Solving the Healthcare Worker Crisis: Addressing Burnout

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Abstract

Burnout is a complex and multifaceted phenomenon associated with poor psychological functioning that negatively impacts both work performance and interpersonal relationships. While burnout can occur in any occupational setting, recent research has been increasingly focused on healthcare workers. The ever-increasing demands on care providers and a lack of mediating tactics have led to staggering levels of reported burnout among nurses and physicians. Thus, physicians and nurses are leaving their professions, retiring early, and struggling to meet the demands that their workplaces and patients require. Though employers have struggled to fill positions in healthcare, there is no shortage of healthcare workers to fill these positions. Healthcare organizations are ignoring the call for evidenced-based solutions to burnout. The following literature review thoroughly investigates this dilemma and proposes an evidence-based intervention with promising research to date.

Keywords: Burnout, resiliency, healthcare workers, emotional freedom technique, stress

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Burnout in healthcare workers (HCWs) is a public health crisis. Although healthcare staff are a precious resource essential to providing high levels of patient care, their psychological well-being has been disregarded. At the individual level, HCWs reporting burnout are more likely to suffer poor mental and physical health (Bradford & Glaser, 2021; Meira-Silva et al., 2022). At the organizational level, employers experience higher rates of absenteeism, turnover, medical errors, and decreased quality of patient care (Meira-Silva et al., 2022). Current burnout rates are 56% and 47.3 % in nurses and physicians, respectively. Burnout in HCW has been linked to intent to leave the workforce and actual departure. While many organizations agree that preserving the current workforce requires resiliency-enhancing strategies that enable them to adapt to the inherently stressful nature of healthcare, identifying and applying effective strategies remains a challenge.

Emotional Freedom Technique (EFT) is a psychotherapeutic technique that may serve as a strategy to address this dilemma. Over 100 peer-reviewed studies have demonstrated that EFT is a safe way to reduce a range of physical and psychological conditions, including stress (Bach, 2022; Blacher, 2023; Feinstein, 2019). Because of EFT's profound effect on modulating the stress response, the following paper serves as an examination of an evidenced-based project that assess its effect on HCW burnout.

Background and Significance

Prior to the COVID-19 pandemic, organizations struggled globally to fill HCW positions. Unprecedented demands on HCWs and the organizations they serve following the pandemic adversely impacted their job satisfaction, anxiety and stress levels, increasing burnout and staff

turnover (Falatal, 2021). The World Health Organization (WHO) reports that nurses account for 50% of the HCW shortage and the United States will need to obtain 9 million nurses by 2030 to account for this deficit (2024). A focus on education and retention of nurses has been made a priority by the 2030 Agenda for Sustainable Development, which recognizes its positive impact on population health outcomes (World Health Organization, 2022). Compassion fatigue and burnout amongst nurses are linked to poor patient and organizational outcomes, including high turnover and poor perception of care by patients (Labrague & Santos, 2021; Marshman et al., 2021).

Burnout is a complex and multifaceted phenomenon associated with poor psychological functioning that negatively impacts both work performance and interpersonal relationships. While burnout can occur in any occupational setting, recent research has been increasingly focused on healthcare workers. The ever-increasing demands on care providers and a lack of mediating tactics have led to staggering levels of reported burnout among nurses and physicians. Thus, HCWs are leaving their professions, retiring early, and struggling to meet the demands that their workplaces and patients require.

Internal Data

The organization is submitted to the Colorado Nurses Association, which is an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation and consists of an educational conference for advanced practice psychiatric nurses and mental health professionals that meets annually in the Fall. This event offers opportunities to professionals who wish to engage with other like-minded individuals while gaining continuing education credits. The organization's mission is to deliver evidenced-based assessment and treatment modalities that enhance professional learning and improve care outcomes using the most up-to-date research

on topics relevant to the attendees' practice. Organizers collect data from attendees to gather information on proposed topics for future conferences.

The organization endorses anecdotal reports of providers feeling increasingly burnt out, emotionally desensitized, and disengaged. Although mental health workers are knowledgeable in how to help their patients and clients through complex issues, they find that applying these principles to their psychological well-being is less straightforward. Mental health professionals recognize the need to prioritize their mental health to deliver high-quality care but do not always have the resources, time, or energy to do so effectively. As such, they are interested in practical ways to safeguard their resilience and help other nurses do the same, knowing that ensuring quality nurses remain in practice is vital to furthering the nursing profession overall.

PICOT Question

This inquiry led to the development of the PICOT question: “In healthcare workers experiencing burnout, how does implementing EFT, compared with care as usual, affect symptoms of burnout?”

Evidence Synthesis

All studies within the evidence review (Appendix A, Table A1) were high levels of primary research. Results demonstrated statistically significant p-values (<0.05) after implementing EFT in at least one of the following outcomes: stress, burnout, anxiety, salivary cortisol, PTSD symptoms, vital signs, well-being, happiness, and psychological growth. While only 3 out of the ten studies reported high confidence intervals >95% to signify clinical meaningfulness, half of the remaining seven had small study populations, which may explain the disregard for CI when a significant p-value is found (Melnyk & Fineout-Overholt, 2023). The findings across interrelated disorders including anxiety, stress, PTSD, and stress biochemistry,

and burnout, further substantiate the existing research on EFT's positive effects (Appendix A, Table A2). Lastly, the evidence suggests that EFT is a feasible solution to addressing burnout because it is a cost-effective, safe, and self-performable intervention to reduce psychological distress.

Search Strategy

An exhaustive search of high-quality evidence was conducted to answer the aforementioned PICOT question. Four databases were utilized: Cochrane Library, PubMed, EBSCO, and ASU library. These databases were selected based on their reputation for producing relevant and up to date medical research. All four databases yielded relevant and applicable studies. The search process is described below.

Evidence for Project

The pathogenesis of burnout is multifactorial and remains an evolving concept with respect to its manifestations and symptomology. As a result, inconsistency in defining and evaluating burnout in healthcare remains a challenge in research. Thus, the presented literature review seeks to reflect this complexity and, through an inferential process, demonstrates how EFT can be helpful. Unfortunately, the evidence also reflects a gap in research on EFT as a tool to address burnout specifically in HCW, though the little existing research is compelling. However, EFT's positive impact on the stress response and presentations of burnout in its various stages and courses is evident. For example, EFT can reduce maladaptive emotional states (i.e., anxiety) that increase the risk of burnout and contribute to its development, as well as mental health diagnoses that result from prolonged or untreated burnout (i.e., PTSD). While there is a multitude of self-care interventions that improve psychological well-being, EFT produces meaningful and long-lasting results that are self-performable and do not require any equipment;

thus, it can be done anywhere. Therefore, healthcare organizations should view EFT as a feasible, cost-effective, and efficacious tool to reduce burnout among their staff.

Purpose

Following the pandemic, long-standing neglect of HCW mental health has amplified, creating dire implications for organizations and patient outcomes. Given the costly effects of staff turnover, worsened patient care, and impending HCW shortages, organizations must explore strategies to promote the wellbeing of their staff. The purpose of the project is to examine how Emotional Freedom Technique (EFT) may be an effective solution for increasing psychological resilience necessary to combat the aforementioned public health crisis.

Theoretical Framework

Techniques like EFT are grounded in the theoretical framework of energy psychology. Energy psychology encompasses techniques that positively affect energy systems to create harmony between the body, mind, and emotions (Dincer & Ingali, 2020). Feinstein (2023) posits that techniques grounded in this framework combine cognitive, exposure, and somatic elements to produce their healing effects. Acupoint *stimulation* through *tapping* accounts for EFT's somatic component, which unifies the body and mind. Mind-body approaches are founded on the premise that mental and physical health are interconnected so that energy therapies can treat physical and emotional conditions (Feinstein, 2019).

Stimulation of energy pathways via *tapping* initiates activating and deactivating signals to the brain that are thought to have calming effects that reduce psychological distress (Feinstein, 2019). In *mechanosensory transduction*, *tapping* provides a mechanical stimulus that cells convert to an electrical signal, moving along pathways in the body's connective tissue to generate changes in brain regions, including the limbic system (Feinstein, 2023). The resulting brain

activity can include downregulation in hyperarousal areas or activation of areas needing increased executive functions and emotional regulation (Feinstein, 2023). Energy therapists assist participants with generating words and images that bring about conscious awareness of distressful subject matter or emotions, which creates the neural activity (i.e., activating and deactivating signals) necessary for the therapeutic objective (Feinstein, 2023).

The central mechanism of action in energy therapies is the rewriting of the neural coding of implicit memories of distressful experiences, which results in positive changes in maladaptive emotions, cognitions, and behaviors linked to these incidents (Feinstein, 2019; Feinstein, 2023). This rewriting is possible through accommodating new experiences that generate *prediction errors*- or discrepancies between what one predicts will happen and what one experiences- central to cognitive reframing, fear extinction, and disruption of worry circuitry (Feinstein, 2019; Feinstein, 2023; Stahl, 2021). Moreover, these techniques positively affect brain networks that play a role in threat detection and interpretation, cognitive adaptations, and the processing of stressful stimuli (Feinstein, 2023).

The practical application of EFT in reducing burnout is a key aspect of its effectiveness. Participants in EFT sessions are encouraged to verbalize positive acceptance statements, which allows them to confront workplace stressors and reframe their cognitive responses. The combination of exposure to stressors and the somatic component of EFT (*tapping*) promotes relaxation and triggers the brain processes discussed earlier. The ultimate outcome is a positive association of environmental triggers through memory integration, effectively eliminating chronic stress that is central to burnout development.

Implementation Framework

Rosswurm and Larabree's (1999) model was selected to guide the proposed project's development (Appendix B, Figure 1). The model reflects the organization's mission of utilizing evidence-based practice to guide practice from both contextual and empirical data. Additionally, this model is founded upon change theory, research utilization, and theoretical research concerning evidence-based practice. It is designed to guide practitioners in synthesizing the best available evidence to guide clinical decision-making and improve patient outcomes and the overall quality of healthcare (Rosswurm & Larabree, 1999). The model contains six steps: assessing the need for change, connecting this need with an intervention or outcome, analyzing relevant evidence or data, implementing an intervention, and, if warranted by the study results, ending with practice change integration strategies.

The first three steps of this systematic process have already taken place. Anecdotal reports from healthcare practitioners citing burnout (internal data) were identified by stakeholders of the organization and compared with national reports of increased psychological stress in HCWs (external data). This first step involved a practitioner query that substantiated a need for change in practice (Rosswurm & Larabree, 2019). Second, stakeholders identified selfcare strategies like EFT as a potential intervention to decrease burnout in HCWs. After connecting EFT as an intervention to measure burnout levels, a critique and synthesis of research was conducted. This third step led to the conclusion that EFT is a cost-effective, safe, and selfperformable intervention to reduce psychological distress. The fourth step in this process will involve working alongside stakeholders of the organization and incorporating evidence from this review to design an EFT intervention for conference attendees (Rosswurm & Larabree, 2019). The final two stages of this process will be the analysis of the study findings to determine how

these results may be used to guide practice change (Rosswurm & Larabree, 2019). If the results of the study uphold the existing literature that EFT can be implemented to decrease HCW burnout, the organization can maintain this practice change through future continued education opportunities on EFT for attendees of the conference.

Methods

The project was initiated at the organization's annual conference on October 4th, 2024. After presenting education on EFT, participants in the session were permitted to participate in the pilot study (i.e., proposed project). At present, consenting participants are practicing tapping sessions independently, as often or as little as they would like. After four weeks of tapping, the participants will rate their current level of burnout for a second time using a validated instrument. Following data collection from participants, the findings will be analyzed to determine whether there is a statistical or clinical significance. Assessment of the findings will be shared with the organization, which may continue education on EFT as a strategy to reduce burnout in this population.

Ethical Considerations

The first ethical consideration involves informed consent. Informed consent requires adequate knowledge of the study's risks and benefits. While EFT is regarded as a safe psychotherapeutic intervention and no adverse risks have been reported in clinical trials (Stapleton, 2023), one potential risk (emotional distress) is described below, and an explanation of how that risk will be minimized.

It is possible that exposure to memories, thoughts, and feelings while repeating affirmations related to the stressor (i.e., burnout) may cause distress. Participants were asked to stop tapping if distress occurs and perform a grounding technique or deep breathing exercise to

minimize harm. The Co-PI will be available to contact by phone for emotional support during phase 2 (Intervention). Participants experiencing severe distress were encouraged to call the CO Crisis line and Suicide hotline. A description of this risk, as well as phone number contacts to emotional support persons and hotlines, is detailed in the consent form.

Participants will not be compensated for their participation in the project, nor will their lack of participation affect their relationship with the research team or involvement with the organizational site of the project (i.e., conference.) Consent was obtained after the conference to allow for privacy and minimize the possibility that attendees felt pressure to participate.

Institutional Board Review

The Arizona State University Institutional review board reviewed this protocol and ensure that ethical principles are followed within, and participants' human rights were protected. The application to complete the educational presentation at conference, data collection and analysis was sought and received in July of 2024. In addition to the protocol, the following items were submitted with the application: instructional PDF, preintervention surveys, postintervention surveys, license to administer burnout survey, letter of support from organization, PowerPoint presentation, and consent form.

An addendum to the original protocol was submitted and approved by the Institutional Review Board in September of 2024. This addendum included updates to the instructional PDF and PowerPoint presentation. The pre and postintervention surveys were updated to include an image of the copyright, per licensee requirements.

Setting and Stakeholders

The first phase of the project took place on October of 2024 as part of an annual continuing education conference held over a 3-day weekend. This conference, accredited by the

American Nurses Credentialing Center's Commission on Accreditation, is an educational conference for advanced-practice psychiatric nurses and mental health professionals. While the conference is open to all mental health professionals, the majority of attendees are advancedpractice psychiatric nurses. The planning committee pre-selects experts in their respective topics to present as speakers over the weekend. The speakers present with PowerPoints in 60-minute intervals and sometimes include additional educational activities or handouts.

The organization is small and consists of a planning committee, all of whom are advanced-practice psychiatric nurses. The stakeholders include an identified president and treasurer, a speaker coordinator, and an exhibitor liaison who have yet to be selected. The organization's president is also the project site champion and has an instrumental role in guiding the project's development and will approve its final design. Additionally, this stakeholder will assist in data collection from participants and determine how the results will be used in future conferences. The treasurer is responsible for allocating financial resources toward the project and determine budget constraints. The speaker coordinator ascertains the timing of the presentation and specify whether there will be opportunities for participants to participate in a group EFT session. The exhibitor liaison provides technical support during the project's implementation at the time of the conference.

Participants

The participants were attendees of the organization's annual conference. Any conference attendee interested in participating in the project was permitted to do so. However, data extraction and analysis will be limited to nurses and advanced practice providers. Additional criteria include >18 years of age and English speaking. Special populations were excluded.

Additional participant characteristics will be available following the implementation of Phase 4.

Description of Intervention

The intervention includes an educational presentation and supporting instructions on how to self-perform EFT. Participants were instructed to perform as many tapping sequences, geared toward work-related stress and burnout, as frequently as they wished in the 4-week period following the conference. Affirmations were distributed to participants as a guide for those who do not wish to generate their own or have trouble doing so. These affirmations were generic phrases following EFT's set-up statement format in the context of someone who is experiencing stress or burnout from their occupation.

Project Timeline

The project is carried out in 5 phases: pre-Intervention, intervention, post-intervention, data analysis, and dissemination of findings. Phase 1 (pre-intervention) included the educational presentation which took place on October 4th, 20204. In Phase 2 (intervention,) participants completed preintervention surveys and practiced EFT independently. Phase 3 (post-intervention) began on November 4th which included the cessation of practicing the intervention, and completion of post-intervention surveys. This Spring 2025, Phase 4 (data analysis) took place and phase 5 (dissemination of findings) will take place in late April, 2025.

Data Collection Plan

Data Collection will occur in phases 2 and 3 (intervention and post-intervention). Participants received all pre-intervention materials in an email on October 7th, 2024. These materials included a consent form, a demographics survey, a pre-intervention assessment (MBIHSS MP), and an instructional document illustrating tapping meridian points and verbal affirmations.

Outcome Measures

The primary outcome measurement of this evidenced-based project is to assess the effect of practicing EFT on HCW burnout levels. Additionally, burnout levels were analyzed with HCW individual characteristics and frequency of EFT practice to provide additional insights about EFT's efficacy in burnout treatment. Further details on these measures are outlined in the following section.

Instruments

Maslach's Burnout Inventory for Human Services Survey for Medical Personnel (MBIHSS-MP) was carefully selected as the instrument to measure burnout levels in the proposed project (Appendix C, Figure 1) This survey contains a 3-factor structure comprised of the central components of burnout (emotional exhaustion, personal accomplishment, and depersonalization). Unlike other versions of the MBI, the MBI-HSS-MP accounts for features inherent to working as a health professional, such as caring for patients who are ill (Lin et al., 2022).

Lin et al. (2022) examined the psychometric properties of the MBI-HSS-MP using Classical Test Theory (CTT), Rasch analysis, Confirmatory Factor Analysis (CFA), and latent profile analysis (LPA). The researchers calculated the mean scores across the three aforementioned dimensions of burnout (9 items for Emotional Exhaustion, 5 for depersonalization, and 8 for Personal Accomplishment). The response scales are defined by the frequency of experiencing symptoms, which are as follows: 0 = never, 1 = a few times a week, 2 = once a week, 3 = a few times a month, 4 = once a week, 5= a few times a week, and 6 = every day. Strong psychometric properties of the MBI-HSS-MP were found employing CFA to determine validity and CTT and Rasch analyses to determine reliability. Convergent validity and

discrimination validity supported all three tested models: CFI = 0.941, TLI = 0.929, RMSEA (90% CI) = 0.046 (0.033, 0.058), and SRMR = 0.069 for three-factor structure model; CFI = 0.915, TLI = 0.901, RMSEA (90% CI) = 0.055 (0.043, 0.066), and SRMR = 0.071 for second order structure model; CFI = 0.920, TLI = 0.906, RMSEA (90% CI) = 0.054 (0.042, 0.065), and SRMR = 0.076 for bifactor structure model. Composite reliability, average variance, and internal consistency were scored as acceptable or near acceptable. Lastly, LPA identified subgroups within the participants and provided evidence that burnout levels should be categorized as high, average, or low (Lin et al., 2022).

The demographics survey is a 6-item survey containing the following items: gender identity, age, ethnicity, marital status, education level, and healthcare profession (i.e., physician, physician assistant, nurse practitioner, or nurse.)

The frequency survey addressed for how long and often, on average, participants practiced EFT during a session and on a weekly basis. Following these two questions, participants were asked if they felt EFT reduced stress levels and if they plan to continue practicing in the future. Lastly, participants provided general feedback on the project.

Data Analysis Plan

Status Intellectus (Intellectus Statistics, 2023) was used to analyze the deidentified data collected in phases 2 and 3. Descriptive statistics was used to analyze deidentified demographic data and determined the effect of the EFT intervention on participants' burnout levels.

Budget

The proposed budget for this project included estimated spent developing the project, analyzing the results, and meeting with stakeholders commensurate with an average nurse salary in Denver, CO. Additional expenses for the Co-PI include travel and lodging to site of conference

(~$500.00 if residing in Denver County) and electronic software required to replicate this project. The necessary software to complete this project were at no additional cost as an Arizona State University Student and include a Microsoft Office account to create the educational PowerPoint presentation, Adobe Account to create an instructional PDFs for participants, Qualtrics account for data collection, and Status Intellectus (Intellectus Statistics, 2023) software to analyze data.

While the conference takes place each year independent of whether this project is included, costs to the organization to facilitate the conference are addressed in the budget proposal (Appendix C). Because project costs were minimal to the Co-Pi directly, no funding was sought or received.

Results

Interpretation of Findings

Burnout is characterized by increased emotional exhaustion, depersonalization, and a decreased sense of personal accomplishment (Maslach et al., 2018). Burnout should be viewed as a continuous variable rather than dichotomous to represent the patterns within an individual's experience that can change over time. Therefore, no absolute score signifies the presence or absence of burnout. Instead, higher scores of emotional exhaustion and depersonalization and lower scores of personal accomplishment signify higher degrees of burnout. The SUM approach adds items within each dimension for a total scale score (Maslach et al., 2018).

Survey Responses

Status Intellectus (Status Intellectus, 2023) was used to analyze data for this project. Descriptive statistics was used to describe the outcome variables and the clinical significance of the results.

The sample size was 2 (n=2), both nurse practitioners. The average age of the sample was 52 (SD=24.04), and the ages ranged from 35 to 69. Both subjects were female, white, and married. One participant held a doctorate degree, and the other held a master's degree.

Descriptive statistics were calculated before and after the intervention for each dimension of burnout. The average score for emotional exhaustion before the intervention was 41 (SD=12.73), ranging from 32 to 50 points. The average score for emotional exhaustion after the intervention was 36.50 (SD=10.61), ranging from 29 to 44 points. The average score for depersonalization before the intervention was 11 (SD=4.24), ranging from 8 to 14 points. After the intervention, the average score for depersonalization was 6 (SD=5.66), ranging from 2 to 10 points. The average score for personal accomplishment before the intervention was 38 (SD=7.07), ranging from 33 to 43 points. The average score for personal accomplishment after the intervention was 44 (SD=1.41), ranging from 43 to 45 points. The survey responses conclude that burnout states decreased for all participants (100%) as evidenced by decreased total mean scores for emotional exhaustion and depersonalization, and increased mean scores of personal accomplishment.

Additional qualitative questions were asked outside the MBI-HSS-HP to confer additional clinical significance. Participants (100%) practiced EFT for an average of once weekly, while the average time spent during each session of practice ranged from one (50%) to 10 (50%) minutes, which is significant because of the short time spent practicing EFT to produce favorable results. Participants (100%) also expressed that practicing EFT reduced their stress and will continue EFT in the future.

Impact and Sustainability

This project demonstrated the positive impact that brief EFT sessions can have on reducing burnout states in healthcare workers and subjective feelings of stress. This project shows that when healthcare workers are educated on the benefits of EFT and how to perform it, they can improve their psychological state. When burnout states in HCW are reduced, outcomes for the healthcare system are improved on an individual and systemic level. This project can be easily maintained by including EFT education and demonstration to HCW in future continuing education conferences. EFT for burnout is a feasible and cost-effective method that can be practiced without clinical oversight and quickly taught to HCWs.

Discussion

The evidence of EFT's efficacy in reducing stress guided the project intervention's deigning to reduce burnout in HCW. The findings of this project suggest that EFT can reduce burnout states in HCWs, specifically nurse practitioners, in as little as four weeks. The primary challenge of this project was the small sample size, which was likely impacted by poor conference turnout due to unforeseen circumstances. Wildfires in the surrounding project site at the time of the conference impacted traveling conditions and contributed to poor turnout. Therefore, it may be helpful to allow for Zoom attendance at future conferences to increase turnout and project participation. Future recommendations include assessing the impact of EFT on burnout levels using a larger sample of HCW and over a longer duration of time (> 4 weeks) to provide greater statistical significance.

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Appendix A

Evaluation and Synthesis Tables Table A1

Evaluation Table for Quantitative Studies

Citation	**Theoretical/ Conceptual Framework**	**Design/ Method/ Purpose**	**Sample/Setting**	**Variables**	**Measurement/ Instrumentation**	**Data Analysis**	**Results/ Findings**	**Level of Evidence; Application to practice; Generalization**
Dincer & Inangil, (2020). The Effect of Emotional Freedom Techniques on nurses' stress, anxiety, and burnout levels during the COVID-19 pandemic: A randomized controlled trial **Country:** Turkey **Funding:** This research was not funded	Thought field therapy	**Design:** Randomized controlled trial **Purpose:** To investigate the efficacy of EFT in burnout in nurses	**N=** 72 **n**: 35 (IG) **n**: 37 (CG) **Demographics:** No statistically significant differences between the CG & IG. Age: 33.45+- 9.83 (IG) 33.37+-9.58 (CG) Gender: 91.4% female (IG) 86.5% female (CG) **Setting:** Nurses in a university hospital caring for COVID-19	**IV1:** EFT **DV1**: Burnout levels **DV2**: Stress levels **DV3**: Anxiety levels **Definitions:** n/a	**Tools:** The Burnout Scale, STAI-S, Subjective Units of Distress Scale **Validity/ Reliability:** Cronbach's alpha 0.84 (The Burnout Scale), 0.84 (STAI-S), 0.89 (Subjective Units of Distress Scale)	**Statistical Tests Used:** Pearson ChiSquare, Mann Whitney U, KruskalWallis H, and Wilcoxon Signed Rank tests	**DV1:** Statistically significant reduction of burnout levels (p=<0.010) **DV2:** Statistically significant reduction of stress levels (P<0.001) **DV3:** Statistically significant reduction of anxiety levels (p<0.001)	**Level of Evidence:** Level 1 **Strengths:** The treatment (EFT) is fast and easy to provide, and the results were produced in a single 20-minute online group session **Weakness:** Results need to be confirmed with independent investigators who are not part of research team. **Feasibility:** EFT is an effective and rapid treatment

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Bias: None			patients **Exclusion:** Presence of psychiatric diagnoses, taking courses about coping with anxiety and stress, not volunteering to be part of study **Attrition:** 10%					**Application:** The participants were caring for COVID19 patients but could be applied to nurses facing substantial physical and emotional pressures
Stapleton et al., (2020). Reexamining the Effect of Emotional Freedom Techniques on Stress Biochemistry: A Randomized Controlled Trial **Country:** Australia	Theory of Allostasis	**Design:** Randomized controlled trial **Purpose:** To assess the effect of EFT on cortisol and psychological distress symptoms compared with psychoeducation and no treatment groups	**N:** 53 **n**: 17 (CG) **n**: 19 (IG) **n**: 17 (psychoeducation) **Demographics:** Age: 43 +-12.9 (CG) 47 +-13.9 (IG) 46 +- 14.83 (psychoeducation) Gender: 82% women (CG) 74% women (IG) 82%	**IV1:** EFT **DV1**: Psychological distress symptoms **DV2:** Salivary cortisol levels **Definitions:** n/a	**Tools:** The SA-45 and SalivaBio Oral Swab **Validity/ Reliability:** Internal reliability of SA-45 confirmed with Cronbach's Alpha of .95 and The Salimetrics High Sensitivity Cortisol Enzyme Immunoassay Kit.	**Statistical Tests Used:** Descriptive statistics, repeatedmeasures analysis of variance (ANOVA), simple multivariate analysis of variance (MANOVA),	**DV1:** No statistically significant reduction in psychological distress (p=.851) **DV2:** Significantly decreased cortisol levels in EFT group (p=.001)	**Level of Evidence:** Level 1 **Strengths:** Controlled for effect of circadian rhythms by conducting testing at same time each day, exclusion criteria minimized potential confounds in cortisol levels, blinding for participants to condition until day

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Funding: The Association of Comprehensive Energy Psychology and National Health and Medical Research Council Peter Doherty Early Career Fellowship **Bias:** None			female (psychoeducation) **Setting:** Participants recruited through convenience sampling procedures including online announcements **Exclusion:** Individuals experiencing pregnancy, menopause, Cushing's disease, those with history of major depressive disorder, posttraumatic stress disorder, or chronic diseases characterized by abnormal cortisol levels, taking medications that		CONSORT quality standards met	bivariate correlations, and priori power analysis		of intervention, blinding of biostatistician to the group allocation **Weakness:** Group delivery of interventions, appropriateness of SA-45, known cortisol level variation throughout day **Feasibility:** EFTs may be an efficient and effective brief treatment for reducing biological markers of stress **Application:** More research needed to determine whether endocrinal measures and EFT can address stress-related issues

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			are steroidal-based or for depression, hormones, thyroid, diabetes, or contraception **Attrition**: 16%					
Church et al., (2020). AppBased Delivery of Clinical Emotional Freedom Techniques: Cross-Sectional Study of App User SelfRatings **Country:** Australia **Funding:** National Institute for	Behavior Change Techniques, the Field of Energy Psychology	**Design:** Crosssectional analysis **Purpose:** To assess the effect of The Tapping Solution app on user selfratings of psychological distress	**N=** 270,461 **Demographics:** Age: mean 35-45 Gender: 89.1% female, 18.1% male **Setting:** Anonymous data was collected from consenting participants over 12-month period starting in October of 2018; users were mainly located in the United States	**IV1:** Anxiety meditations(n=12) IV2: Stress meditations (n=11) **DV1**: Emotional intensity indicators of anxiety and stress **Definitions:** mHealth= mobile health	**Tools:** Subjective Units of Distress SUD scale **Validity/ Reliability:** SUD reliability and validity concluded through psychometric analysis	**Statistical Tests Used:** App data uploaded from google analytics and imported to SPSS version 26	**DV1:** Significant reduction in emotional intensity ratings presession to post session after IV1 (anxiety meditations), average of 29.13% (P<0=.001; 95% CI -2.92 to -2.91) and IV2 (stress meditations), average of	**Level of Evidence:** Level 2 **Strengths:** Results provide strong evidence that single, brief, intervention of EFT (less than 10 minutes) reduce emotional intensity ratings, and are consistent with previous research that EFT can reduce symptoms of anxiety and psychological distress **Weakness:** mHealth

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Healthcare **Bias:** Large convenience sample determined by self-selection rather than probability sampling which can lead to bias			(50.20%), United Kingdom (13.50%), Canada (12.60%), and Australia (10.30%) **Exclusion:** Age >18, >65 **Attrition**: 0%				30.80% (p<.001; 95%CI -3.08 to -3.07)	can post treatment adherence issues, self-administration of app may be difficult for those without meditation experience, limited measure of app-user demographics, no control for user expectancy effects, the nonspecific effect of any treatment, or environment and frequency of app use **Feasibility:** mHealth can be recommended as an adjunct to professional psychological services **Application:** Generalizability of findings limited to nonclinical population due to

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								lack of diagnostic pre and post treatment assessments
Okyay & Ucar, (2023). The effect of emotional freedom technique and music applied to pregnant women who experienced prenatal loss on psychological growth, wellbeing, and cortisol: A randomized controlled trial **Country:** Turkey **Funding:** Inonu University Scientific Research	Energy Psychology	**Design:** Randomized controlled trial **Purpose:** To determine the effect of EFT applied to pregnant women who experienced prenatal loss on wellbeing, cortisol, and anxiety levels	**N:** 190 **n**: 62 (IG) **n**: 63 (CG) **n**: 65 (Music group) **Demographics:** Age: 27-33 52.9% (IG) 47.2% (Music group) 50.9% (CG) Gender: 100% female (IG, CG, Music group) **Setting:** Pregnant women with a prenatal loss history who presented to the obstetrics outpatient clinics of a city hospital in a province in	**IV1:** EFT (n=52) **DV1**: Salivary median cortisol **DV2:** Anxiety **DV3:** Well-being **DV4:** Post traumatic psychological growth **Definitions: n/a**	**Tools:** Saliva samples, SUE scale, SUD scale, PTGI, WHO-5 Well-Being Index **Validity/ Reliability:** **Saliva analysis:** Minimum detection was 1ng/ mL, and intra and intertest variation coefficients were 13.6% and 15.8%, respectively SUD scale: Cronbach's alpha 0.90 SUE scale: Cronbach's alpha 0.92	**Statistical Tests Used:** Descriptive statistics, Chi-square test, Kolmogorov-Smirnov test, ANOVA, Kruskal-Wallis, Mann-Whitney U, Post-Hoc Tukey test, repetitive measurements variance analysis and Wilcoxon Signed Ranks test	**DV1:** Significant reduction in cortisol levels ($p<0.001$) **DV2:** Control group anxiety level was significantly higher than EFT group ($p<0.001$) **DV3:** Increased well-being scores ($p<0.005$) **DV4:** Increased post traumatic psychological	**Level of Evidence:** Level 1 **Strengths:** Sociodemographic characteristics of the three groups were similar, homogenous distribution of the sample the groups increase internal validity **Weakness:** Very specific study group characteristics- pregnant women with history of perinatal loss- may weaken generalizability **Feasibility:** Midwives should receive training on

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Projects Coordination **Bias:** None			eastern Turkey **Exclusion:** Anxiety level >1 on SUD scale, less than 18 years of age, infection, wound or scar on tapping areas, problems related to pregnancy and the baby, communication or psychological health problem, contaminated saliva **Attrition**: 0%		PTGI: Cronbach's alpha 0.92, in current study is 0.87 WHO-5 Well-Being: Cronbach's alpha determined as 0.81, in current study is 0.83		growth	EFT **Application:** Unclear if results generalizable to all pregnant women, rather than those experiencing loss

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Saadoon et al., (2023). Effects of Emotional Freedom Technique on Fear of Childbirth and Stress among Primaparous Women during the First Stage of Labor **Country:** Egypt **Funding:** Not stated **Bias:** None	Field of Energy Psychology	**Design:** QuasiExperimental **Purpose:** Evaluate the effect of EFT on fear of childbirth and stress among primiparous women during the first stage of labor	**N=** 102 **n**: 51 (IG) **n**: 51 (CG) **Demographics:** No statistically significant differences between IG and CG. Age: mean 25.43+-4.32 (IG) 26.14 +-4.81 (CG) Gender: 100% female **Setting:** The labor and delivery unit at Mansoura University Hospitals using purposive sample **Exclusion:** Younger than 18	**IV1:** EFT **DV1**: Stress level **Definitions:** n/a	**Tools:** SUD **Validity/ Reliability:** 0.93 assessed with Pearson correlation test. Validity tested by three experts from Obstetric Nursing field	**Statistical Tests Used:** t-test, chisquare test, Cronbach's alpha and Pearson Correlation	**DV1:** Highly statistically significant reductions in stress of childbirth scores with further decreases in each stage of labor in intervention group (p=0.001)	**Level of Evidence:** Level 1 **Strengths:** Highly significant differences between intervention and control in all portions of first phase of labor (latent, active, transitional); findings consistent with similar studies and similar populations; current study supports hypothesis that EFT reduces stress **Weakness:** Small sample **Feasibility:** EFT is an effective way to reduce stress among primiparous women in labor; EFT

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			and older than 35, women with maternal or fetal risk, psychological disorders, analgesics or epidural anesthesia. **Attrition:** 0%					recommended as part of routine care **Application:** Should replicate with larger sample to generalize findings
Remziye & Ökzan, (2022). Effects on Anxiety and Vital Signs of the Emotional Freedom Technique and Music Before Surgery for Lumbar Disc Hernia **Country:** Turkey **Funding:** Not	Energy Psychology	**Design:** Randomized controlled trial **Purpose:** To determine the effects on patient' anxiety and vital signs of EFT and music before Lumbar Disc Hernia surgery	**N**: **164 n**: 54 (IG) **n**: 54 (CG) **n**: 54 (music group) **Demographics:** No statistically significant differences between all groups (p>.05). Age: 51.11 +- 15.12 (IG) 56.67 +- 13.82 (CG) 50.87 +- 12.14 Gender: 61.1%	**IV1:** EFT **DV1**: Anxiety **DV2:** Subjective Distress **DV3**: Vital Signs **Definitions:** n/a	**Tools:** STAI-S, Subjective Units of Distress Scale, Pulse rate/minutes, Respiratory rate/ minutes, Systolic Blood Pressure, Diastolic Blood Pressure **Validity/ Reliability:** Cronbach's alpha 0.769 (STAI-S)	**Statistical Tests Used:** Shapiro Wilk test, Cronbach's alpha, chi square, ANOVA, post hoc text, Tukey test, Levene test, paired t test	**DV1:** Significant reduction of anxiety (p < .001) (EFT) and no significant change in control group **DV2:** Significant reduction of subjective distress (p < .001) and no significant	**Level of Evidence:** Level 1 **Strengths:** Confirmed previous studies of EFT's ability to reduce anxiety and subjective distress, majority of participants had baseline moderate anxiety and no method to deal with stress, results possibly affirm other studies citing EFT's ability to

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stated **Bias:** None			female (IG) 50% female (CG) 50% female (music group) **Setting:** Neurosurgery clinic of a university hospital in Turkey **Exclusion:** Psychiatric diagnosis, procedures or treatments affecting vital signs, inability to communicate with research team, less than 1 score on SUD **Attrition:** < 1%				change in control group **DV3:** Significant effect on decreasing pulse rate, respiratory rate, and systolic blood pressure (P < .05)	regulate stress response resulting in decreased anxiety, EFT more effective than music in reducing anxiety **Weakness:** Therapist's touching of participants may explain EFT's effectiveness, only inpatients participated due to need for surgery **Feasibility:** EFT has positive effects on vital signs, reducing anxiety (more effectively than music) **Application:** Future studies should include different populations
Stapleton et al., (2023).	Energy Psychology	**Design:** Systematic Review and meta-	**N**: 6 studies	**IV1:** EFT **DV1**: Post	**Tools:** Scale of posttraumatic	**Statistical Tests Used:**	**DV1:** For the trials that	**Level of Evidence:** Level 1

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Emotional freedom techniques for treating post traumatic stress disorder: an updated systematic review and meta-analysis **Country:** United States **Funding:** Internal Faculty grant from Bone University **Bias:** Overall rating low/some concerns in 6 domains, mostly in domain 2, however it is, impossible for clinicians to be blinded to		analysis of quantitative research **Purpose:** To examine the efficacy of EFT on PTSD; an older review existed, and this present study represents an update	**Demographics:** Male students 16-19 years old, Veterans, Subclinical veterans, Adults diagnosed with PTSD, Female refugees who were victims of sexual gender violence **Setting:** Baghdad City, Mental health services, Private Practice, clinical setting; or telephone or televideo conferencing, Centre for displaced women **Exclusion:** Qualitative studies, those not measuring trauma or post-traumatic stress outcomes,	traumatic stress disorder symptoms **Definitions:** n/a	stress symptoms, Posttraumatic checklist-military, Posttraumatic checklist-civilian, Harvard Trauma questionnaire **Validity/ Reliability:** Review addressed clearly focused question, selected relevant randomized controlled trials, systematic reviews, and quantitative reviews; all important search sources were included (CINAHL, PsychInfo, Science Direct, Web of Science, Core Group, Embase, Pubmed, Trip, Medline, and the	Hedge's g, fixed and random effects method, I2 statistic	compared EFT (n=88) to no treatment controls (n=76), the effect sizes (Hedge's g) were large, ranging from 1.38 to 2.51; fixed and random effect summary estimates were 1.86 and 1.88, both methods statistically significant ($p<0.001$); heterogeneity of trials moderate with I2 value of 41.1 For the For the three trials comparing EFT (n-58) to	**Strengths:** EFT produces greater reduction in PTSD symptoms than wait-list or treatment as usual control groups, symptom reductions similar to other evidence-based therapies, and large treatment effects; quantitative metaanalysis conducted by independent research team **Weakness:** Small number of study and small sample sizes leading to overestimation of effect size; trials in study employed self-report symptom measures; not every trial stated that the intervention was carried out with

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intervention they are providing.					Cochrane			

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Publication bias possible			no controls, not EFT, rebuttal papers, data unusable, acupressure or acupuncture **Attrition:** 0%		Database) risk of bias included for each study		active treatment controls (n=58), effect sizes ranged from -0.15-0.79. Fixed and random effects were 0.27, neither estimate statistically significant	fidelity to the treatment modality **Feasibility:** Clinical EFT is an effective evidenced-based treatment for PTSD **Application:** EFT produces similar results to other evidenced based therapies for PTSD and greater reductions in symptoms than control groups
Inangil et al., (2019). Effectiveness of Music Therapy and Emotional Freedom Technique on Test Anxiety in Turkish Nursing Students: A Randomized controlled Trial	Energy Psychology	**Design:** Randomized controlled trial **Purpose:** To determine the effects of music therapy and EFT on situational anxiety and vital signs in nursing students before taking an Objective Structured Clinical Exam	**N**: 90 **n**: 30 (IG) **n**: 30 (CG) **n**: 30 (music group) **Demographics:** No statistically significant differences between the groups	**IV1:** EFT **DV1**: Situational anxiety **DV2:** Vital signs (heart rate, Sp02, blood pressure) **Definitions:** situational anxiety and stress are synonymous	**Tools:** Situational anxiety scale **Validity/ Reliability:** Reliability coefficient between 0.83-0.96; Cronbach's alpha 0.92	**Statistical Tests Used:** Chi-squared test, Kruskal Wallis H test, Wilcoxon Signed-Rank test, Wilcoxon Rank Sum test	**DV1:** Significant reduction of anxiety ($p < .05$) (EFT and music group) **DV2:** Significant reduction of pulse rate	**Level of Evidence:** Level 1 **Strengths:** No significant differences among groups in anxiety before interventions, randomization, administration of therapies by professionals

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice; Generalization
Country: Turkey **Funding:** None received **Bias:** None			Age: 18.9 +- 0.88 (music group) 19.1 +- 0.88 (IG) 19.5 +- 1.07 (CG) Gender: 90% female (music group) 76.7% female (IG) 80% female (CG) **Setting:** Nursing student volunteers at Department of Nursing at Istanbul Medipol Universi**ty** **Exclusion:** < 18 years old, not taking theoretical course of Nursing Principles I and II, not entering the objective exam on May 31st **Attrition:** Not stated				(EFT) ($p < .05$) but not for Sp02 or blood pressure	**Weakness:** High number of participants in each intervention group; no effect on vital signs other than pulse rate **Feasibility:** EFT effective in reducing test anxiety in nursing students, is safe and easy to apply, and can increase test performance **Application:** Test anxiety transcends cultural and geographical boundaries so can be applied to multiple locations

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice; Generalization
Okut et al., (2022). The effect of the emotional freedom technique on coronavirus disease 2019 (COVID-19) fear and anxiety levels of nurses working in the emergency department A randomized controlled study **Country:** Turkey **Funding:** Not stated **Bias:** None	Energy Psychology	**Design:** Randomized controlled study (pre and post-test, twogroup methodology) **Purpose:** To assess the efficacy of EFT on anxiety and fear of COVID-19 levels of nurses in the emergency department	**N**: 84 **n**: 41 (IG) **n**: 43 (CG) **Demographics:** No statistically significant differences between the groups Age: 29.26 +- 5.25 (CG) 29.10 +- 6.64 (IG) Gender: 60.5% female (CG) 51.2% female (IG) **Setting:** Nurses in the emergency department in a tertiary care hospital in a crowded city of Turkey **Exclusion:** previous	**IV1:** EFT **DV1**: State anxiety **DV2:** Trait anxiety **DV3**: Anxiety intensity **Definitions:** n/a	**Tools:** Subjective unites of distress scale, STAI-D, STAI-S **Validity/ Reliability:** Cronbach's alpha 0.909 (STAI-D), 0.854 (STAI-S), 0.89 (Subjective Units of Distress)	**Statistical Tests Used:** Shapiro-Wilk test, graphical examinations, independent groups t-test, Dependent groups t-test	**DV1:** Significant decrease in state anxiety ($p < 0.001$) **DV2:** Non-significant reduction trait anxiety ($p > 0.005$) DV2: Significant reduction in anxiety intensity ($p < 0.001$)	**Level of Evidence:** Level 1 **Strengths:** Statistically significant reductions in subjective disturbance from anxiety and trait anxiety (anxiety resulting from environment) following EFT, randomization of EFT **Weakness:** Study conducted in a single center, EFT applied online (due to risk of virus transmission), no effect on trait anxiety (personality trait) **Feasibility:** EFT

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice; Generalization
			attendance of a course to cope with COVID-19 fear and anxiety, not volunteering, receiving psychological support during the study, not a nurse working in the emergency department **Attrition:** <5%					can assist in the problem-solving process in a short time and is an effective coping skill for anxiety **Application:** The results can be applied to nurses working in emergency departments
Kalroozi et al., (2022). Comparing the effect of emotional freedom technique on sleep quality and happiness of women undergoing breast cancer	Energy Psychology	**Design:** Quasiexperimental multicenter study **Purpose:** To compare the effect of EFT on happiness if women who had breast cancer surgery and lived in military and nonmilitary families	**N**: 142 **n**: 35 (IG military) **n**: 43 (CG military) **n**: 36 (IG nonmilitary) **n**: 36 (CG nonmilitary) **Demographics:** No statistically significant	**IV1:** EFT **DV1**: Happiness level **Definitions:** n/a	**Tools:** Oxford Happiness Questionnaire **Validity/ Reliability:** Reliability coefficient 0.91, validity 0.81	**Statistical Tests Used:** Descriptive statistics, Chi-square, Fisher's exact, ANOVA, and independent t-tests	**DV1:** Significant effect on happiness between military CG and military IG immediately and 1-month after ($p < 0.001$)	**Level of Evidence:** Level 1 **Strengths:** EFT has positive effect on improving sleep quality in the military group; EFT had same efficacy of improving happiness in military and nonmilitary group; randomization;

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice; Generalization
surgery in military and nonmilitary families: A quasiexperimental multicenter study **Country:** Iran **Funding:** Aja University of Medical Sciences **Bias:** None			differences between the groups Age: 11.57 +- 44.73 (IG military) 42.42 +- 9.67 (IG non-military) 43.8 +- 10.38 (CG nonmilitary) 45.84 +- 11.17 (CG military) Gender: female 100% female (all groups) **Setting:** Women who went through chemotherapy after breast cancer surgery in two selected military hospitals in Tehran were recruited **Exclusion:** Failure to participate in more than one					selection of participants from three medical centers in two major Iran cities **Weakness:** No statistically significant difference between military and nonmilitary IG groups before intervention, after and 1 month after EFT; outbreak of COVID-19 prevented long-term follow up **Feasibility:** EFT is a low-cost, safe, self-administered, and accessible method to reduce psychological stress in cancer sufferers **Application:** All users and psychiatrists should

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			training, death of patient during					

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			study patient withdrawal, consumption of psychedelic substances or drugs, use of caffeine or sleeping pills before bed, participation in a similar program **Attrition**: 7%					use this for reducing cancer-induced psychological stress

Table A2

Synthesis Table

Study	Dincer et al.., (2020)	Stapleton et al., (2020)	Church et al., (2020)	Okyay & Ucar, (2023)	Saadoon et al., (2023)	Remziye & Ökzan, (2022)	Stapleton et al., (2023)	Inangil et al., (2019)	Okut et al., (2022)	Kalroozi et al., (2022)
Design/LOE	RCT/I	RCT/I	CSA/I	RCT/I	QE /II	RCT/I	SR/I	RCT/I	RCT/I	QE /II
Subjects/studies	72	53	270,461	159	102	162	6 studies	96	88	142
Female %	89	79	81.9	100	100	56		52	56	100
Measurement tool										
The burnout scale	X									
STAI-S, STAI-D	X					X			X	
SUD	X		X	X	X	X			X	
Saliva		X		X						

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SUE							X			
PTGI				X			X			
WHO-5				X						
Vital Signs						X		X		
SUE				X						
HTQ							X			
PCL-M, PCL-C							X			
SAS								X		
OHS										X
STPSS							X			
Outcome										
Stress	□		□		□					
Stress biochemistry		□		□						
Anxiety	□		□			□		□	□	
PTSD symptoms							□			
Happiness										□
Burnout	□									
Well-being				□						

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Vital Signs						□		□		

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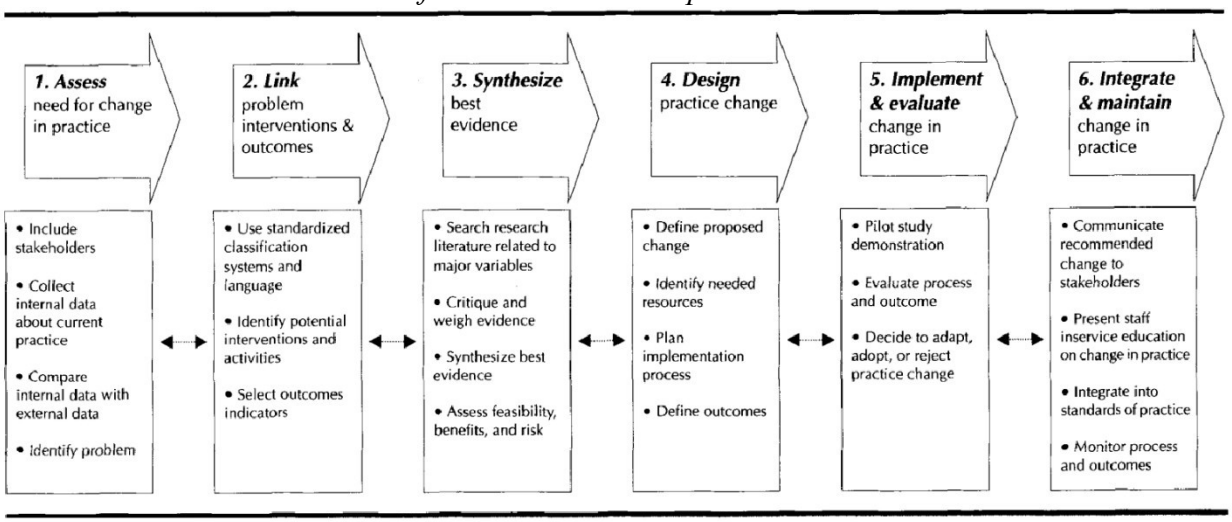
Appendix B

Models and Framework

Figure 1

Rosswurm and Larabree's Model for evidenced-based practice



Rosswurm and Larabree (1999)

Appendix C

Budget Proposal

Phase	Activities	Cost	subtotal	Total
Preparation	Travel and Lodging to site of conference in Pagosa Springs, CO (for Denver, CO resident)	$500	$500	**$500**
	Create of PowerPoint presentation and project materials (20hrs@40/hr)	$800	$800	**$1300**

	Microsoft Office, Status Intellectus, Adobe software, and Qualtrics application (for student at Arizona State University)	$0	**$0**	**$1300**
Delivery	Rent conference space for weekend ($300/day over 3 days)	$300	$100	**$1400**
	Food and drinks at conference ($500.00/weekend divided by 5 presentations= 100.00)	$500.00/weekend	$50.00	**$1450.00**
	Cost of conference ticket ($200.00 per each participant divided by 5 presentations (12 participants x $200 = $2,400) divided by 5 presentations $50 = $480 per presentation)	-$2,400.00	-$480	**$970.40**
	Cost of support person available to be contacted by participants in case	$200	$200	**$1170.00**

	of emotional distress (1hr/$200/hr)			
Evaluation	Review and analysis of results (10hrs@40/hr)	$400	$400	**$1570.00**
	Stakeholder meetings (8hrs/40/hr)	$320	$320	**$1890.00**