



## Feature Article

# Using positive images to manage resistance-to-care and combative behaviors in nursing home residents with dementia: A pilot study

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## ABSTRACT

This pilot study attempted to reduce resistance-to-care (RTC) and combative behaviors in nursing home residents with dementia by eliciting their positive affect. Four female residents with dementia were recruited from a nursing facility. Each resident was involved in one intervention trial and one control trial. The response of the residents was assessed by the Agitated Behavior Scale and the Observational Measurement of Engagement Tool. The distress level of the certified nursing assistants (CNAs) delivering the care was reported through the Distress Thermometer. Results showed that the residents displayed fewer behavioral symptoms in the intervention trial than in the control trial. The CNAs reported less distress in the intervention trial than in the control trial. These preliminary findings suggest that it might be feasible to use positive images to reduce residents' behavioral symptoms and decrease the distress of CNAs.

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## Introduction

Resistance-to-care (RTC) and combative behaviors (such as squeezing, kicking and slapping) are common in nursing home residents with dementia, especially during personal care.<sup>1,2</sup> Following the idea proposed by Volicer,<sup>3</sup> we choose to use the term "combative" instead of "aggressive," although the language used in the cited papers was retained for the accuracy of reporting. Lack of understanding and depression have been identified as important factors in the development of RTC and combative behaviors.<sup>4</sup> A recent study reported that nearly 20% of certified nursing assistants (CNAs) experienced such incidents more than 10 times in a investigated month when caring for persons with dementia.<sup>2</sup> The CNAs seem to perceive and accept violence as part of normal work.<sup>5</sup> They reported feelings of aggression, astonishment, insult, insufficiency, powerlessness in response to the situation, and antipathy against the resident.<sup>6</sup>

Most of the studies of non-pharmacological intervention (NPI) focus on feeding and bathing activities and suggest that using music during mealtime and bathtime may be helpful in reducing the RTC and combative behaviors.<sup>7</sup> Despite the fact that more incidents (near to 50%) happen during dressing and toileting care,<sup>2</sup> few NPIs have targeted these stimuli. Considering that RTC and combative behaviors could jeopardize the nursing quality and the nursing staff's job satisfaction, it is important to develop effective and easy-to-use interventions to support CNAs in the management of such behaviors.

The link between aggression and negative affect has been well-established in the literature.<sup>8,9</sup> Negative affects, such as depression, boredom, loneliness, and anxiety, are commonly manifested by nursing home residents with dementia.<sup>10–13</sup> Failure to modulate these difficult emotional experiences may lead to aggressive behavior.<sup>14</sup> Automatic activation of positive emotions can facilitate emotion regulation and coping when an individual experiences negative feelings.<sup>15</sup> However, persons with dementia have been reported to be deficient in emotion regulation.<sup>16</sup> This deficiency potentially contributes to difficulties in managing negative emotions, which might lead to combative behaviors. On the other hand, it has been found that persons with dementia still

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have the ability to passively experience positive emotion. Activities, such as dancing, exercising, and singing, can trigger a positive mood.<sup>17–19</sup> Cohen-Mansfield and colleagues found nursing home residents with dementia to be less aggressive while experiencing positive affects.<sup>20</sup> Taken together, these findings support the idea that deliberately eliciting residents' positive affect might activate their emotion regulation and thereby lessen their combative behavior.

This pilot study aimed to test if deliberately eliciting positive affect in nursing home residents with dementia could decrease their behavioral problems during dressing/toileting activities. We chose to use the images from the International Affective Pictures System (IAPS) as the emotion-eliciting stimuli, since IAPS has been used in many studies to elicit emotion.<sup>21</sup> The IAPS is a database of images that has been validated to generate a range of emotions in individuals.<sup>22</sup>

## Methods

### Participants

Four residents with dementia were recruited from a nursing facility to participate in this study. The nursing providers at this facility helped the research team identify the residents with dementia who were frequently reported to display agitated behaviors. Any resident with a diagnosis of bipolar disorder or schizophrenia was excluded. Contact information for 19 residents' representatives was received, and 18 gave permission for their family member with dementia to participate in the study. After interviewing the main care providers of these residents, it was determined that only four residents manifested RTC and combative behaviors during dressing/toileting activities.

### Emotion-eliciting stimuli

Images selected from the IAPS were used in this study as the emotion-eliciting stimuli to elicit positive emotion. Based on the normative data (arousal and valence, both rated on a 9-point scale, with 9 referring to the highest rating and 1 referring to the lowest rating) that were provided in its technical report,<sup>22</sup> 15 positive pictures were chosen for this study. The average arousal rating of these pictures was  $4.94 \pm 1.28$ , and the average valence rating of these pictures was  $7.44 \pm 1.60$ . The themes of these images are: a baby, cliff divers, a couple, a cow, fireworks, a hiker, two nature scenes, puppies, a roller coaster, the sea, a seal, a skier, three men, and a violin. Before the experiment, a preliminary study was conducted to test each resident's response toward these images. The image to which the resident showed the most positive response was used in this resident's intervention trial. Three residents showed the most positive response to the baby, with the fourth resident preferring the puppies. To avoid the possibility that the residents displayed less behavioral symptoms just through having received a stimulus from the nursing staff, a control trial was built into the design of this study. A blank piece of photographic paper served as the stimulus for the control trial since it resembled the shape and weight of the stimulus used in interventional trial but without the content to elicit an emotional response.

### Measures

The Agitated Behavior Scale (ABS),<sup>23</sup> the Observational Measurement of Engagement Tool (OME),<sup>24</sup> and the Distress Thermometer (DT)<sup>25</sup> were used in this study. In order to gather additional information that was not captured in the quantitative

assessments, qualitative data was also collected by note-taking through direct observation.

ABS was used in this study to record the RTC and combative behaviors exhibited. The ABS is a 14-item scale developed to monitor agitation. Each item was measured on a 4-point scale ranging from 1 (behavior absent) to 4 (behavior present in an extreme degree). The total potential score of ABS ranges from 14 to 56 with a clinical consensus that a score of 22–28 indicates mild occurrence, 29–35 indicates moderate occurrence, and more than 35 indicates severe occurrence of agitation.<sup>26</sup> This scale has demonstrated a high degree of concurrent and construct validity, inter-rater reliability, and internal consistency by previous studies.<sup>27,28</sup>

OME was used to note the participants' responses toward the stimuli. The OME was developed to record the response of individuals with dementia to stimuli and has shown a high degree of validity, inter-rater agreement (84%), and intraclass correlation (0.78) for engagement outcome measures.<sup>24</sup> This study used two items (attention and attitude) from the original OME. Both of these items were measured on a 7-point scale ranging from 1 (very disruptive/very negative) to 7 (very attentive/very positive).

DT was used in this study to assess the distress level of CNAs in relation to providing care to the four residents in this study. The DT is a self-assessment scale with scores from 0 (no distress) to 10 (extreme distress). The DT has been found valid in the screening of distressed patients with cancer and their caregivers.<sup>29,30</sup> Each CNA was asked to report her degree of distress after each experimental trial.

### Procedures

This was a crossover study. Each resident was involved in a preliminary study and two experimental trials composed of one intervention trial and one control trial. During the preliminary study, the researchers visited residents individually and presented them with the 15 pictures. The picture that the resident showed the most positive response to (assessed via OME) was used in this resident's intervention trial. During the experimental trials, one researcher accompanied the CNA while delivering dressing/toileting care to the resident. If the resident was cooperative, no experimental trial was performed. However, if the resident resisted care and exhibited combative behaviors, an intervention trial or a control trial was then performed. The researcher followed each dressing/toileting activity of the resident until the two trials were completed. During the intervention/control trials, after the resident resisted care and exhibited combative behavior, the CNA showed the stimulus to the resident. The CNA was encouraged to begin a short conversation with the resident (e.g., "Look at this!") and resumed providing personal care. The resident was allowed to continually hold the stimulus if desired. However, during the process of personal care, there were times when the CNA needed to take the stimulus away from the participant (e.g., transferring). After the task was completed, the CNA was encouraged to return the stimulus to the participant. The researcher, who remained unobtrusive, observed and recorded the participant's response via the OME. Notes were also made through direct observation. After the CNA completed the task, the researcher explained the ABS to the CNA and asked her to rate the participant's behaviors before and after the stimulus was presented. The CNA was also asked to report her own distress level after the care episode using the DT. All of the experimental trials were conducted in the participants' rooms, with the doors closed and the main lights turned on. Due to the shift changed and limitation of the research schedule, two CNAs (CNA4 and CNA 5) were involved in one resident's (Ms. D)

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