

The effect of hand massage on stress and agitation in patients with dementia and on stress and mood of their nurses.

Background: Agitation behaviors in hospitalized people with dementia fall under a complex etiology. They are the sign that biopsychosocial needs are under-detected or unmet which, in previous literature, has been associated with higher levels of discomfort. In front of agitated demented aged patients, caregivers may feel powerless and manifest anxiety which in turn may cause relational problems and amplify the phenomenon. Non-pharmacological interventions are the first choice approaches for lessening agitation but they are still too poorly implemented. However, the literature indicates that such approaches, including hand massage, reduce agitation but evidence requires more robust research to support its promotion in health care settings. The aim of the study is to measure the effect of hand massage on the stress and agitation of cognitively-impaired patients hospitalised in an acute psycho-geriatric service and on the stress and mood of the nurses who performed these.

Methods: This mixed-method study (QUAN-Qual) is the first to focus on the effects of hand massage on stress and agitation in hospitalized patients with dementia in an acute geriatric psychiatry service. Its theoretical anchor is the Kolcaba's theory of comfort. A first randomized experimental trial was conducted among 40 patients by measuring during three consecutive weeks, the effect of hand massage (20 patients) compared to usual care (20 patients), on two biological markers of stress (salivary cortisol - sC, and salivary alpha-amylase - sAA) and on agitation (Cohen-Mansfield Agitation Inventory). The second quantitative part was investigating if hand massage has an effect on the same biological markers of stress (sC and sAA) in the caregivers performing these massages. A third and final qualitative inquiry using a focus group approach with nurses, investigated if (and how) nurses' perceptions about the massage changed throughout the experimentation.

Results: There was a significant time-treatment group interaction on both sC ($p=0.01$) and sAA ($p=0.02$). Both sC and sAA decreased in the intervention group on weeks 2 and 3 with a significant group difference for sAA ($p<0.1$) on week 2. The agitation scores are not significantly different between groups but tend to be lower (but not significantly) in the intervention group than in the control group on week 1 and 2. Although the hand massage is a gesture of comfort, the first massage experience can result in some of these patients the stress reactions which then fade with several experiments. Agitation tends to decrease more between 14h and 17h in the group massage during the first two weeks and to slightly rise the 3rd week in both groups. Caregivers who massage tend to show a similar decline in sC levels than when they realize that the administrative tasks (at 14h) while their sAA tends to increase. Their mood improves almost significantly after the massage in the "feeling quiet" as well as in the "energy" domains. Results from the focus groups indicate that hand massage is an activity that must constantly adapt to unpredictability in patients. This gesture is well suited to some people, calms them, or even put them to sleep while the other patients do not like and one must consider that it varies from one massage to another. Caregivers evoke great satisfaction when the patient demonstrates a visible benefit from the massage. They also emphasize the personal and relational dimensions involved during the massage; they consider that they need to be calm and to have a certain affinity with patients. Lack of patient's hygiene, presence of uninhibited behaviour may slow down their implication. Although these difficulties are well managed in practice, they are frequently mentioned in their discussions during the focus groups. The involvement of carers in this study led them to change their perceptions from an idealized massage to its clinical benefits and limitations. Following this study, some have spontaneously introduced this activity to their toolbox without further implementation process.

Discussion and Conclusion: The results of this study show a high level of physiological stress in the sample of demented elderly patients compared to the general population. They also indicate the benefit of repeated massages before seeing a decrease in both sC and SAA. These results are accompanied by a trend towards improvement in agitation between 14h and 17h in the first two weeks for the intervention group. The slight increase in agitation observed the third week in both groups should be interpreted with caution and require further investigation but these results are consistent with other studies and with the Kolcaba's comfort theory, which encourage to repeat positive experiences in patients to improve the overall perception of comfort. Meanwhile, caregivers performing massages expressed great interest for this vulnerable population. However, they indicate a need to consider the unpredictability of these patients and their possible interpretations of massage as a sexualized touch. Finally, our results suggest introducing the hand massage in routine care for agitated elderly patients with dementia, after training caregivers about ways to proceed and as well as about the socio-emotional issues implicated in this approach in order to overcome any possible difficulties which might be encountered.

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