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Employee Use and Perceived Benefit of a Complementary and Alternative Medicine Wellness Clinic at a Major Military Hospital: Evaluation of a Pilot Program

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Abstract

Objectives: The objectives of this study were to examine the feasibility of a weekly on-site complementary and alternative medicine (CAM) wellness clinic for staff at a military hospital, and to describe employees' perceptions of program effectiveness.

Setting: The study setting was the Restore & Renew[®] Wellness Clinic at a United States Department of Defense hospital. *Subjects:* The subjects were hospital nurses, physicians, clinicians, support staff, and administrators.

Interventions: The walk-in wellness clinic was open 8:00 AM-2:00 PM 1 day a week. Participants selected one or more modalities each visit: ear acupuncture, clinical acupressure, and Zero Balancing.®

Outcome measures: A self-report survey was done after each clinic visit to evaluate clinic features and perceived impact on stress-related symptoms, compassion for patients, sleep, and workplace or personal relationships.

Results: Surveys completed after first-time and repeat visits (n=2,756 surveys) indicated that most participants agreed or strongly agreed they felt more relaxed after sessions (97.9%), less stress (94.5%), more energy (84.3%), and less pain (78.8%). Ninety-seven percent (97%) would recommend it to a co-worker. Among surveys completed after five or more visits, more than half (59%–85%) strongly agreed experiencing increased compassion with patients, better sleep, improved mood, and more ease in relations with co-workers. Perceived benefits were sustained and enhanced by number of visits. The most frequently reported health habit changes were related to exercise, stress reduction, diet/nutrition, and weight loss.

Conclusions: This evaluation suggests that a hospital-based wellness clinic based on CAM principles and modalities is feasible, well-utilized, and perceived by most participants to have positive health benefits related to stress reduction at work, improved mood and sleep, and lifestyle.

Introduction

PRIOR STUDIES REPORT that health care workers are at risk for occupational burnout, compassion fatigue, and secondary traumatic stress symptoms. Work-related secondary traumatic stress is characterized by post-traumatic stress disorder–like symptoms in health care personnel caring for physically or mentally traumatized patients. In the case of military health care personnel, increased occupational stress

ocurs not only in active duty health care professionals deployed in war zones, but also in civilian and military personnel who care for war wounded in military hospitals. The long duration of these war-related missions, the emotional impact and increased workload associated with treating critically wounded Service members, and the high operational tempo of the health care settings can magnify stress, erode sleep, and may negatively impact the health and occupational performance of staff. 7,10,11

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Health care occupational stress may impact organizational functioning through a decline in job performance and efficiency, a rise in medical errors committed and sick leave taken, and a disruption in workplace morale.¹² Job stress costs U.S. employers approximately \$200 billion annually in absenteeism, tardiness, burnout, lower productivity, high turnover, workers' compensation, and health insurance costs. 13,14 Consistent with the theoretical framework linking wellness and CAM outlined by Schuster and colleagues, 13 the authors hypothesize that a workplace wellness clinic based on complementary and alternative medicine (CAM) principles would have the potential to positively impact individual stress responses and would be well-utilized by clinicians and other hospital employees. The purpose of this article is to describe the design, rationale, use, and perceived impact of the Restore & Renew® Wellness Clinic (R&RWC) pilot project. First, the theoretical principles and holistic framework on which the R&RWC model is based and their relevance to symptoms of secondary traumatic stress are described. Second, the wellness clinic features and therapeutic interventions including modalities offered, staffing, and logistics are described. Third, the methods and results of the program evaluation are discussed, followed by recommendations for further action and research related to CAM and workplace wellness for health care providers.

Theoretical Concepts Relevant to R&RWC

Two (2) principles of Chinese Medicine form the clinical foundation of the R&RWC. First, all living things are animated by qi or energy. We influence, and are influenced by, the quality and quantity of qi/energy that surrounds us. Healing for ourselves and others nearby is supported when our qi is full and flowing in a balanced, harmonious way. Second, qi moves in a dynamic and fluid interplay of opposites described as yin (e.g., quiet, contemplative, internal); and yang (e.g., active, assertive, external). Our bodies, minds, emotions, and spirits are an integrated whole, linked by the movement of qi and this dynamic interplay of yin and yang. The R&RWC offered modalities rooted in these ancient principles of Chinese Medicine: Acupuncture as taught at the TAI Sophia Institute 15; Clinical Acupressure, developed by Aminah Raheem 6; and Zero Balancing, $^{\oplus}$ developed by Fritz Smith. 17,18

McCraty and Childre's review of coherence in the electromagnetic field of the heart¹⁹ suggests resonance with Chinese understanding of heart *qi*. Coherent, balanced, and harmonious heart *qi*/energy influences cognition, and physical, emotional, and spiritual well-being. The cardiac rhythm in such individuals has a "ripple effect" that informs their external environment. It influences the creation of similar experiences of higher coherence in organizational systems, with greater group synchronization and bonding, and reduced discord and conflict.¹⁹

Van der Kolk and colleagues describe traumatic stress as an imbalance in the dynamic interplay of opposing branches of the autonomic nervous system (ANS).²⁰ In a healthy ANS, sympathetic arousal (what the Chinese call *yang*) and parasympathetic restoration (what the Chinese call *yin*) mediate sympathetic activation and parasympathetic collapse.

These principles of *qi* and its transmission, and the functional unity of body, mind, emotions, and spirit as a foundation for health form the framework of our understanding

of secondary traumatic stress. The ANS of military health care workers, repeatedly exposed to the disorganized *qi* of patients who are physically or mentally traumatized by their war experience, are influenced by that exposure. Their post-traumatic stress disorder–like symptoms may be secondary to the traumatic stress symptoms of their patients. ^{6–9}

Methods

Participants

The R&RWC clinic solicited employee participation via hospital flyers, word-of-mouth, and e-mail announcements. All participants gave consent for treatment and registered their attendance at each visit. Eighty percent (80%) of the R&RWC visits (n=2,921) were completed by clinical personnel, including medical technicians and therapists (33%), nurses (25%), physicians (11%), and clinical supervisors (12%). Nonclinical staff included unit administrative assistants and housekeeping. Participants could visit the clinic as often as their schedules allowed, receiving one or more modalities at each visit. There were 1010 unique first-time participants (Table 1), and over half (n=521) returned for subsequent sessions, completing a total of 2756 surveys (94% response rate).

Measures

Participants were invited to complete a 1-page survey at the end of each visit to evaluate the program. The survey requested information on the number and types of services received; the overall experience and impact; reported changes in stress and compassion fatigue; changes in health habits; factors important to their decision to participate;

Table 1. Characteristics of Participant Visits (N=2756 Surveys)

Characteristics	Surveys %	(N)
Department of Defense beneficiary Number of visits reported on survey	50.2	(1254)
Once	37.6	(1010)
Twice	19.4	(521)
3–4 times	14.6	(393)
5–8 times	12.0	(323)
9–12 times	5.3	(142)
More than 12 times	11.2	(300)
Modality(ies) received at clinic visit		
Ear acupuncture	58.1	(1601)
Acupressure/Seva Stress Release	52.7	(1448)
Zero Balancing	7.5	(206)
Received one modality at visit	73.8	(2015)
Received two modalities at visit	24.2	(661)
Received three modalities at visit	1.0	(28)
Clinic features considered most important		
No cost	68.8	(1897)
Hours	44.3	(1221)
Location	64.8	(1786)
Walk-in	76.1	(2098)
Anonymity	8.6	(236)
Supervisor encouragement	6.3	(175)
Would recommend this clinic to a friend or co-worker (Yes)	97.4	(2683)
Will you return to the clinic? (Yes)	97.4	(2683)

likelihood of participants recommending the clinic to others or returning themselves; and suggestions for improvement.

Procedures

A calm healing environment was established with soft lights, voices, and music; gentle eye contact; and clinicians trained to be mindfully present in a loving and caring internal state. Participants were invited to a treatment table or acupuncture chair, and given time to bring full awareness to their physical surroundings and whatever support the table or chair provided. The R&RWC sought to help employees experience states of being fully present in the moment (mindfulness) and identify a "felt sense"21 of a more integrated or coherent internal state. Establishing a somatically mindful witness state during the session supported letting go of stored stressresponses, enhancing re-integration of previously dissociated sensations or emotions, and bringing balance to the activation/ collapse dynamic.²² A witness state is characterized by an awareness of life with an open focus; it allows people to observe the experience of their inner processes without being automatically moved by them.²³ Mindfulness supports our ability to step out of the habits and routines that normally control consciousness and observe without reacting, making choices and change more possible.²⁴ Hospital-credentialed Licensed Acupuncturists, Massage Therapists, and a Nurse Practitioner provided the following services:

Ear acupuncture involved the placement of five needles at the following ear acupoints: Shen Men, Sympathetic, Kidney, Liver, and Hippocampus. Together these points are believed to help bring balance to the ANS, improve sleep, ease tension and pain, increase energy, and enhance focus. Ear acupuncture is used globally to improve health and wellness. ^{25–30} The participant rested with needles in place for 15–30 minutes.

Clinical Acupressure is the practice of sequentially applying hand or finger pressure to specific acupoint combinations to address symptomatic issues and whole-person wellness. The *Seva Stress Release* is a Clinical Acupressure protocol designed to ease stress, support well-being, settle anxiety, and calm the body, mind, and spirit. Fully clothed clients received pressure on 15 points in a 15–20-minute session. ¹⁶

Zero Balancing[®] integrates Western concepts of osteopathic medicine with Eastern principles of energy and healing. It supports alignment of the body's structure with attention to energy flow in muscle, fascia, and bone. Zero Balancing[®] relieves stress by supporting internal order and clarity. It is helpful for chronic pain conditions and for maintaining emotional well-being. Participants lie on a table fully clothed and receive gentle touch. Sessions lasted 15–20 minutes.¹⁷

Analysis

Survey responses were entered and summarized using the Statistical Package for the Social Sciences (SPSS, Chicago, IL) version 17.0.

Results

Over 1 year, a total of 2756 first-time and repeat clinic visitors completed exit surveys (Table 1). Ear acupuncture (58%) and acupressure (52%) were the most common treatments received. Walk-in services were identified as the most important clinic feature on 76% of surveys, and participants reported that they would recommend it to a friend or coworker on 97% of the surveys. Most surveys indicated agreement or strong agreement (on a 5-point scale) that the R&RWC environment facilitated a sense of feeling cared for (100%), calm (99%), and relaxed (98%) (Table 2).

Table 2. Percent of Surveys Showing Strong Agreement with Short- and Long-Term Benefits of Wellness Clinic by Number of Visits

						Totals			
	Number of clinic visits reported at time of survey				Total	Total	Total		
	1	2	3–4	5–8	9–12	> 12th	SA	A	SA or A
Perceived clinic environment									
I felt cared for	85.7	87.8	90.5	91.3	93.7	93.0	88.8	10.5	99.3
I experienced a sense of calmness	83.4	86.1	85.9	91.6	94.4	93.3	87.1	12.0	99.1
The environment helped me relax	78.4	83.1	85.2	88.5	95.7	93.0	84.1	14.1	98.2
Perceived short-term benefits									
I feel more relaxed	74.5	79.6	83.6	88.5	92.3	92.3	81.4	16.5	97.9
I have more energy My mind was put at ease		49.7	53.8	66.9	75.0	83.3	53.0	31.3	84.3
		71.9	74.1	82.7	89.4	90.3	74.5	21.1	95.6
My stress is reduced	58.0	70.3	72.4	80.5	85.2	88.3	70.2	24.3	94.5
My pain has lessened	38.6	51.2	56.0	65.6	75.2	82.1	53.9	24.9	78.8
Perceived benefit over time									
More compassion with patients	n/a	42.6	48.5	59.9	74.8	77.4	56.8	26.4	83.2
Improved sleep	n/a	40.5	47.1	58.6	71.2	76.7	54.8	26.6	81.4
More ease in relationships with co-workers	n/a	41.4	50.9	61.9	71.2	75.9	56.5	27.6	84.1
More pleasure in personal relationships	n/a	40.7	48.0	59.4	75.9	78.2	55.9	25.4	81.3
Improved mood		56.9	60.5	71.3	82.9	84.7	67.6	26.0	93.6
Awareness of need for self-care	n/a	67.9	69.4	77.8	85.8	86.6	74.6	20.7	95.3
N =	1010	521	393	323	142	300			2689

A, Agree; SA, Strongly Agree on a scale of 1–5. Observations are not independent due to repeat clinic visits by anonymous survey respondents. Grand totals do not equal total number of surveys (n=2756) due to about 2% missing data on one or more items. n/a, not applicable.

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Table 3. Frequency of Health Habit Changes Reported in Reponse to Write-in Question, "Have You Made Any Changes in Your Health Habits Since You Started Coming to the R&R Wellness Clinic?" by Number of Visits

			Number of clinic visits at survey						
Health habit changes reported		3–4	5–8	9–11	12+	Unknown	Total		
Improved diet and nutrition (e.g., gave up soda, eating more fruits and vegetables, stopped overeating, drinking more water, decreased sugar intake)	24	24	33	10	34	1	126		
Exercising more (e.g., started exercising, enjoying exercise more, became more regular with exercise, increased frequency of exercise)	51	30	28	14	30	1	154		
Increased stress-reduction practices (e.g., practicing stress relief techniques, more deep breathing, started meditating, listening to tapes, stretching, yoga)	33	24	21	15	34	3	130		
Improved cognition, mood, self-awareness (e.g., better concentration, clarity of thinking, more focused, more aware of need for self-care, paying more attention)	14	14	15	3	18	1	65		
Decreased use of addictive substances (e.g., gave up or decreased alcohol, stopped smoking, gave up caffeine)	7	13	9	2	7	0	38		
Improvements in sleep (e.g., getting more hours of sleep per night, sleeping better)	1	4	7	5	3	0	20		
Other self-care (e.g., weight loss, going to doctor, taking vacation day to relax, slowing down)	3	4	2	2	2	1	14		
Total							547		

Sample comments

I am talking more calmly

More exercise and less sugar

Quit smoking and drink less

Getting more sleep, eating healthier, exercising regularly

More rest, started meditation, stopped overeating

Strong meditation habits and better sleep

Gets better after each treatment

Taking more time to relax and declutter my mind

Increased awareness of how I must take care of myself in order to take care of others

No alcohol, more focus on self-care and the need for balance in my life

More aware of my physical being

Change in diet, lost 13 pounds, sleeping better, happier, decreased stress

I am able to handle stressful encounters at work with more grace and stillness

I feel a sense of balance and relaxation—this will definitely help me with my stress levels

The afternoon after my first treatment, had a hugely productive conversation with my husband— a breakthrough

I've started exercising and being much more conscious of my diet

Increased awareness of how I must take care of myself to take care of others

Change in diet, lost 13 pounds, sleeping better, happier, decreased stress

Down to 1-2 cigarettes/day, will stop altogether, watching diet, thinking about exercising

I feel more at ease in my work and personal life. This time has become a bright point of my week

To eat less, I'm pushing myself to walk a little more, trying to go to bed early, so I can get 7 hours of sleep

As shown in Table 2, the proportion of surveys reporting strong agreement with short- and long-term benefits increased with the number of visits. Since using both "agree" and "strongly agree" responses yielded 97%–100% endorsement of *all* short- and long-term perceived benefits, "strongly agree" responses are emphasized in Table 2. Among first-time and repeat clinic participants, the percentage of those who "strongly agreed" at the first visit that they had more energy (36.9%) or less pain (38.6%) rose to 83.3% and 82.1% at more than 12 visits, respectively.

Among repeat visitors, the proportion reporting strong agreement with perceived long-term benefits also increased by the number of visits on all items such as more compassion with patients, improved sleep and mood, ease and pleasure in relationships, and increased need for self-care. Descrip-

tively, the proportion of surveys showing "strong agreement" with the experience of greater compassion with patients increased from 42.6% at the second visit to 59.9% at 5-8 visits and 77.4 % at more than 12 visits.

Approximately 20% of surveys included write-in comments about health habit changes since coming to the clinic (Table 3). A total of 547 health habit changes were reported, which were classified into seven categories. The most frequently reported changes pertained to exercise, stress reduction, and diet/nutrition. Participants also identified positive changes in mood, sleep, and decreased substance use. As shown, health habit changes were reported across frequency of clinic visits, after just one repeat visit and beyond. One participant noted, "It gets better after each treatment." Six hundred (600) surveys contained write-in

TABLE 4. Type and Frequency of Suggestions for Improvement Reported on Exit Surveys

Suggestion for improvement	Frequency	%
Continue clinic as is (e.g., keep it up, great job, thank you, loved it)	278	46.3
Offer more massage services (e.g., more staff/tables/types of massage)	61	10.2
Reduce noise in hallway	47	8.0
Keep wellness clinic open/make permanent	39	7.0
Reduce noise/distraction reduction in group treatment room	28	5.0
Expand hours of clinic operation	26	4.3
Enhance sensory atmosphere (e.g., dim lighting, music louder)	26	4.3
Offer additional modalities (aromatherapy = 16; other = 11)	26	4.3
Improve logistics/flow (e.g., clearer process for wait times)	24	4.0
Expand clinic size, locations, and eligibility	18	3.0
Add more comfort features	15	3.0
Do more education/outreach (workshops for staff, modality information)	8	1.3
Miscellaneous (e.g., conduct research on the clinic, you need a tip jar!)	4	1.0
Total surveys with write-in suggestions	600	100.0

suggestions for the clinic (Table 4); 46% of which were affirmations to keep the clinic open.

Discussion

To our knowledge, this is the first study to examine feasibility and impact of a hospital-based wellness clinic using CAM modalities among civilian, contract, and Department of Defense employees. Although acupuncture has been used among military populations, ^{31–33} the acceptance and use of a CAM-based wellness clinic in a military hospital is largely unknown. The R&RWC served an average of 60 hospital employees per day, with approximately half of the participants receiving either acupuncture (58%) or acupressure (52%) and 10% receiving both modalities. These results demonstrate a strong support for the concept of a hospitalbased wellness clinic and use of CAM. The feasibility and acceptance of this wellness clinic is further supported by participants on 99% of the surveys indicating they would recommend the clinic to a friend or co-worker. These results are particularly relevant as leaders within the health care system explore novel approaches to mitigate the impact of a decade of war and secondary traumatic stress on health care employees caring for wounded veterans.

A striking finding regarding the potential impact on patient care was that among those who visited the wellness clinic nine or more times, 75% strongly agreed that they experienced more compassion with patients as a result of clinic participation (Table 2). Moreover, the proportion of surveys reporting strong agreement with experiencing more compassion for patients, ease with co-workers, improved mood and sleep, awareness of need for self-care, and more pleasure in personal relationships all rose by number of clinic visits. These findings are consistent with the principle of *qi* transmission and cardiac

coherence¹⁹ wherein increased internal regulation in one individual can influence others in close proximity.

Compassion fatigue, often resulting from care of trauma patients, ³⁴ has been observed since the early 1990s in health care workers ³⁵ in civilian and military environments. Compassion fatigue is reported to diminish capabilities and ability to function at peak performance while potentially having a negative impact on staff turnover, occupational environment, morale, and patient outcomes, both in stateside military health care facilities ³⁶ and in war zones. ³⁷ Providing resources such as an on-site CAM wellness clinic may be one approach for preventing and mitigating the effects of compassion fatigue. This is critically important in medicine ³⁸ and nursing ³⁴ where knowledge, skills, and compassion are cornerstones of quality care.

A relevant Chinese medicine principle is the need for balance of yin and yang energy in individuals and work systems. Both yang energy, or sympathetic arousal, and yin energy, or parasympathetic restoration, are necessary for optimal health, yet health care workers in fast-paced medical centers are often required to operate full tilt with sustained yang energy at all times. Over time, this imbalance can create stress, and interpersonal and performance problems. It has been observed clinically that yang energy runs high in military hospitals in wartime, and that *yin* energy may be less cultivated; and it is suspected that this imbalance may contribute to military caregiver burnout. The R&RWC provided opportunities to nourish innate yin energy in participants and to help them experience its deeply restorative effect on body, mind, emotions, and spirit during sessions and again later, anchored in embodied memory.

Participants' write-in comments were also instructive. About one fifth of the surveys reported a broad range of health habit changes, which were grouped into healthy lifestyle categories such as diet/nutrition, sleep, and exercise (Table 3). Comments reflected qualities of equanimity, openness, and empowerment: "I am more aware of my physical being," "I am able to handle stressful encounters at work with more grace and stillness," and "Increased awareness of how I must take care of myself in order to take care of others." Their comments illustrate positive "ripple effects" to the workplace and home that was theorized earlier: "The afternoon after my first treatment, had a hugely productive conversation with my husband—a breakthrough," and "Able to see an increase in productivity in my work." In many cases, the comments seem to reflect a calm, balanced nervous system in participants returning to units and co-workers. Reflecting briefly on the session via the exit survey, including writing down health habit changes, may facilitate growth by allowing participants to cognitively anchor their learning in retrievable memory by giving language to their experience.

Benefits reported on surveys were not limited to the areas that were anticipated (e.g., decreased pain, increased energy). The staff never mentioned food habits, exercise, substance use, or health behaviors in the sessions, yet participants reported "ripple effects" into many aspects of health that they believed were inspired by attending the R&RWC. This is consistent with the Chinese medicine principal that when *qi* is full and flowing in a balanced and harmonious way, it supports healing and wellness. While further studies are needed to replicate and test these results, these findings suggest that small positive interventions may inspire movement toward

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increased balance and wholeness in larger contexts. The surprising array and reflective quality of behavioral changes reported following these modest interventions may have broader implications: attention to and deliberate support of subtle energy balance may be a previously under-recognized active ingredient in effective wellness interventions. This warrants further study.

Limitations

Although this evaluation provides encouraging evidence on the feasibility of implementing a hospital-based wellness clinic using CAM modalities, no causal inferences can be made on the degree of effect the intervention had on improving wellness of participants or delivery of care. However, these descriptive data demonstrate promising findings, particularly in enhancing compassion in care delivered to patients. Anonymity of the surveys limited the data analysis options since observations over time are not independent. Self-selection bias among repeat visit surveys is another limitation since the 50% of first-time visitors who returned were likely more satisfied or responsive than those who visited only once. However, even among returnees, the proportion of those indicating their strongest agreement with perceived benefits continued to increase by number of visits, suggesting that sustained exposure may be important.

Conclusions

The use of a workplace wellness program based on CAM principles implemented in a large, complex military hospital during a time of war appears to be feasible, and well utilized by a range of health care personnel. Further research is needed to assess the impact of this employee stress reduction intervention on human resources issues such as staff retention, worker satisfaction, sick days, and occupational safety incidents, and on clinical indicators such as medical errors and patient satisfaction.

While there is considerable research on the negative impact that post-traumatic stress disorder of soldiers can have on families^{39–41} and on professional caregivers, further research is needed to document the potential impact that health care personnel's *wellness* can have on the health outcomes of patients and recovering wounded Service members. When health care providers of war-wounded patients are given onsite opportunities and tools to experience a more balanced ANS and wellness, theory and this evaluation suggest that they may have the potential to "spread" greater internal order and balance to their co-workers and their patients.

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