JOHNS HOPKINS UNIVERSITY
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Reflexology for treatment of behavioral symptoms of dementia:

Protocol development for an exploratory controlled trial

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BACKGROUND

Palliative, nonpharmacologic interventions are increasingly considered as an equally effective alternative to pharmacologic treatments in reducing symptom distress and promoting comfort in older persons with dementia (PWD). Sensory-based interventions such as massage, acupressure and reflexology are promising relaxation inducing approaches to reduce symptom distress These modalities demonstrate promise for improving symptoms in AD patients by down-regulating HPA/SNS activity through the stimulation of C-fiber polymodal nociceptors. However standardized methods for administering and evaluating the interventions have been lacking. The current study reports on the development and manualization of a standard reflexology protocol administration by family caregivers of PWD. Currently a trial is being conducted to evaluate the effect of a reflexology protocol as administered by trained family caregivers.

METHOD

The sensory protocol was refined from preliminary study findings and reviews of expert clinical guidelines in tactile-based treatments using Intervention Mapping (IM) Techniques (Figure 1). Using the IM method, the intervention was carefully developed in a phased approach involving a series of five steps and "bottom up" development of a theory-driven intervention whose components are well understood. The five steps are as follows:

1) Define the problem (e.g. neuropsychiatric distress);

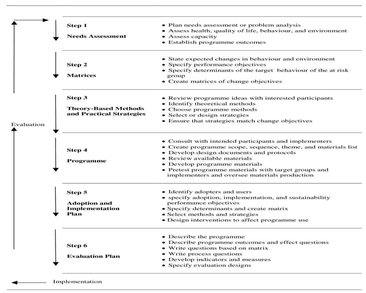
2) Specify desired outcomes (e.g. reductions in measures of physiologic distress and neuropsychiatric symptoms);

3) Select theory based intervention method (e.g. stress model);

4) Produce of the intervention components (e.g. proposed protocol);

5) Process and effect evaluation (e.g. proof of concept trial)

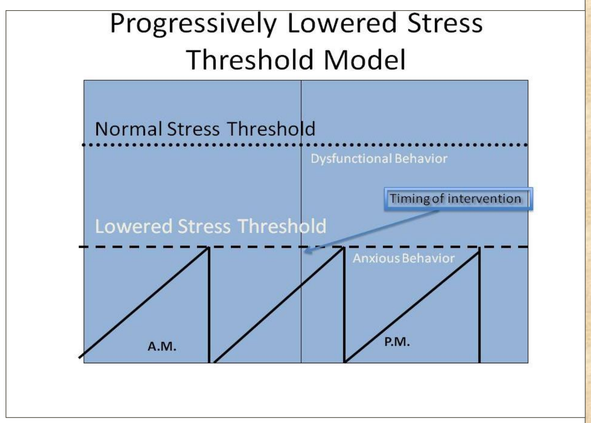
FIGURE 1: Intervention Mapping



FRAMEWORK

The theoretical model framing the proposed intervention is the Progressively Lowered Stress Threshold Model (PLST, Figure 2). The PLST model developed by Hall and Buckwalter provides a conceptual understanding of neuropsychiatric behaviors in response to stress. The PLST model posits that advancement of dementia is accompanied by a progressive decline in the individuals stress threshold. Various stimuli that patients encounter can serve as an added challenge which elicits physiological responses in the stress regulatory system, resulting in negative neuro- behavioral consequences. Palliative sensory interventions can reduce stress to tolerable levels and reduce dysfunctional behaviors. Based on the model, we posit that a palliative sensory-based intervention can reduce stress on body systems, as indexed by reductions in adrenocortical biomeasures of stress (salivary cortisol and salivary alpha amylase) and fewer or less severe manifestations of neuropsychiatric behavioral symptoms

FIGURE 2: FRAMEWORK GUIDING INTERVENTION

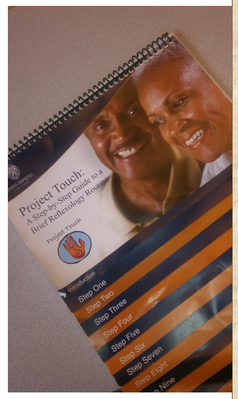


TARGET POPULATION

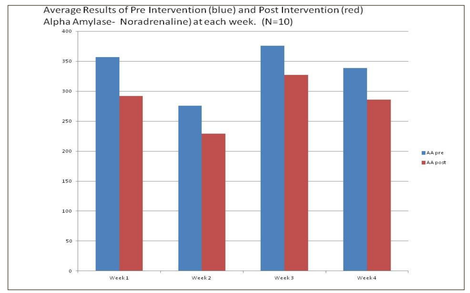
The primary targeted population for delivering this intervention is family caregivers of persons with moderate to severe stage Alzheimer's disease living in the community.

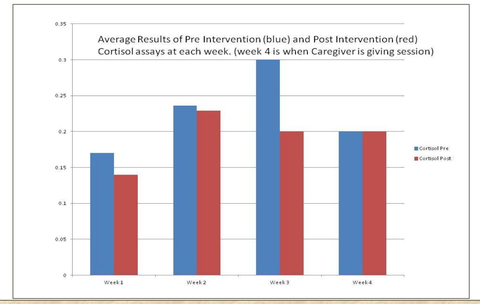
INTERVENTION DEVELOPMENT

The intervention protocol (Project Touch) blends the key successful elements from the IM results and our pilot studies into a brief tactile intervention designed to be administered in the home. The protocol was refined for administration based on Standards of Practice and Expert Guidelines of the American Massage Therapy Association and National Certification Board for Therapeutic Massage and Bodywork Standards of Practice. The intervention is delivered weekly for 4 weeks on a day identified by the caregiver as convenient for data collection purposes. The number of treatments was based on data from our initial pilot work and opinions of experienced therapists in the field.



PRELIMINARY RESULTS FROM PROOF OF CONCEPT TRIAL





FINAL 10 Step Protocol

1. Preparation and Making a Connection
2. Ankle Rotation
3. Toe Rotation
4. Horizontal Stroking
5. Thumb Walking Inner edge of the foot
6. Working the toes
7. Working the Upper and Middle Foot
8. Stroking the Ankle
9. Light pressure to Achilles tendon
10. Close session: Observation

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