

ORIGINAL ARTICLE

Using tactile stimulation in a dementia care facility with plasma prolactin as an outcome measure – a pilot study

Robin Quell¹, Kirsti Skovdal², Mona Kihlgren^{1,3}, Johan Lökk³

1. Center for Nursing Science, Örebro University Hospital, Örebro, Sweden

2. Department of Caring Sciences, Örebro University, Örebro, Sweden

3. Institution of Neurobiology, Caring Sciences and Society, Karolinska Institute, Stockholm, Sweden

ABSTRACT

Background

There is poor scientific documentation supporting tactile stimulations' benefit as a nursing intervention. It has been theorized that older adults with dementia experience high anxiety and stress levels. High prolactin levels are associated with psychosomatic reactions and have been used to measure stress levels in adults.

Aim

To evaluate tactile stimulation's effectiveness on anxiety and stress in older adults, with dementia diagnosis or signs of dementia and living in a dementia care facility, as manifested by plasma prolactin levels.

Materials and Methods

Tactile stimulation was given weekly by trained staff members to half the residents of a Swedish dementia care facility. The subjects were randomly selected (n=20) and were tracked in the study for a minimum of 28 weeks. The remaining half elders made up the control team (n=20). Diagnostic groups were formed according the severity of dementia. Plasma prolactin levels were drawn at baseline and post intervention. Medications caused the exclusion of 12 residents and seven dropped out due to other causes.

Results

There was no difference in plasma prolactin levels between the intervention (n=11) and control (n=12) group. A significant main effect between the diagnostic groups was found as well as a trend towards a positive correlation between age and plasma prolactin levels. There was no gender difference in plasma prolactin levels.

Conclusions

Our hypothesis that reduced plasma prolactin levels could be detected in elders treated with tactile stimulation, indicating alleviated stress, was not supported by the preliminary

results of the present study. Further evaluation of tactile stimulation with larger study groups and a better understanding of prolactin's sensitivity, complexity and interaction with medications could contribute to the outcome and problems of the study. The use of neuropsychological assessment could enrich the research data and help the evaluation.

Keywords: *Tactile stimulation, prolactin, elderly, dementia, pilot study.*

INTRODUCTION

Tactile stimulation (TS) is a form of touch massage aimed at reaching the skin touch receptors, located just under the epidermis.¹ Research has proven that with touch, oxytocin, a calming hormone and neurotransmitter, is released, which leads to a feeling of wellbeing.² This response is achieved by an interaction with other hormones and neurotransmitters and included in the effects are the reduction of anxiety, stress and pain. In addition, the method aims to convey attention, communication, closeness and respect by being sensitive and compassionate to the person receiving the TS.¹ An advantage of this method is that it can be used on nearly any part of the body and does not require the exposure of large areas thereby maintaining warmth and dignity.^{3,4}

The first study conducted on TS with nursing home residents was done for the Swedish National Board of Health and Welfare in 1997.⁵ The aim of that study was to investigate effects of TS on residents with dementia disease in a nursing facility. After the randomized, controlled TS intervention, those in the intervention group were more awake, communicated better, were easier to move and more cooperative during morning care activities, had better appetite and cooperated better at breakfast. In a case study involving an older adult woman with dementia disease that received tactile massage for four weeks, an improvement in interaction and communication was seen.⁶ A qualitative study by Skovdahl et al,⁷ which used data collected in association with our study, investigated TS among the nursing home residents from the intervention group (n=5) that were diagnosed with one of the more severe forms of dementia known as 'Behavioral and Psychiatric Symptoms in Dementia' (BPSD). It was found that all five displayed signs of positive feelings and relaxation after the TS period.

Corresponding author: Johan Lökk
MD, PhD, Assoc. professor
Head of Neurogeriatric section, Geriatric Dept
Karolinska University Hospital Huddinge
Stockholm, Sweden