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Skilful communication: Emotional facial expressions recognition in very old adults

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ABSTRACT

Objectives: The main objective of this study was to assess the changes associated with ageing in the ability to identify emotional facial expressions and to what extent such age-related changes depend on the intensity with which each basic emotion is manifested.
Methods: A randomised controlled trial carried out on 107 subjects who performed a six alternative forced-choice emotional expressions identification task. The stimuli consisted of 270 virtual emotional faces expressing the six basic emotions (happiness, sadness, surprise, fear, anger and disgust) at three different levels of intensity (low, pronounced and maximum). The virtual faces were generated by facial surface changes, as described in the Facial Action Coding System (FACS).
Results: A progressive age-related decline in the ability to identify emotional facial expressions was detected. The ability to recognise the intensity of expressions was one of the most strongly impaired variables associated with age, although the valence of emotion was also poorly identified, particularly in terms of recognising negative emotions.
Conclusions: Nurses should be mindful of how ageing affects communication with older patients. In this study, very old adults displayed more difficulties in identifying emotional facial expressions, especially low intensity expressions and those associated with difficult emotions like disgust or fear.

What is already known about the topic?

- Effective communication is a crucial element in defining the quality of nursing care.
- It currently seems to be accepted that facial expressions represent one of the most basic and universal forms of emotional communication.
- A number of studies have highlighted an increasing loss in the capacity of older people to understand emotional expressions and to express their own affective states.

What this paper adds

- Nurses should be mindful of how ageing affects communication with older patients.
- Very old adults displayed more difficulties in identifying emotional facial expressions.
- A progressive age-related decline in the ability to identify emotional facial expressions was detected.

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1. Introduction

Effective communication is a crucial element in defining the quality of nursing care (Arnold and Boggs, 2013; Fleischer et al., 2009). Communication is a complex and dynamic multidimensional process (O'Hagan et al., 2014) and it has been considered to be the most important aspect of the routine work carried out by nurses (Fleischer et al., 2009). The use of effective communication skills permits nurses to better evaluate the needs of patients and offer them more adequate attention (Bolster and Manias, 2010). Thus, inefficient communication between nurse and patient has a direct influence on factors such as the state of the patient (Hemsley et al., 2012), adverse events (Tay et al., 2012), treatment failure (Roter and Hall, 2006) and the length of the hospital admission (Allen et al., 2013). Furthermore, how communication is maintained, and particularly the interpersonal skills and attitudes of the healthcare staff (Taylor and Benger, 2004), is closely related to patient satisfaction (Saunders, 2005).

From a theoretical point of view, the interaction between nurses and patients has been an area of interest to academics since the end of the last century, particularly in light of the understanding that nursing care is based principally on the nature of this interaction (Aranda and Street, 1999). This interaction can be explained by Facial Theory (Goffman, 1955), whereby the interaction between nurses and patients attempts to establish and maintain the most positive social dimensions in order to make the best impression on the other party, achieved by using the simplest process of communication: the recognition of facial expressions (Shattell, 2004). It was proposed that when individuals interact, they unconsciously try to use different strategies to protect their own desired public image by a process known as "impression management" (Goffman, 1971). Accordingly, the "face" has been defined as "the positive social value that a person offers when interacting with another, through their non-verbal language and particularly, through facial expressions" (Goffman, 1955). Indeed, it is through the face that the main non-verbal emotional communication is achieved, although it remains unclear whether the ability to communicate in this manner is universal (e.g., Ekman and Friesen, 1978) or if it is influenced by ethnicity and/or culture (e.g., Elfenbein and Ambady, 2003). Nevertheless, it currently seems to be accepted that facial expressions represent one of the most basic and universal forms of emotional communication (Ekman and Oster, 1979), and that they are good indicators when studying the human ability to express emotions and show empathy.

The elderly represent the largest patient group and as their health status can be considered to represent the most prevalent chronic condition, they place a high demand on healthcare resources and attention from nurses. Elderly adults have their own special needs due to the changes that ageing produces in their physical, psychological and emotional status. These age-related changes also have a significant influence in the maintenance of adequate interactions with nurses relative to other age groups (Park and Song, 2005). Nurses that attend to the elderly must be trained in how to interact effectively with them in order to meet their healthcare needs (Coleman et al., 2013). Such knowledge helps to better define these interactions, and it eliminates or minimises the barriers for such interactions (Harwood et al., 2012). However, since nurses can be trained appropriately, the diminished ability for emotion recognition in elderly patients is the most crucial impediment in this interaction. Hence, it is important to characterise emotion recognition in the elderly and which was the main goal of this study, with the ability of nursing staff to recognise patient emotions remaining for future study.

A number of studies have highlighted an increasing loss in the capacity of older people to understand emotional expressions and to express their own affective states (Kessels et al., 2014; Ruffman et al., 2008; Suzuki and Akiyama, 2013). Although, a full consensus has not been reached as to which emotions become most difficult to recognise with age, most reports point to the emotions with negative valence. Some studies have shown that ageing is characterised by a loss of the ability to identify expressions of fear (e.g., Sullivan and Ruffman, 2004), while in an extensive review it was highlighted that older people are less effective in recognising anger, sadness and disgust (Carvalho et al., 2014; Lambrecht et al., 2012; Suzuki and Akiyama, 2013). Furthermore, some studies indicate that these deficits can even affect positive emotions, such as happiness (Isaacowitz et al., 2007).

The interpretation of this evidence seems even more complicated. On the one hand, the difficulties older people experience in recognising certain emotions do not appear to be influenced by basic face processing skills, as these findings are not related to any overall problems in perception (Calder et al., 2003; Sullivan and Ruffman, 2004). Moreover, the speed of detecting dangerous stimuli is not affected by age since threatening faces are detected more quickly than other emotional stimuli by both younger and older adults (Mather and Knight, 2006). Accordingly, it remains unclear why accurate expression identification is worse in older adults.

From an evolutionary standpoint, emotionally significant stimuli, such as emotional facial expressions (EFEs), are represented in specialised subcortical structures in the brain, and lesions in these structures could provoke such deficits (e.g., Calder et al., 2003; Phillips et al., 2002; Suzuki et al., 2007). For example, lesions in the amygdala are related to deficits in the identification of fear (Adolphs, 2002; Adolphs and Tranel, 2004), and lesions in the basal ganglia and insular cortex are responsible for deficits in decoding disgust (Calder et al., 2000; Suzuki et al., 2006). Other studies indicate the relevance of the frontal and medial temporal lobes in the processing of emotional stimuli (e.g., Rowe et al., 2001), brain structures related to the cognitive decline associated with ageing. More specifically, the amygdala could modulate activity within the visual areas through its projections to the frontal sites that control the allocation of attentional resources (Amara et al., 1992). Most of these studies indicate that the characteristic pattern of processing negative emotions may be associated with neurological changes that occur in the elderly (e.g., Adolphs and Tranel, 2004; Calder et al., 2003; Phillips and Allen, 2004).