

Craniosacral Still Point Technique

Exploring Its Effects in Individuals with Dementia

ABSTRACT

A mixed methodology was used to explore the effects of craniosacral still point technique (CSPT) in 9 older adults with dementia. Participants were monitored at baseline (3 weeks), intervention (6 weeks), and postintervention (3 weeks) using the modified Cohen-Mansfield Agitation Inventory (M-CMAI). CSPT was implemented daily for 6 weeks by a certified craniosacral therapist. Findings indicated a statistically significant reduction in M-CMAI total and subscale scores during the intervention period. This reduction continued during postintervention for subscale scores of physical nonaggression and verbal agitation. Staff and family interviews provided convergent validity to the quantitative findings. Participants were also more cooperative during caregiving activities and displayed meaningful interactions.

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An estimated 4.5 million Americans have dementia, which is characterized by progressive cognitive impairment with the presence of agitation in 70% to 90% of individuals in the advanced stages (Teri et al., 1999). Cohen-Mansfield, Marx, and Rosenthal (1989) clustered agitation into the following categories of behaviors: physically aggressive agitation, physically nonaggressive agitation, and verbal agitation. Agitation negatively affects quality of life by interfering with the delivery of care and social interaction (Léger et al., 2002).

The Progressively Lowered Stress Threshold (PLST) model developed by Hall and Buckwalter (1987) provides a conceptual understanding of agitation in individuals with dementia. The advancement of the disease process is accompanied by a progressive decline in the individual's stress threshold, resulting in a heightened potential for anxiety. Stressors accumulate throughout the day until the stress threshold is exceeded, usually by late morning or early afternoon, resulting in dysfunctional behavior

such as agitation (Gerdner, Buckwalter, & Hall, 2005; Hall & Buckwalter, 1987). It is predicted that a reduction of stress can alleviate anxious behaviors, thus preventing the onset of agitation. Therefore, proposed interventions for the management of agitation, such as craniosacral still point technique (CSPT), are expected to be most effective when implemented prior to individuals' peak level of agitation.

CRANIOSACRAL STILL POINT TECHNIQUE

CSPT is a therapeutic technique within the realm of craniosacral therapy (CST). Numerous books provide a comprehensive discussion of the biophysiological mechanism underlying CST, including a detailed explanation of CSPT (refer to Upledger, 2001, 2004; Upledger & Vredevoogd, 1983). The following are the underlying assumptions of CST (Upledger & Vredevoogd, 1983):

- The cranial sutures of the skull remain mobile.
- The craniosacral system (composed of the membranes and

cerebrospinal fluid [CSF] that protect the brain and spinal cord) is a semiclosed hydraulic system.

- The central nervous system's subtle rhythmic pulsation is key to health, and these pulsations can be palpated on the head and other areas of the body as subtle, bilateral waves in response to the rhythmic fluctuation of CSF within the ventricles.

Purportedly, the craniosacral rhythm can be modified and enhanced through implementation of CSPT. Simply stated, this is achieved when a skilled practitioner, using his or her hands, applies gentle resistance (no more than 5 grams) to one phase of the craniosacral rhythm while the second phase remains unaltered. This process is said to have a "profound relaxing effect on the autonomic nervous system" (Upledger, 2004, p. 113), resulting in increased symmetry and amplitude of the craniosacral rhythm, "a driving force behind the rhythmic rise and fall of cerebrospinal fluid pressure" (Upledger & Vredevoogd, 1983, p. 11).

CSPT could potentially benefit older adults with dementia in two ways. First, the relaxation response induced by CSPT may prevent or delay the onset of agitation when there is a lowered tolerance to stress. Second, the purported increase in sym-

metry and amplitude of the craniosacral rhythm that occurs with CSPT is expected support the exchange of CSF. This could have important implications, as research has shown that older adults with dementia exchange CSF at a much lower level than do healthy individuals (May et al., 1990; Rubenstein, 1998). Studies report that CSF shunting in individuals with dementia results in a stabilization of cognitive impairment; findings are attributed to the enhanced clearance of CSF (Salmon, 1969; Silverberg et al., 2002).

Therefore, the purpose of this pilot study was to explore the effects of CSPT in individuals with dementia, with an emphasis on agitation. To date, no published studies have evaluated CSPT with this population.

METHOD

The protocol for this intervention study was approved by the participating university's institutional review board. This pilot study was conducted over a 12-week period, using a mixed methodology to explore the following research questions in relation to the implementation of CSPT:

1. Is there a significant reduction in overall frequency of agitation, as measured by the modified Cohen-

Mansfield Agitation Inventory (M-CMAI), during the intervention period compared with baseline?

2. Is there a sustained reduction in agitation during the 3-week postintervention period, as measured by the M-CMAI?

3. What are the participants' responses to CSPT, as perceived by staff and family?

4. What do therapists identify as barriers and facilitators of the implementation of CSPT?

Originally, we also intended to compare the frequency of agitation immediately before and after CSPT implementation using a visual analog scale. However, the interventions occurred mid-morning, generally before participants began exhibiting agitation. This facilitated implementation but did not provide differential comparison data for levels of agitation immediately preceding and following the intervention.

Sample

The study was conducted in two long-term care (LTC) facilities located in the midwestern United States: a 135-bed Catholic-based facility located in a rural town in Iowa (approximate population = 28,000) and a 139-bed Jewish-based facility lo-



Figure 1. Hand position for cranosacral still point technique implementation at the head. Used with permission from the Upledger Institute, Inc. © 2007. <http://www.upledger.com>

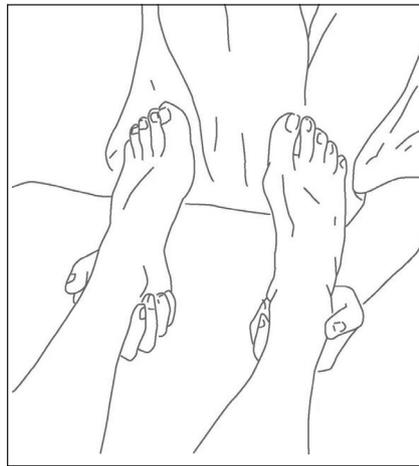


Figure 2. Hand position for cranosacral still point technique implementation at the feet. Used with permission from the Upledger Institute, Inc. © 2007. <http://www.upledger.com>

cated in an urban area of Minnesota (approximate population = 257, 000). In an attempt to reach the targeted sample size, we approached three additional LTC facilities in Minnesota; however, two declined to participate because of competing demands imposed on staff and administration, and the third declined to participate simply because it was believed facility staff and participants' families would be resistant to an intervention based on a concept unfamiliar to them.

Signed consent was obtained from the legally authorized representatives of 11 residents. Two of these residents died prior to the initiation of baseline data collection, leaving 9 residents who met the following inclusion criteria (and also completed the 12-week study): exhibited agitation as defined by Cohen-Mansfield et al. (1989), received scores between 3 and 7 on the Global Deterioration Scale (GDS) (Reisberg, Ferris, de Leon, & Crook, 1982), had no obvious signs of pain or infection at the time of enrollment, and had been a resident on the currently assigned unit for a minimum of 6 weeks.

As per CSPT protocol, residents were excluded from the study if they had experienced an acute stroke, cerebral aneurysm, or any condition

that changes fluid pressure within the skull (Upledger, 2004). Residents were also excluded if there had been a change in prescribed psychotropic medications within the 4-week period prior to the onset of the study. This was done to ensure the stabilized effect had been reached prior to the onset of data collection. The principal investigator (PI) (L.A.G.) also monitored residents' records for changes in prescribed medications throughout the duration of the study. Importantly, there were no alterations in psychotropic medications during this period.

All participants were White and had lived at the specified LTC facility for a mean of 5.5 years (range = 7 months to 13 years). The majority were women ($n = 6$) with a mean age of 85 (age range = 67 to 101). Regarding marital status, 5 were widowed, 3 were married, and 1 was single. All had a diagnosis of dementia with a mean GDS score of 6.25 (range = 5 [*moderately severe cognitive decline*] to 7 [*very severe cognitive decline*]). Five participants were nonambulatory, 1 ambulated with assistance, and 3 were ambulatory. The majority of participants ($n = 7$) were totally dependent on staff for toileting, with 1 requiring extensive assistance and 1 requiring limited assistance.

Informants

Staff, family members, and therapists participated in open-ended interviews to further explore participants' response to CSPT beyond the quantitative measure of agitation and within a real-life context. Each group of informants had a distinguishable role that guided their interaction with and relationship to the participants. This provided varied vantage points that added breadth to the depth of the assessment process.

Staff. Signed consent was obtained from 9 certified nursing assistants (CNAs), 6 who worked the day shift and 3 who worked the evening shift. All were women, were employed full time, and worked at the specified LTC facility for a mean of 8.3 years (range = 8 months to 22 years). In addition, written consent was obtained from a male activity assistant who approached the PI and asked to be interviewed.

Family Members. Three spouses (1 husband, 2 wives), 5 adult children (3 sons, 2 daughters), and 1 friend (legally authorized representative) provided written consent. Of these, only 7 participated in the interviews. One son lived out of state and was not able to visit during the 12-week study period. In addition, the friend did not visit because she believed the resident's confusion prevented any meaningful interaction. The 7 people who were interviewed visited an average of 3 days per week (range = 1 to 6 days per week). Visits lasted an average of 40 minutes (range = 10 to 90 minutes).

Therapists. Signed consent was obtained from all 5 therapists. Research protocol dictated that each therapist be certified in CST with a minimum of 3 years of clinical experience. Practitioners had varied experience working with older adults with dementia. Two had a parent with dementia and 1 provided treatment to an older adult with dementia on a regular basis in her private practice. All of the therapists were White women.

TABLE

MEAN CHANGE IN AGITATION, AS MEASURED BY THE M-CMAI, AT BASELINE, INTERVENTION, AND POSTINTERVENTION (N = 9)

M-CMAI Scores	Baseline (Weeks 1 to 3)	Intervention (Weeks 1 to 3)		Intervention (Weeks 4 to 6)		Postintervention (Weeks 1 to 3)	
		Mean ± SEM	p Value ^a	Mean ± SEM	p Value ^a	Mean ± SEM	p Value ^a
Total	65 ± 4.2	47.4 ± 3.2	0.002	43.8 ± 2.7	0.001	49.6 ± 5.8	0.126
Physically aggressive agitation	25.1 ± 2.1	19.5 ± 1.6	0.007	18.5 ± 1.5	0.003	21.3 ± 1.8	0.336
Physically nonaggressive agitation	23.9 ± 2.8	17.8 ± 1.6	0.008	16.3 ± 1.7	0.001	17.4 ± 2.6	< 0.001
Verbal agitation	15 ± 2.2	9.3 ± 1.5	< 0.001	8.5 ± 1.1	< 0.001	8.9 ± 1.4	0.004

Note: M-CMAI = modified Cohen-Mansfield Agitation Inventory; SEM = standard error of measurement.

^a Comparison with baseline score.

Data Collection

GDS. Following training, the Director of Nursing (in collaboration with the PI) used the GDS to stage each participant's degree of cognitive and functional impairment. Staging was completed for purposes of inclusion criteria. The GDS is divided into seven categories of clinically identifiable stages of the disease process (1 = *no cognitive decline* to 7 = *very severe cognitive decline*) and has been correlated significantly ($r = -0.31$ and -0.64 ; $p < 0.05$) with independent psychometric assessments (Reisberg et al., 1982).

M-CMAI. The overall frequency of agitation was measured using a modified version of the CMAI (Cohen-Mansfield et al., 1989). The original instrument was designed to assess the frequency of 29 agitated behaviors over a 2-week period and has well-established psychometric properties (Cohen-Mansfield et al., 1989; Miller, Snowdon, & Vaughan, 1995). This instrument was modified to assess the overall frequency of agitation on a weekly, rather than biweekly, basis to provide a more precise measure of agitation within the timeline of this study.

As with the original instrument, an individual level score is generated for each of the 29 behaviors.

The frequency of each behavior is classified into a score ranging from 1 to 7. A score of 1 indicates the nonoccurrence of a specified behavior. Occurrence scores range from 2 to 7, with defining criteria modified to accommodate the weekly observation period. A score of 2 indicates the behavior occurred only once during the specified week, whereas a score of 7 indicates the behavior occurred several times per hour.

Prior to implementation, the PI trained the CNAs in use of the M-CMAI. Initially, two pairs of CNAs from each facility were asked to independently, yet simultaneously, assess the frequency of agitated behaviors of selected participants using the M-CMAI. Interrater agreement ranged from 0.87 to 0.96 (mean = 0.93).

The M-CMAI was completed weekly throughout the 12-week observation period (3-week baseline assessment, 6-week intervention period, and 3-week postintervention period). The PI worked closely with staff during the initial weeks to ensure proper assessment and documentation. A designated charge nurse monitored weekly adherence throughout the duration of the study with the PI checking periodically to ensure compliance to research pro-

cedure. Internal consistency of the M-CMAI total score over time was calculated using Cronbach's alpha coefficient (baseline = 0.71, intervention = 0.80, postintervention = 0.95).

Therapists' Notes. A separate form was completed by the therapists to document the date, time, details about the implementation of CSPT (e.g., location of hand placement, length of intervention), participant's degree of tolerance, and extraneous variables (e.g., severe upper respiratory infection) that may have affected the resident's degree of agitation. These data provided a means of tracing adherence as well as anecdotal information to inform quantitative findings.

Open-Ended Interviews. Two audiotaped open-ended interviews were conducted with the CNAs and family members. At baseline, each CNA was interviewed to determine the most challenging aspects of caring for someone with dementia and the strategies used to manage agitation. A second interview was conducted after completion of the 6-week intervention period to query staff on the participants' response to the intervention. An activity assistant asked to be included in the second phase of the interview process after he began noticing "unexplained changes"

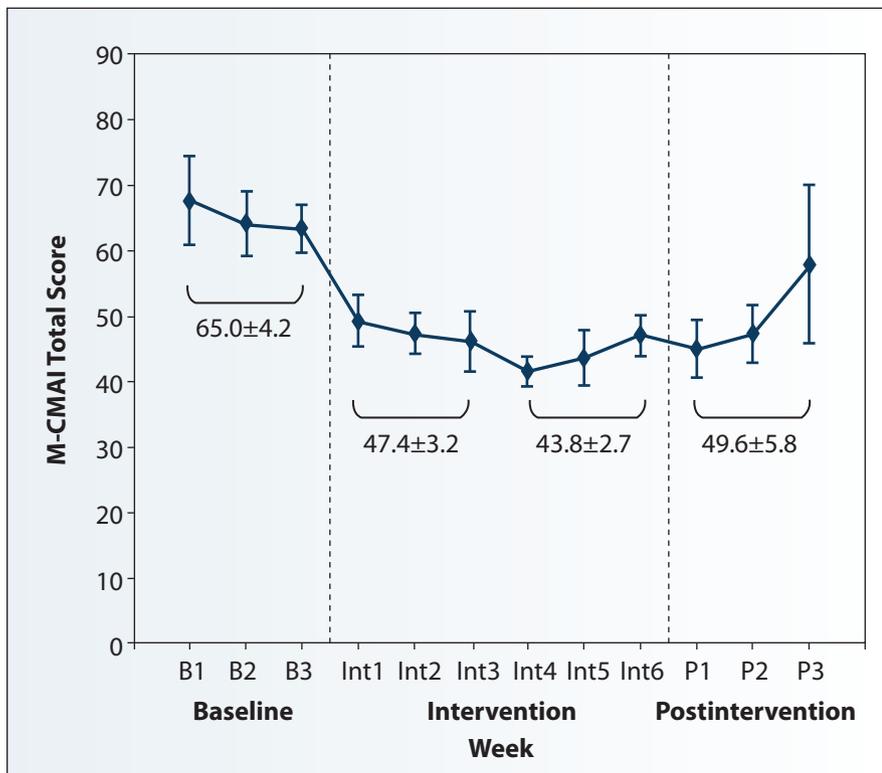


Figure 3. Mean total scores of the modified Cohen-Mansfield Agitation Inventory (M-CMAI) throughout baseline, intervention, and postintervention ($N = 9$).

in select residents during scheduled activities and at mealtimes.

Baseline interviews with family members focused on the quantity and quality of their visits with the older adult. After completion of the 6-week intervention period, family members were queried on the participant's response to the intervention and to again explore the quantity and quality of their visits.

The therapists were interviewed at the completion of the intervention period. They were asked to describe the participants' responses to the intervention, along with the barriers and facilitators of implementing CSPT.

Procedure

Following the 3-week baseline assessment, CSPT was implemented on each participant daily for 6 weeks by a certified craniosacral therapist. To maintain continuity, no more than two different therapists were assigned to any one participant during the 6-week period. An expert clinician and CST instructor worked

intensively with the therapists at the beginning of the intervention phase and periodically thereafter to ensure proper technique.

CSPT was performed in participants' rooms in the presence or close proximity of a staff or family member. The time of intervention was based on consultations with staff and application of the PLST model (Hall & Buckwalter, 1987). Participants at the Iowa facility received the intervention at a consistent time between 10:00 a.m. and 11:00 a.m., and those in the Minnesota facility received the intervention between 9:30 a.m. and 10:30 a.m. CSPT was induced for a mean of 5.01 minutes (range = 30 seconds to 10 minutes, mode = 5 minutes).

CSPT may be implemented with the recipient in either a lying or sitting position, whichever is most comfortable and least disruptive to the participant. In addition, CSPT may be implemented at various locations on the body. The cranial approach (Figure 1) was the preferred

method. If the participant was unable to tolerate this approach, an alternative approach was used at the feet (Figure 2) or shoulders. For example, one participant (GDS score = 7) initially exhibited agitation by head thrashing and flinging movements of upper extremities. The degree of agitation increased when CSPT was induced using the cranial approach. Consequently, CSPT was induced bilaterally at the ankles, resulting in a progressive reduction of agitation and an increased relaxation response that often culminated in the participant dozing by completion of the intervention.

Data Analysis

Quantitative data were analyzed using the SAS/STAT procedure MIXED, version 9.1. The linear mixed model of analysis for repeated measures was used to evaluate the effects of the intervention on M-CMAI total scores and subscale scores (physically aggressive agitation, physically non-aggressive agitation, and verbal agitation). The fixed effect in the model was time and consisted of baseline (3 weeks), intervention (6 weeks), and postintervention (3 weeks). Scores during the intervention period (mean for weeks 1 to 3 and 4 to 6) and postintervention period (mean for weeks 1 to 3) were compared with baseline scores (mean for weeks 1 to 3). Bonferroni's method was used to adjust the p value to account for the number of tests performed.

In preparation for qualitative data analysis, audiotaped interviews were transcribed by a paid research assistant. All qualitative data were analyzed by the first author (L.A.G.) using content analysis and case-oriented displays, as described by Miles and Huberman (1994). Initial coding was conducted separately for individual responses made by staff, family members, and therapists. Patterns were then displayed in a matrix to compare responses within and between groups (staff, family members, and therapists).

Data were also triangulated to assess for validity. Quantitative data from the M-CMAI were compared with qualitative data specific to agitation. Qualitative data sources were used to compare the perspectives between staff, family members, and therapists, as well as the perspective from these individuals over time. These findings are presented by major themes: agitation, cooperation with daily caregiving activities, and meaningful interaction. This section concludes with a discussion about the perceived barriers and facilitators of implementing CSPT.

FINDINGS

Perception and Management of Agitation at Baseline

The CNAs identified agitated behaviors as the most challenging aspect of caring for an individual with dementia. Residents' cognitive impairment was said to prevent them from "understanding that you [the CNA] are trying to help them [residents]." Consequently, the importance of nonverbal communication was emphasized. Diversion was also used in an effort to alleviate agitation. On occasion, residents' resistance to daily caregiving activities culminated in physical aggression. When this happened, the majority of CNAs responded by "walking away and approaching [the resident] later." A few CNAs added that "if all else failed," they would notify the nurse.

Similarly, family members identified agitation, especially verbal and physical aggression, as a factor that limited the frequency and duration of their visits. As a coping strategy, one daughter intentionally limited the duration of visits by arriving shortly before mealtime and leaving after staff had transferred her mother to the dining room. Other family members centered their visits around personal care activities.

Intervention Adherence

All CNAs who worked the day shift witnessed the implementation

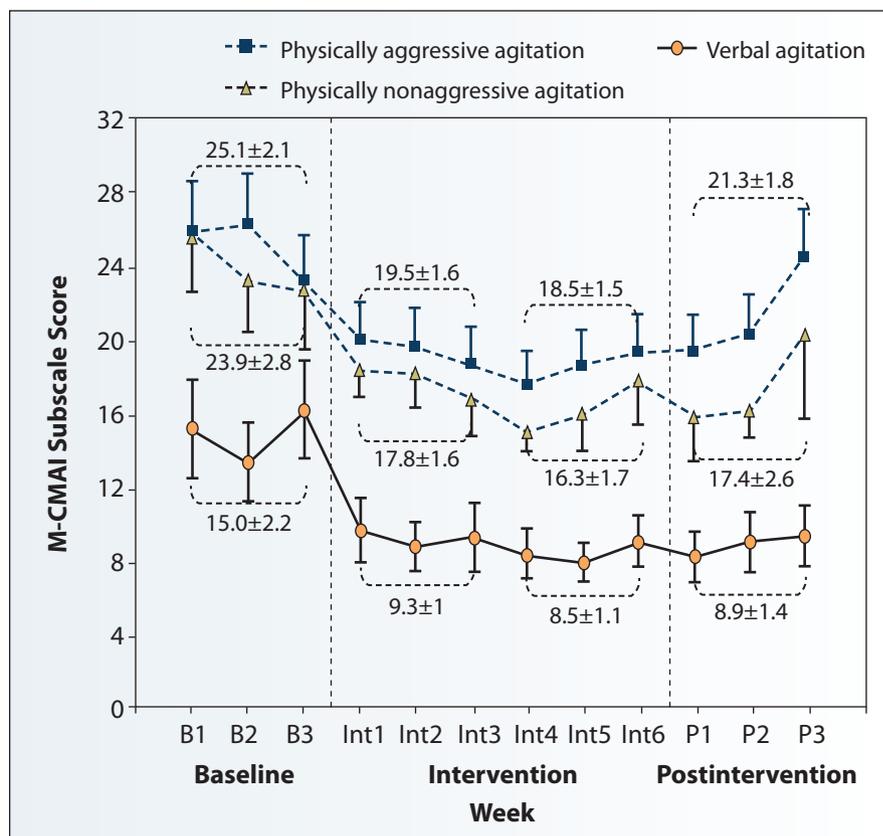


Figure 4. Mean subscale scores of the modified Cohen-Mansfield Agitation Inventory (M-CMAI) throughout baseline, intervention, and postintervention ($N = 9$).

of CSPT on their assigned participant. They, along with the therapists, reported that, in general, participants were cooperative during the intervention, with a few becoming so "relaxed" that they fell asleep. This level of cooperation was particularly noteworthy in one participant, who usually responded to being touched by "scratching and swearing."

Participant cooperation led to an overall CSPT adherence rate of 99.7%. Six participants had complete data sets throughout the intervention period (6 weeks or 42 days). Three participants had occasional missing data. For example, one participant missed 1 day of intervention (97.6% adherence) because of a doctor's appointment. Another participant missed 2 days of intervention (95.2% adherence) because he was pacing the hallways of the LTC facility and was unable to be redirected to his room, where the intervention could be implemented. These incidents oc-

curred midway through the 6-week intervention period. A third participant missed 5 days of CSPT (88.1% adherence). One day, the participant stated, "I don't feel good; please leave me alone." On a subsequent day, the participant was concerned that if he consented to the intervention, he would miss lunch. On three other occasions, his degree of agitation prevented the therapist from performing the intervention.

Agitation

Research questions 1 and 2 explored the effects of CSPT on the frequency of agitation in individuals with dementia during the intervention and postintervention periods compared with baseline, as measured by the M-CMAI. As identified in research question 3, each resident's response was further explored by open-ended interviews with staff and family members.

M-CMAI. There was a statistically significant reduction in the mean

M-CMAI total and subscale scores (physically aggressive agitation, physically nonaggressive agitation, and verbal agitation) during weeks 1 to 3 and 4 to 6 of the intervention period compared with baseline. A statistically significant reduction continued throughout the 3-week postintervention period for physically nonaggressive agitation and verbal agitation but not physically aggressive agitation (Table).

A graphic display of mean total scores for the M-CMAI is provided in Figure 3, with mean subscale scores presented in Figure 4. A substantial reduction is noted during week 1 (compared with baseline) with a gradual decline until week 4, at which point the majority of scores (total, physically nonaggressive agitation, and verbal agitation) begin an unexplained slight increase throughout the duration of the intervention. Following the initial reduction, verbal agitation remained relatively constant throughout both the 6-week intervention period and the 3-week postintervention period. Physically aggressive and nonaggressive agitation showed a greater increase in frequency during the postintervention period. Also noteworthy is the reduction in variance that occurred during the intervention period, with an increase in variance reappearing during the 3-week postintervention period.

Staff and Family Member Interviews. Initially, many CNAs expressed skepticism about the intervention, with one stating, "It didn't appear like they [the therapists] were doing anything but simply laying their hands on someone." As the intervention phase advanced, staff witnessed reduced agitation, of varying degrees, in 8 of the 9 participants. One CNA concluded, "I was extremely skeptical of this whole thing, but you proved me wrong." Specific examples highlighting the effects of this intervention are listed below.

One CNA noted the immediate calming effects of CSPT on one par-

ticipant with maximum effects lasting "an hour—maybe longer" and a sustained reduction in overall agitation throughout the remainder of the day. More specifically, this included less grabbing and fewer requests to use the bathroom. This observation was validated by a second CNA, who stated that during baseline "you couldn't go by her without her... wanting to go to the bathroom every 10 minutes.... She does still ask for help, [but] instead of every 10 minutes, it is every hour."

Another CNA was assigned to a participant who spent much of the day in a wheelchair. During baseline, the participant "would kick...reach out, grab things, and move around. You would barely have her in the [wheel]chair...she would be in a different spot." The CNA admitted that throughout the intervention period "there were some days when there was agitation, but I have seen an immense difference.... She is calmer." In summary, the CNA reported that the participant "still does push, but she doesn't kick or strike out much anymore." This participant's daughter did not notice any change in her mother's behaviors. However, she was one of four family members who rotated their visits so each member visited once every 4 weeks, which limited the amount of consistent contact by any one family member.

The majority of family members did not notice a change in the frequency or degree of the participant's agitation. However, one wife noted a "definite" reduction in verbal aggression (i.e., swearing) with a more sustained overall reduction in agitation that became evident approximately halfway through the intervention phase (week 3).

Higher Tolerance of Environmental Stimuli. Closely aligned to this reduction in agitation is the independent reporting by 2 CNAs that one participant was able to tolerate higher levels of environmental stimuli throughout the intervention phase. This was particularly evident when

the participant was in the "crowded" dining room. For example, on one notable occasion, this participant was sitting at the table with another resident. The other resident was unsuccessfully attempting to remove the plastic wrapper that covered a slice of pie. In frustration, the resident tipped the plate and began pounding it on the tabletop. Based on similar scenarios in the past, the staff member expected the pounding to trigger a verbally aggressive response from the participant, but "he was perfectly fine." The CNA concluded that "things don't get to him now [compared with his reactions at baseline]."

Cooperation with Daily Caregiving Activities

Staff reported that 6 of the 9 participants were more cooperative during daily caregiving activities compared with how they were at baseline. For example, 3 CNAs who were separately and independently interviewed reported the change in one participant's behavior during morning caregiving activities. Baseline interviews described a woman who "yells...[when] any part of her body is touched." Subsequent interviews with a CNA revealed that

Since this program started, that has improved a lot.... [When] you take care of her...she complies without any shouts. Sometimes she gets a little confused, but it has improved. The activity assistant also noted a "drastic reduction" in the participant's screaming behavior during meals and activities, especially during the final 4 weeks of the 6-week intervention period. Another CNA reported that this increased cooperation at mealtime resulted in an increased consumption of food.

Similarly, staff quickly learned that one participant was more cooperative when her shower was given immediately following CSPT. Prior to this, she would "scream" throughout her shower.

Another CNA described a participant as being “more pleasant” compared with his behavior at baseline:

I went to give him a shave and he said, “I am kind of busy, but I’ll come get you when I have time. Tell me what your name is.” Before, if you would ask him if you could shave him, he would say, “Get the hell out of my room.”... He used to wander quite a bit and get lost.... I don’t remember the last time he wandered and tried to walk out the front door.

Increased cooperation was evidenced by one participant’s improved ability to “follow directions. If you tell her to stand up, she will. [Before] she just wouldn’t do it, now she does.” Similarly, another participant was reported “to be calmer,...a little easier to approach when doing cares [rather] than scratching [staff].” However, the CNA added that “after the [6-week] intervention [period] stopped...she is starting to swear and curse more.”

The activity assistant reported that one participant

historically does not take very well to being fed.... She would hit and slap and guard her mouth with her hand to prevent herself from being fed.... I have noticed during the past several weeks [toward the end of the intervention phase] that [she] has not been fighting during meals, allowing various CNAs to feed her, being cooperative. I have not seen the combativeness. She was a real fighter during meals [prior to the intervention phase].

Another CNA described a participant as being more cooperative:

If he asks to eat and you tell him he already has [eaten], he will accept the fact, whereas before he would say, “No, I didn’t eat and I wasn’t given anything to eat.” He doesn’t seem to get agitated as he did. He seems a little bit more patient than he used to be.

Meaningful Interaction

Staff and family members witnessed an increase in meaningful interaction in 5 of the 9 participants.

KEYPOINTS

CRANIOSACRAL STILL POINT TECHNIQUE

Gerdner, L.A., Hart, L.K., & Zimmerman, M.B. (2008). *Craniosacral Still Point Technique: Exploring Its Effects in Individuals with Dementia*. *Journal of Gerontological Nursing*, 34(3), 36-45.

- 1 The relaxation response induced by implementation of craniosacral still point technique (CSPT) may prevent or delay the onset of agitation in individuals with dementia.
- 2 The purported increase in symmetry and amplitude of the craniosacral rhythm that occurs with CSPT is expected to support the exchange of cerebrospinal fluid in individuals with dementia.
- 3 CSPT protocol was facilitated by allowing flexibility for participants’ positioning and therapists’ hand placement.
- 4 During the study’s intervention phase, participants exhibited a statistically significant reduction in agitation, were more cooperative during caregiving activities, and displayed meaningful interactions with others.

These changes did not become apparent until 3 to 4 weeks following the beginning of the intervention phase. For example, by completion of the intervention phase, one participant was reportedly able to recognize her nameplate at the dinner table, which had not been witnessed previously. The activity assistant noted that during baseline this same participant would often speak nonsense...but lately [during the intervention phase] her words relate to what is going on in the room. [More specifically,] I was passing out cookies—I thought she was asleep or not paying attention—I passed her up, and she said, “What about me?”

The activity assistant and other staff who witnessed this event were astonished by the participant’s verbalization. The activity assistant concluded, “It is not rare to see her speak...but it is rare for her words to make sense.... She usually just has two or three ‘pet’ phrases that she repeats over and over.” This participant’s family lived out of state, precluding them from visiting and thus being interviewed.

The CNAs witnessed improved communication in other participants, as reflected in the following statements: “She makes more sense now” and “She talks a little bit more now, like for supper, she will say that she doesn’t like this, or she does like it, or it tastes good.”

In describing another participant, one CNA said: “At first [during baseline] we couldn’t talk to her—she don’t talk back.... But now [by completion of the intervention phase] if I talk to her, like when I am trying to get her up...she will talk back.” When asked, the CNA described the participant’s responses as short answers such as “yes” and “no” or brief phrases.

This participant’s husband stated at the onset of the interview, “I have problems understanding her [my wife]. One thing is that my hearing is not too good.” He cautiously stated that his wife was “a little bit better in the last 3 weeks [of the intervention phase].” He later commented that he was surprised when she recognized their son and daughter-in-law who visited from Texas, adding that she

“talked more than one syllable at a time, which is unusual.” On further exploration, the husband clarified that during this visit his wife actually spoke in phrases. In addition, his grandson (a medical student) visited at the beginning of the intervention phase and reported seeing “some improvement.” After further exploration, the husband stated, “When he visited, she recognized him,” but would not elaborate. When asked if this was unusual, he said, “It is hard to say; some days she does, some days she doesn’t.”

In addition to dementia, one male participant had a diagnosis of depression. The CNAs consistently reported an increase in the participant’s verbal communication throughout the intervention phase. One CNA stated, “He seems more talkative, joking. He will start a conversation with us. Before, he was more quiet, head down.... This is a shock to us.” Prior to the intervention phase, the CNA reported that when the participant did talk to the staff it was only to “swear.” A second CNA commented, “What amazes me is that he would never really talk, but now he is like having a conversation, or he will ask a question, or he will strike up a conversation with you.” A third CNA reported, “His spirits were a bit higher.... Now, he will laugh and smile while he is talking. He will ask for things now, whereas he wouldn’t before.”

Similarly, this participant’s wife stated that visits with her husband were much more pleasant throughout the intervention period than they had been before. She said, “He is no longer complaining about everything, anything, and everyone.” Before, “it was so depressing to visit him, [I] thought, ‘Oh, God, why don’t you take him?’” She implied that her husband had a more positive outlook on life, as reflected in the following statement he made to her: “I can only do the best I can do.” He also told her, “I haven’t been talking about dying anymore because that would be hard on the kids.” She con-

cluded, “He is thinking a lot about the people around him...[rather] than his problems” and added, “Now he is fun to talk to. I enjoy my visits.” These behavioral changes positively affected visits by other family members as well. The participant’s wife added that now “the kids enjoy visiting.” She quoted their grown daughter as saying, “Dad was in such a good mood, I will take the little kids [grandchildren] there, and see if he wants to go outside.” A careful review of the participant’s chart indicated there had not been any changes in psychotropic medications (i.e., antidepressant agents) during the 5 months preceding the study, nor had there been any changes during the 12-week data collection period.

Barriers and Facilitators

To explore research question 4, therapists were asked to identify the barriers and facilitators of the implementation of CSPT. The only barrier reported was the infrequent presence of agitation that prevented hands-on implementation. A careful review of the therapists’ notes identified five incidents of preexisting agitation that prevented implementation of CSPT.

All therapists described the participants’ positive response to the intervention as a facilitator for continuing the protocol. In addition, CSPT allowed flexibility for participants’ positioning and therapists’ hand placement.

DISCUSSION

This study used a mixed methodology to evaluate the effects of CSPT on individuals with dementia. Qualitative findings provided convergent validity to the quantitative findings and provided clinical significance. In addition, open-ended interviews added breadth and depth to the understanding of the participants’ behavioral response to the intervention. Overall, participants were cooperative in receiving CSPT. Despite the CNAs’ initial skepticism, by the completion of the study,

all reported witnessing a decrease in agitated behaviors, an increased cooperation with daily caregiving activities, and an increase in meaningful interaction among participants receiving CSPT.

These claims were supported with detailed examples provided during independent interviews. Family members’ responses were varied, but this may be attributed to the limited exposure that some had with the participant during the intervention phase. A notable exception included a spouse who identified both a reduction in her husband’s verbal aggression and a more pleasant attitude. This perception was validated by her daughter who, after witnessing this change, was looking forward to bringing her young children to visit their grandfather.

However, these positive findings should be viewed with caution because this is the first effort to empirically evaluate the effects of CST (e.g., CSPT) in individuals with dementia. As a pilot study, these findings are limited by a small convenience sample but indicate potential implications for the management of stress and agitation in older adults with dementia. As postulated by Hall and Buckwalter (1987), individuals with dementia have a progressive decline in their stress threshold, resulting in increased levels of anxiety and, without intervention, advancing to agitation. Importantly, cortisol is excreted by the adrenal glands in response to stress. Chronic exposure to toxic levels of cortisol is a primary cause of brain degeneration (Khalsa, 1997). It would seem that individuals with dementia are particularly vulnerable to stress with increased levels of cortisol that may serve to advance the disease process. Future research might include biomarkers, such as salivary cortisol, to further explore the physiological response to CSPT.

To further explore participants’ response to CSPT, future research methods could incorporate addi-

tional quantitative measures (e.g., functional and cognitive assessment, quality of life). In addition, if time and cost permit, it is recommended to use a more rigorous design (i.e., crossover design in which participants receive several conditions, including attention control, in random order) using blinded raters.

CONCLUSION AND IMPLICATIONS

Although CST was first introduced into the literature in the 1980s, the basis for its use remains largely anecdotal. Green, Martin, Bassett, and Kazanjian (1999) conducted a systematic review of the literature and concluded that available research on CST constituted "low-grade evidence conducted using inadequate research protocols" (p. 201). In addition, the efficacy for the proposed biophysiological mechanism underlying its use has also generated controversy (Downey et al., 2006; Rogers & Witt, 1997). Nevertheless, the Upledger Institute (<http://www.upledger.com>), based in Florida, has trained more than 52,000 people in the use of CST.

Findings of an exploratory study revealed that CST is being practiced by "well-established allied health professionals" in a variety of settings to treat a wide spectrum of problems in older adults (Walsh, 2007, p. 1). CST was most commonly used to treat chronic pain. To a lesser degree, CST was used to treat the secondary symptoms associated with neurological problems, such as Parkinson's disease and dementia. Walsh (2007) concluded that these findings do not establish efficacy but do "suggest there may be substantial benefits for older adults worthy of further investigation" (p. 12).

Gerontological nurses have a responsibility to learn more about CST as to make informed decisions regarding its use. This pilot study provides an important and innovative contribution toward that effort.

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This study was funded by a grant from The University of Iowa College of Nursing, Gerontological Nursing Interventions Research Center, Hartford Centers of Geriatric Nursing Excellence (Principal Investigator: Linda A. Gerdner, PhD, RN).

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