Lewy Body Disease (DLB), and Frontotemporal Dementia (FTD) are the most prevalent dementia syndromes. The current classification criteria for the dementia subtypes considers which cognitive domains are impaired. Attention, executive functions, learning and memory, language, perceptual-motor abilities, and social cognition are considered by DSM-5-TR as the key domains that may be affected. However, although the pattern of cognitive disturbances helps define the etiological classification, declines in some of these domains can be shared by more than one type of dementia.

Social cognitive deficits were kept in DSM-5-TR as one of the core domains of impaired neurocognitive function (Sachdev et al., 2014). Although the early decline in social cognition is a core feature of FTD, changes in social conduct have been recognized as a significant cognitive and clinical marker for AD and LBD (Gregory et al., 2002; Cosentino et al., 2014; Henry et al., 2016). Considering that comprehending impaired cognitive domains in this population can help promote cognition rehabilitation and healthy aging, this chapter aims to discuss current scientific evidence on social cognition in the main subtypes of dementia. For this, initially, we will give a conceptual definition of social cognition and what science tells us about this cognitive domain in normal aging. Then, a more specific discussion of changes in social cognition in AD and FTD will be presented.

Social Cognition as a Specific Cognitive Domain

Jerry Fodor was an American philosopher and scientist who pioneered describing cognitive architecture in “specific processing modules” (Fodor, 1983). Since then, advances in neuroscience have contributed to polishing this theory, and we currently conceive that the human brain has a level of information processing according to the type and complexity of stimulus (Spunt & Adolphs, 2017; Schulz et al., 2021). Scientific data toward a hierarchical model of brain stimulus-processing shows that subcortical areas are specifically activated during the capture of social versus non-social stimulus, and the superior cortical process involves shared neurocircuits that are engaged in complex processing, regardless of the type of stimulus (Shulz et al., 2021).

Literature involving neuroimage data suggest that processing social and non-social stimuli involves semi-independent neural pathways (Van Overwalle, 2009).

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