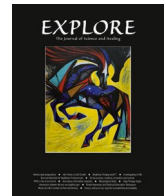


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Original Research

Clinical effectiveness of an integrative psychotherapy technique for the treatment of trauma: A phase I investigation of Heart Assisted Therapy

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ARTICLE INFO

Keywords:

Trauma
PTSD
Integrative psychotherapy
Heart assisted therapy
Heart energy

ABSTRACT

There is a need for more effective clinical interventions to assist individuals in healing from lingering negative and traumatic experiences. Furthermore, healing from such experiences and coping with residual symptoms are conceptionally separate yet important outcomes in psychotherapy. This report describes a Phase I investigation that evaluates an innovative integrative psychotherapy technique that promotes healing in addition to providing a method of coping while treatment is in progress. 43 patients were treated by 2 separate psychologists using Heart Assisted Therapy (HAT) in their private practices. There was a total of 81 specific upsetting and/or traumatic life events treated. All patients completed a standardized form to rate their degree of distress before and after HAT for each life event. Follow-up data were also collected ranging from 3 months to over 18 months post-treatment. Data analysis revealed the average number of HAT sessions for a treated incident was 3 – 4. The mean distress level was 7.55 before HAT and 0.00 after HAT for an exploratory study ($n=13$; $p < .0000001$), and 8.31 before HAT and 0.02 after HAT for a confirmatory study ($n = 30$; $p < .0000001$). These improvements were replicated across therapists, gender, and veteran status. The combined findings suggest that the integrative Heart Assisted Therapy model has important practical as well as theoretical significance. Future Phase II and Phase III studies can be performed to confirm the large magnitude of the patients perceived clinical effects and evaluate potential moderating variables such as expectancy.

Introduction

Integrative psychotherapy models can be envisioned as tailored stepping-stones toward advancements in clinical effectiveness. An evolutionary view of psychology¹¹ is relevant when considering integrative approaches. Like evolutionary psychology, integrative clinical approaches may be perceived "...with greater skepticism than more traditional psychological theories".⁴ Erskine and Moursund⁸ posit the need for integrative psychotherapy models is a natural outgrowth of the "shortcomings and limitations" of the traditional approaches across the board. However, does a "pure" application of traditional psychological theories and therapeutic application really exist (e.g.,¹⁷? Certainly, the application of psychological interventions is filtered through the lens of the therapist given their degree of experience and knowledge in concert with what is learned about the patient. Effective psychotherapy ought to mirror and account for the unique, fluid, and systemic patterns of life and symptoms that the patient subjectively experiences. Accordingly, integrative psychotherapy models ought to be able to effectively

pinpoint and flow with the concerns and needs of the patient. To this end Erskine and Moursund⁸ wrote:

The term *integrative* refers to both the full synthesis of affective, behavioral, cognitive, and physiological theory and methods of psychotherapy – the integration or assimilation within the client of the fragmented or fixed aspects of the personality" (p8).

Historically, utilization of integrative or eclectic psychotherapy has been evident in clinical practice for many decades.^{3,13,16} Such approaches utilize selected components from traditional theorists and practitioners, which are melded and applied in a fluid manner. Some examples of common elements might include the humanistic, client-centered work of Carl Rogers¹⁴ built upon active-listening, the genius of Milton Erickson's style of hypnosis to engage idiosyncratic individual resources,^{6,7} and Alfred Adler's prompt to understand patients in keeping with their phenomenological perspective within their social context.¹² Conceptually, and from an expanded perspective, elements from psychoanalysis, cognitive-behavioral therapies, Gestalt therapy, transpersonal psychotherapy, Eye Movement Desensitization

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Received 3 October 2021; Received in revised form 6 July 2022; Accepted 6 July 2022

Available online 8 July 2022

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and Reprocessing (EMDR) therapy, Thought Field Therapy (TFT) and other energy psychology approaches (e.g., EvTFT, EFT), mindfulness practices, and current findings regarding the psychophysiological interactive nature of our physiology pertaining to heart, brain, and respiratory functioning together provide a wealth of resources in formulating fluid and integrative psychotherapy approaches.

A challenge for psychotherapists is to provide effective and compassionate ways to help all people recover from the aftermath of their disturbing experiences. The psychotherapy process is intended to provide this relief (American Psychological Association,¹ 2013). Interestingly, the APA concluded that, “Comparisons of different forms of psychotherapy most often result in relatively non-significant difference, and the contextual and relationship factors often mediate or moderate the outcomes”, p 103). Additionally, Wampold¹⁷ reminds us that, “... all treatments for PTSD are approximately equally effective and that the evidence for the mechanisms of change underlying the various treatments is weak” (p 65). The APA’s Guideline Development Panel² published guidelines regarding the treatment of adults with PTSD. While this guideline afforded a conditional recommendation for using eclectic therapy, the Panel urged, that “emerging and novel” treatment modalities merit further study to add to the existing literature. For example, Feinstein⁹ provides a review of empirical support for meridian-based energy psychology approaches.

This paper describes and assesses an integrative, holistic, humanistic, mindfulness-enhancing, culture-free, and energy-science model of individual psychotherapy (Heart Assisted Therapy (HAT); Diepold).⁵ More succinctly, the HAT psychotherapy model synthesizes and incorporates components of traditional therapies, and integrates specific innate psychophysiological mechanisms into a full mind-body-energy approach to healing.

Applying the four phases of clinical trials paradigm followed by NIH (<https://www.nih.gov/health-information/nih-clinical-research-trials-you/basics>), this paper presents the findings of a Phase I clinical trials investigation. If positive findings are observed in Phase I clinical trials, then potential moderating factors such as placebo and expectancy are addressed in follow-up Phase II and III clinical trials.¹

To explore the replicability of the findings, this Phase I trial were analyzed in two waves: (1) an initial, exploratory sample (n=13 patients), and (2) a larger, confirmatory sample (n=30 patients). In addition, two patients who received separate HAT treatments for multiple PTSD and stress related target events / foci were analyzed as within-case treatment replications. Finally, replicability across therapist, patient gender, and patient type (general population and VA) was examined.

Method

Participants

This Phase I study examined treatment results of 2 licensed clinical psychologists (1 & 2) located in 2 separate states (300 miles apart). Both work in a general clinical practice, and have 70 combined years of clinical experience. Both psychologists are male and have employed Heart Assisted Therapy (HAT) as the primary therapy intervention with all patients in this study. Both clinicians have used HAT in their respective practices for 10 or more years with approximately 250 patients. All patients in this report were part of each psychologist’s private practice for both the exploratory and confirmatory studies. The treated issues pertained to combat related PTSD, civilian trauma of varying degrees, and multiple loss / grieving events.

¹ There is also a Phase IV trial completed after a drug/procedure/protocol is approved and made available to the public, whereby researchers track its safety in the general population, seeking more information about a drug/procedure/protocol or treatment’s benefits, and optimal use.

Procedure

The first wave, exploratory study consisted of 22 identified traumatic events, each called a Treatment Focus (TF), across 13 patients. The second wave, confirmatory study consisted of 59 TF across 30 patients.

Prior to the HAT treatment intervention, each patient was asked to rate their degree of distress or upset when thinking about the TF using a 0 – 10 Subjective Units of Distress (SUD) scale. Upon completion of the HAT intervention for the specified TF, each person was asked to complete a standardized feedback questionnaire assessing their pre and post distress levels along with other information. The feedback questionnaire was given most often at the next session and was completed either in the office, waiting room, or taken home and returned. Follow-up data, ranging from 3 to 18 months post-HAT treatment, was also solicited on the all patients in both the exploratory and confirmatory studies. This information is routinely gathered and employed as part of the therapists’ practices, and patient confidentiality is rigorously protected following HIPPA requirements. The second author of the paper performed statistical analysis on the anonymous clinical data.

Instruments

The immediate post-HAT treatment questionnaire consisted of 3 pages. Page one included demographic information (name, gender, age), name of the treating therapist, the TF they addressed, and how long they had been dealing with that issue before treatment with HAT. Ethnicity information was not obtained. The sample was predominately white; fees were covered mostly by insurance or VA contracts. The questionnaire then asked them to think about their TF and rate their level of distress (0 to 10) before doing HAT, then after doing HAT, and their degree of calm after doing HAT (0 = absence of calm and 10 = high level of calm). The number of HAT sessions needed to complete treatment for each TF was also noted.

Page 2 of the standardized questionnaire addressed the patient’s degree of satisfaction and comfort with the HAT approach along with 2 open ended questions about HAT and a place for additional comments. There were 6 items that were rated from 0 to 10 (0 = extremely unsatisfied or uncomfortable, and 10 = totally satisfied or comfortable). Specifically, these items addressed comfort with the HAT approach, satisfaction with the process of doing HAT, satisfaction with the results of doing HAT, how aware and sensitive was the therapist to their concerns while doing HAT, how satisfied were they with the therapist’s ability to listen and attend to their comments while doing HAT, and how satisfied were they that the TF was appropriate to their concern. These items were followed by questions providing opportunity to state what they liked best, or if there was anything they did not like about HAT. Space was also available for additional feedback.

Page 3 of the standardized questionnaire inquired if they had ever been in therapy for the addressed issue (TF) before doing HAT. If no, the questionnaire was complete. If yes, then information was requested regarding how long they were in therapy, and the type of therapy approach if known. This was followed by 6 items that were rated from 0 to 10 (0 = extremely unsatisfied or uncomfortable, and 10 = totally satisfied or comfortable). Specifically, these items addressed comfort with the prior therapy approach, satisfaction with the results of doing the prior therapy approach, how aware and sensitive was the therapist to their concerns while doing the prior therapy approach, how satisfied were they with the therapist’s ability to listen and attend to their comments while doing the prior therapy approach, and how satisfied were they that the focus of their therapy was appropriate to their concern. Space was also available for additional information regarding their prior therapy.

The Follow-up Report form was a standardized questionnaire designed to inquire about post-HAT treatment outcomes. This single page document, with an accompanying letter explaining the purpose of

the requested information, was either mailed to patients involved in the exploratory and/or confirmatory studies, with a return addressed and stamped envelope, or handed to a patient still in treatment to return at the next session. This follow-up data was collected on completed traumatic issues or incidents (TF) that were at least 3 months post-HAT treatment.

The Follow-up Report included the date the treated issue (TF) was completed (as acquired from their clinical files), the elapsed time since the completion of HAT (e.g., 14 months), and the specific issue (TF) that they worked on.

The Follow-up Report asked if they had any concerns or difficulty dealing with this issue since completing HAT, and if they sought additional therapy for this issue since treatment with HAT. There were also 2 questions in which they rated their level of upset or distress (0–10) *before* doing HAT, and their level of upset or distress when thinking about the treated issue *today* (0 – 10). An additional question asked how *calm* they feel *today* about the treated issue (0 = absence of calm, 10 = high level of calm). A place for optional additional comments about their experience with HAT completed this Follow-up Report. The instruments are available from the first author.

Treatment approach

In all cases, individual psychotherapy was the medium, and Heart Assisted Therapy (HAT) was engaged within the therapy sessions. HAT incorporates heart and brain functions with cognition, emotion, sensations, and respiration monitoring while overlapping hands are placed over the heart. The HAT technique is holistic, integrative, humanistic, mindfulness-enhancing, culture-free, and an energy-science approach within the context of individual psychotherapy. It is client-centered and is easy for both therapist and client to engage. After a specific traumatic event or experience is identified, which is called a Treatment Focus (TF), the patient rates their level of distress (0–10) prior to beginning treatment. Examples of a TF could be: “the loss of your mother / husband / best friend,” “when the helicopter went down,” “how you were treated by your mother / father / family,” “walking point in Viet Nam.”

All HAT sessions begin with the therapist leading the patient through 9 self-regulating heart-breaths while overlapping hands are placed over the heart. A heart-breath is one full respiration while the person maintains overlapping hands placed over the heart. The hand positions (left hand over right and right hand over left) are reversed after each set of 3 heart-breaths. Throughout the HAT treatment, the hands remain over the heart for both the patient and therapist. The therapist then invites the patient to think about the TF while continuing to do heart-breaths. After the therapist observes a minimum of 3 full respiration, the patient is asked, “What are you aware of?” This component of HAT is known as Awareness Streaming, following which the patient shares thoughts, feelings, sensations, or images that emerge in connection with the TF. The therapist listens to what is conveyed by the patient and decides if the content is negative, neutral, or positive. The therapist then follows the Four Guiding Principles of HAT: (1) Accept the negative, (2) Ponder the neutral, (3) Accentuate the positive, and (4) Prepare for the future when responding to the patient.

- (1) *Accept the negative*: When the shared information is negative (e.g., unpleasant emotion, thought, sensation, or image), the therapists constructs an Acceptance Statement (AcS) to facilitate accepting the negative. For example, an AcS might be, “Deep in my heart I love and accept myself, even though I am angry.” The AcS is first stated by the therapist, then repeated aloud by the patient. This occurs 3 times with a reversal of hand positions after the first 2 recitations. The therapist monitors the number of heart-breaths and waits a minimum of 1 or 2 before inviting the patient to reverse hands and stating the AcS again. Upon completion of the third AcS, the patient is invited again to focus on the TF. After 3 or

more heart-breaths the patient is again asked, “What are you aware of?”

- (2) *Ponder the neutral*: When the shared information is neutral and void of an emotional charge or reaction of any kind, the patient is invited to ponder their awareness (e.g., thoughts or images) and take several more heart-breaths. After 3 or more heart-breaths, the patient is again asked, “What are you aware of?”
- (3) *Accentuate the positive*: When the shared information is positive (e.g., an insight, feeling more comfortable, relaxed, peaceful), the patient is invited to “Just notice” their positive sensation, emotion, or thoughts for 3 or more heart-breaths. Upon completion, the patient is again asked, “What are you aware of?”
- (4) *Prepare for the future*: This is typically among the final steps in completing the healing work on the TF. For example, after the distress level gets down to 0 regarding the loss of a loved one, the next TF would be “Living on without (the loved one).” There is also a HAT procedure called Future Performance Imagery, which is employed whenever a person will address, face, or perform a situation in the future.

This HAT protocol continues to repeat until the patient reports an absence of thoughts, feelings, and sensations, when thinking about the TF. The patient then reverses their hands and again thinks about the TF. If nothing more is in their awareness, then the HAT treatment is complete for this TF. If thoughts, feelings, or sensations are now reported, with reversed hands, then the HAT protocol continues until there is an absence of thoughts, feelings, and sensations, when thinking about the TF. The patient then reverses their hands again and thinks about the TF. This HAT treatment process continues until there are no thoughts, feelings, or sensations when thinking about the TF for two consecutive reversed hand placements. At this time a post-treatment SUD level is obtained.

Some of the HAT procedures can be used by patients between sessions to assist with emotional self-regulation until the healing work on the TF is completed. This coping strategy has universal application whereby the patient can use the 9 Self-Regulating Heart-Breaths that begin each HAT session for calming and grounding, use a specific HAT Self-Regulation Protocol (HAT-SR),⁵ or use awareness informed Acceptance Statements to provide stabilizing tools for home use.

Results

Data analysis

The following analyses focus exclusively on the emotional distress ratings obtained before and after completion of HAT sessions on identified traumatic events as well as in the follow-up questionnaire. Due to space limitations, analyses of patient ratings comparing HAT with prior treatments, patient ratings of the therapists and other clinical information, could not be reported here.

The treatment foci evaluations were collected and analyzed in two waves, referred to as exploratory and confirmatory respectively. The exploratory patient sample was smaller ($n = 13$) than the confirmatory sample ($n = 30$). Whereas psychologist 1’s exploratory and confirmatory patient samples were similar in size ($n = 7$ and $n = 6$), psychologist 2’s confirmatory patient sample ($n = 20$) was substantially larger than his exploratory sample ($n = 6$). There were 22 treatment foci in the exploratory study and 59 in the confirmatory study.

HAT treatment evaluation forms were obtained from a total of 43 patients; 17 patients for psychologist 1 (P-1), and 26 patients for psychologist 2 (P-2). The average age was 47.4 years ($SE = 2.22$) for the total sample; 51.79 years ($SE = 5.53$) for P-1’s patients, and 41.74 years ($SE = 4.30$) for P-2’s patients.

There were 17 female patients; 10 for P-1, and 7 for P-2. There were 26 male patients; 7 for P1, and 19 for P2. The average age was 40.96 years for the female patients and 52.57 years for the male patients.

There were 12 veterans; 2 for P-1 and 10 for P-2. There were 31 civilians; 15 for P-1 and 16 for P-2. The average age was 45.63 for the veterans and 47.89 for the civilians. Not surprisingly, the percentage of males was higher in the veterans than the civilians. Whereas 83.3% of the veterans were male, 51.6% of the civilians was male.

The total number of treatment foci evaluated were 81; 36 for P-1 and 45 for P-2. The average number of treatment foci per patient, for the total sample was 1.88 (SE=0.25). Twenty-six of the patients had 1 treatment foci, 8 patients had 2 treatment foci, 5 patients had 3 treatment foci, 2 patients had 4 treatment foci, and two patients had 8 treatment foci. As will be seen, HAT distress reduction effects appear to be independent of the number of foci treated.

Depending upon the specific questions addressed, analyses of variance comparing between groups and / or repeated measures were performed. A subset of the figures (e.g., Fig. 1) displays the raw SUDs data; these figures provide the opportunity for readers to perform additional or alternative analyses if interested.

Analyses of variance revealed that P-1's patients had more treatment foci (3.21) than P-2's patients (1.84); $F(1,35)=4.49, p < .05$. Male patients had more treatment foci (3.42) than female patients (1.63); $F(1,35)=7.67, p < .01$. Finally, patients who were veterans had more treatment foci (3.19) than civilian patients (1/85); $F(1,35)=4.31, p < .05$.

The average duration of symptoms prior to receiving HAT treatment was 18.05 years (SE=2.02), the range was as short as 0.1 years and as long as 60 years. For P-1's patients, the average duration of symptoms was 20.64 years prior to HAT treatment, for P-2's patients, it was 14.70 years; $F(1,73)=1.35, NS$. For female patients, the average duration of symptoms was 12.42 years, for male patients it was 22.91 years; $F(1,73)=4.20, p < .05$. For veterans the average duration of symptoms was 21.16 years, for civilians it was 14.17 years; $F(1,73)=1.86, NS$.

These descriptive sample effects are reported here for completeness. The findings for ratings of distress (SUD) pre versus post HAT reveal that these sample effect have no obvious influence on the effectiveness of HAT in reducing upset and distress in trauma patients.

Immediate ratings of distress upon completing HAT treatment foci

Fig. 1 displays the individual ratings of distress for each of the 81 treatment foci immediately following completion of a given treatment focus. The Pre-HAT SUD level ratings before doing HAT are shown in circles, the Post-HAT SUD level ratings are shown in diamonds.

For ease of visualization, the individual SUD ratings were sorted so that the largest Pre- HAT SUD ratings (rating of 10) are displayed first on the x axis and the smallest (rating 4) are displayed last. Fig. 1 does not segregate the data by therapist, sex, veteran / civilian, or exploratory versus confirmatory. The averaged Pre-HAT SUD ratings for the total sample was 8.00 (SE=0.22).

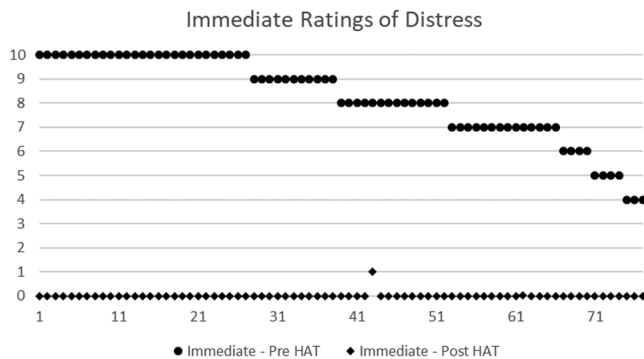


Fig. 1. Pre (circles) and Post (diamonds) SUD ratings, plotted separately for each of the 81 treatment foci. For ease of visualization, the individual Pre-HAT scores were sorted from highest to lowest.

In contrast, Fig. 1 also shows that for virtually all the patients, and for all of their treatment foci, the patients indicate that their reported SUD levels have essentially decreased to zero at the end of HAT treatment. Their averaged Post-HAT rating of distress was 0.01 (SE=0.01).

Mixed analyses of variance were performed to determine if there were any differences in Pre-HAT versus Post-HAT ratings (repeated variables) as a function of experiment (exploratory versus confirmatory), therapist (P-1 versus P-2), gender of patient (male versus female), or type of patient (veteran versus civilian), between groups variables. Given the apparent robust effectiveness of HAT in reducing distress (virtually all Post-HAT ratings were 0), no differences in Post-HAT effects could be observed for the between group variables.

To visualize this conclusion in terms of averaged values, Fig. 2 displays the mean Pre-HAT and Post-HAT SUD ratings as a function of exploratory versus confirmatory study, separately for P-1 and P-2. It is clear the observed effects for HAT replicate across the exploratory (7.55 versus 0.00) and confirmatory (8.31 versus 0.02) experiments and are similar for both P-1 (8.79 versus 0.00) and P-2 (8.02 versus 0.02). Whereas the main effect for Pre versus Post-HAT is clearly significant, $F(1,77)=990.15, p < .0000001$, the three way interaction is not, $F(1,77)=2.28, ns$. Separate analyses reveal that the main effect for Pre versus Post-Hat is significant separately for the exploratory ($F(1,20)=228.16, p < .0000001$) and confirmatory ($F(1,57)=1242.00, p < .0000001$)².

Fig. 3 displays the average Pre-HAT and Post-HAT distress ratings as a function of veterans versus civilians, separately for shorter duration (average 6.19 (SE=1.30)) versus longer duration (average 38.77 years (SE=1.41)) symptom duration prior to HAT treatment. It is clear the observed distress reduction effects for HAT replicate across veterans and civilians and are similar for both longer and shorter duration symptoms prior to HAT. The main effect for Pre versus Post-HAT is again clearly significant, $F(1,77)=984.39, p < .0000001$; though the three way interaction reaches significance, $F(1,77)=4.58, p < .05$, what matters is that the effects following HAT treatment are virtually identical.

Follow-up ratings of distress after HAT for the treatment foci

It was possible to obtain follow-up data after HAT treatment from 29 patients. P-1 received follow-up evaluations from 16 (of 17) patients

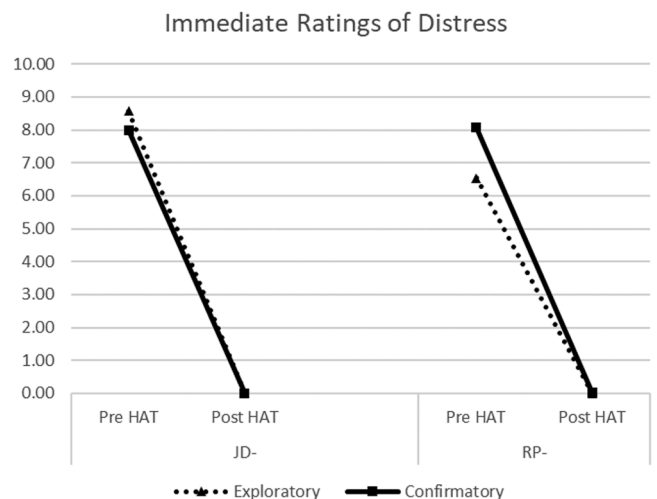


Fig. 2. Averaged Pre and Post SUD scores, displayed separately for Exploratory (dashed line) and Confirmatory (solid line) experiments, and separately for the two therapists (JD is P1 left, RP is P2 right).

² In this report, p's < .0000001 are underestimates of the true p values; they represent the upper limits of the Statistica for Windows statistics package.

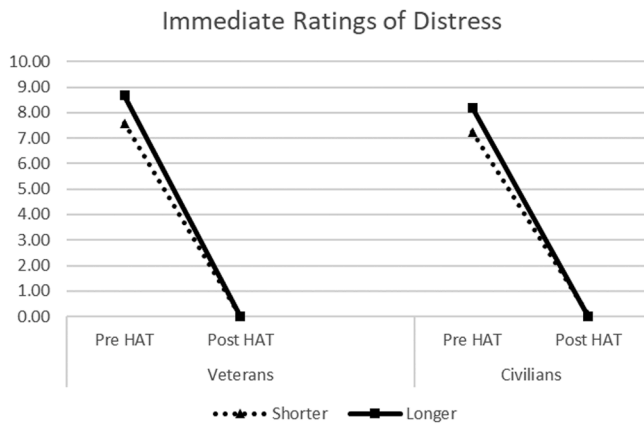


Fig. 3. Averaged Pre and Post SUD scores, displayed separately for Shorter (dashed line) and Longer (solid line) durations of symptoms, and separately for Veterans (left) and Civilians (right).

(94.1%), whereas P-2 received follow-up evaluations from 13 (of 23) patients (56.5%). The total number of treatment foci was 54; P-1 received follow-up evaluations on 32 treatment foci, P-2 received 22.

In terms of average number of treatment foci, P-1's patients who provided follow-up evaluations had 2.14 (SE=0.44); P-2's patients had 1.83 (SE=0.52). There were 13 female patients and 16 male patients; their average number of treatment foci were 1.50 and 2.48, respectively.

In terms of time since HAT treatment, the average duration was 9.56 months (SE 4.02). The average duration was 9.24 months for P-1's patient's treatment foci and 10.40 months for P-2's patient's treatment foci. The average duration was 11.44 months for female patient's treatment foci ($n = 14$) and 9.04 months for male patient's treatment foci ($n = 40$). The average duration was 10.19 months for veterans ($n = 19$ treatment foci) and 9.45 months for civilians ($n = 35$ treatment foci).

To determine how reliable the patients were in remembering their original Pre-HAT SUD ratings, the follow-up evaluation asked patients to re-rate their SUD level before doing HAT, and then rate their SUD level when thinking about their treated issue *today*. These ratings are labelled as follow-up Pre-HAT and follow-up Post-HAT, respectively.

Fig. 4 redisplay Fig. 1 ($n = 81$) for the immediate Pre-HAT and Post-HAT distress ratings for those specific treatment foci that also had follow up information ($n = 54$).

Fig. 5 displays the follow-up ratings of Pre-HAT and Post-HAT SUD ratings ($n=54$). Like Figs. 1 and 4, 5 sorts the individual ratings from highest (rating of 10) to lowest (rating of 4).

It is immediately apparent that the patterns of immediate versus follow-up Pre-HAT ratings are similar. The average immediate Pre-HAT

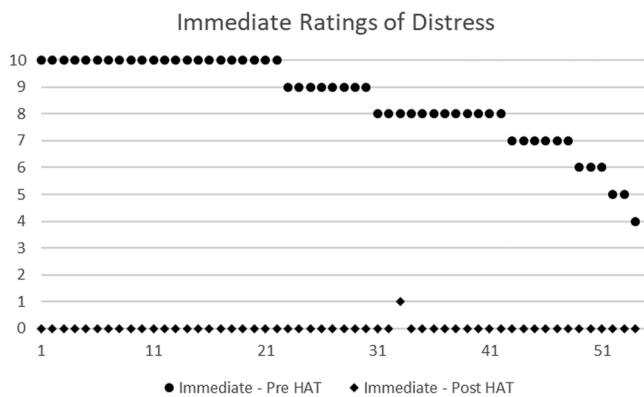


Fig. 4. Immediate Pre (circles) and Post (diamonds) SUD ratings, plotted separately for each of the patients who had follow-up data ($n=54$). For ease of visualization, the individual Pre-HAT scores were sorted from highest to lowest.

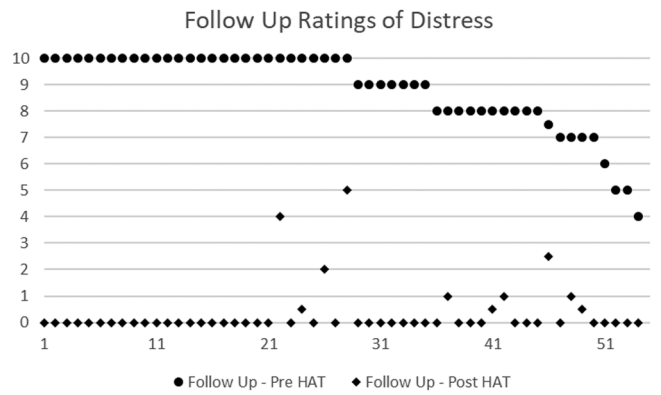


Fig. 5. Follow-up Pre (circles) and Post (diamonds) SUD ratings, plotted separately for each of the 54 patients. For ease of visualization, the individual Pre-HAT scores were sorted from highest to lowest.

rating is 8.55 ($n = 54$); the follow-up Pre- HAT ratings is also 8.55 ($n=54$). The correlation between the immediate pre-HAT and follow-up pre-HAT ratings is $r = 0.501$, $n = 54$, $p < .0001$.

The average immediate Post HAT rating is 0.01 (SE=0.02). It increased slightly to 0.33 (SE = 0.33). Whereas 53 out of 54 treated foci were rated as being 0 distress immediately after HAT (98.1%), this dropped somewhat to 44 out of 54 treated foci being rated as 0 distress after 9 months of follow up (81.5%).

Fig. 6 summarizes these findings using box and whisker plots that display the means, standard errors, and stand deviations. Given these overall findings, it is not surprising that the follow-up ratings patterns replicate the immediate ratings patterns for the two therapists, genders, veterans versus civilians, and exploratory versus confirmatory.

A mixed analysis of variance was performed with immediate versus follow-up and Pre versus Post-HAT as repeated variables, and duration (shorter versus longer) as the between group variables. Not surprisingly, the main effect for Pre versus Post was very significant, $F(1,52)=1802$, $p < .00000001$, but the magnitude of these effects completely replicated across evaluation measurement (immediate and follow-up) and duration (shorter versus longer).

Fig. 7 is similar to Fig. 3 in that it compares shorter and longer duration – this time referring to follow-up durations rather than symptom durations, and it compares Immediate versus Follow Up ratings rather than veterans versus civilians. The replicability of the Pre versus

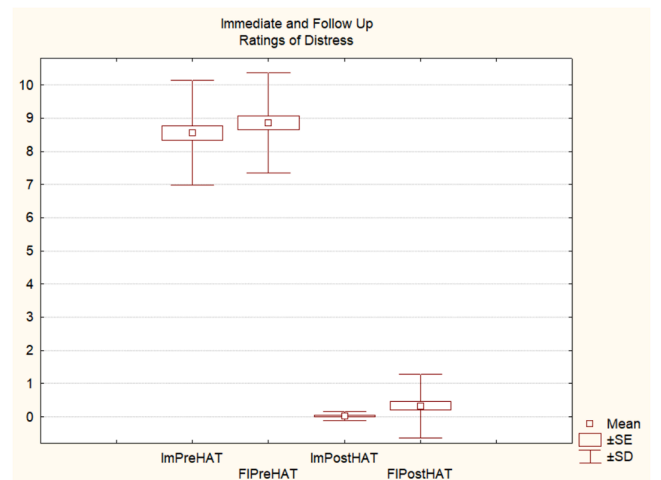


Fig. 6. Box-whisker plots of immediate (Im) and follow-up (FI) SUD ratings, for the Pre-HAT (left two plots) and Post-HAT (right two plots) scores. Means are the small squares, standard errors (SE) are the larger rectangles, and standard deviations (SD)s are the error bars.

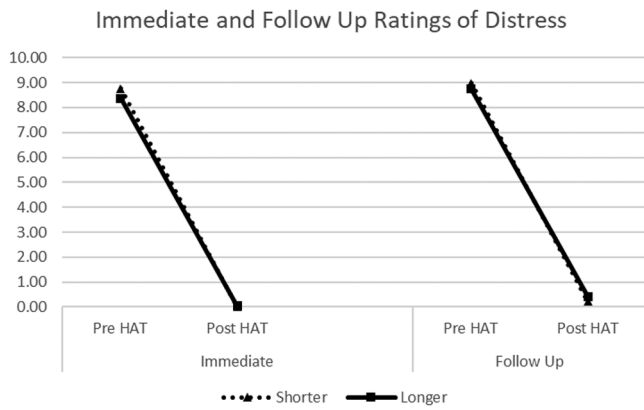


Fig. 7. Averaged Pre and Post SUD scores, displayed separately for Shorter (dashed line) and Longer (solid line) durations of symptoms, and separately for Immediate (left) and Follow-Up (right).

Post-HAT ratings patterns for the shorter and longer duration follow ups, both for the immediate ratings and follow up ratings, is self-evident.

Focused examination of two unique patients

P-1 had two patients who each had 8 different treatment foci addressed with HAT and corresponding Pre and Post-HAT ratings of distress. Fig. 8 graphs his 8 pairs of Pre and Post- HAT distress ratings, in the order that the treatment foci occurred, in a male veteran.

The replicated reductions in SUD levels across the 8 pairs of treatment foci is self-evident. The short description of the 8 treatment foci are: (1) Shot someone while on listening post, (2) Walking point in Vietnam, (3) When the chopper was shot down, (4) First night in the field, (5) Carrying C-rations and a bullet went through them nearly striking me, (6) Fellow Marine shot and killed before me, (7) Seeing veterans with lost limbs from combat, and (8) Fear of flying and nervousness at airports.

Fig. 9 graphs 8 pairs of Pre and Post-HAT SUD ratings, in the order that the treatment foci occurred, in a male civilian.

The replicated reductions in distress across the 8 pairs of treatment foci is again self-evident. The short description of the 8 treatment foci are: (1) Death of mother, (2) Loss of mother-in-law, (3) Loss of father-in-law, (4) Loss of grandmother, (5) Loss of brother, (6) Death of father, (7) Loss of dog, and (8) Death of best friend.

Discussion

These clinical findings corroborate what the two psychologists have been observing in their respective practices. It appears that for patients

suffering from a variety of traumas, HAT is a relatively brief and effective procedure for reducing, and even eliminating, feelings of upset and distress linked to specific traumatic events. The HAT treatment approach allows the patient to become aware of their unique thoughts, feelings, sensations, and images associated to the targeted event (Treatment Focus), and then shift through the distressing aspects to a more neutral position. Memory is not typically disrupted and the patient is able to think and speak about the treated event free of upset or distress upon completion. A horrifying event or experience is still a horrifying and unfortunate event, but they are now “free” of the prior associated upset and report welcomed “relief.”

It is important to emphasize that the patients included in this Phase I clinical trial were in active treatment with their respective psychologists. These findings accurately reflect what patients who engage in the HAT treatment modality typically report experiencing.

The second author was originally quite skeptical of the purported claims made by the first author. The second author’s philosophy is best illustrated by Carl Sagan, PhD who often said, “Extraordinary claims require extraordinary evidence.” The second author therefore required substantial evidence before he reached the conclusion that HAT was achieving noteworthy clinical effects.

Not only did the second author watch multiple video recordings of clinical sessions of patients receiving HAT, he witnessed HAT sessions provided for three mature individuals in his laboratory. One recipient was a senior PhD professor of physiology and psychology (in her 50’s); two were graduate students in counseling (in their 30’s and 40’s, respectively). Each of them reported dramatic reductions in their respective HAT targeted levels of distress. Also, each of them reported being genuinely surprised by how quickly HAT produced its stress reducing effects.

As discussed previously, Phase I clinical trials designs do not address potential moderating factors such as placebo and expectancy effects. Future Phase II and III clinical research employing appropriate control conditions are required. Though placebo and expectancy effects cannot be ruled out, the magnitude and consistency of the clinical observations suggest that these factors are insufficient to explain the totality of the distress reduction effects observed with HAT.

Additionally, the second author carefully interviewed two veterans (patients of P-1 and P-2, respectively) with long standing documented symptoms of PTSD. He became convinced that not only had these patients suffered for years from severe PTSD, but that HAT dramatically helped reduce their suffering to essentially zero levels, and thus improved their lives accordingly.

Concerning possible theoretical explanations of these positive effects of HAT, Diepold⁵ has reviewed research examining how the cycle of heart functions influences how people perceive fear intensity¹⁰. More specifically, Sarah Garfinkel and colleagues demonstrated that people experience and process fear differently depending on when they viewed a fearful image in relation to heart function. They observed via heart

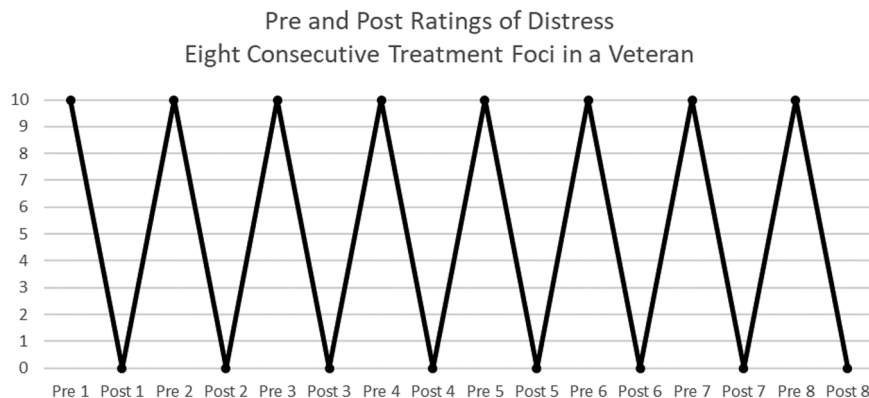


Fig. 8. Immediate Pre and Post SUD ratings of distress, plotted sequentially for each of 8 different treatment foci within a single patient.

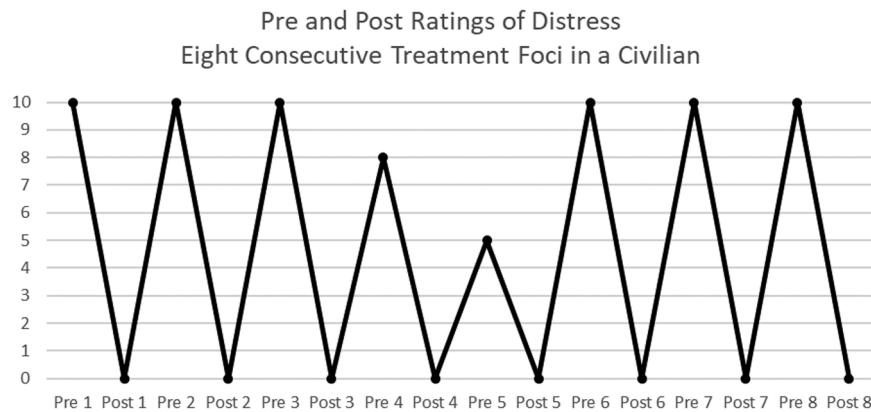


Fig. 9. Immediate Pre and Post SUD ratings of distress, plotted sequentially for each of 8 different treatment foci within a second patient.

monitors (ECG) connected to computers that when a fearful face is seen during the active pumping phase of the heart (systole), the fearful face is judged to be more intense compared to the same face viewed during the relaxed (diastole) phase. To examine neurological correlates of these findings, Garfinkel et al identified a heart-brain connection using MRI, which revealed that the amygdala areas of the brain are involved and influence how the heart influences our perception of fear.

The above findings by Garfinkel et al may shed light on why some people experience greater degrees of trauma compared to others as a function of their heart cycle at the time. In the real world, it would seem virtually impossible to know this difference when fearful events transpire. Perhaps, in retrospect, it might be concluded that when there are more intense reactions to traumatic events that the systole phase was occurring and informing the brain accordingly.

The Garfinkel et al findings may also serve as a clue as to why HAT achieves sustained clinical effectiveness. When HAT is completed on a specific life event, the person will have experienced multiple opportunities to self-regulate their emotional, cognitive, sensory, and physiological responses to the life event via the HAT protocol, thus altering how the heart-brain communications now manage this information to relieve distress.

The only way an innovative and integrative therapy like HAT can advance beyond a clinician's private practice is to have the opportunity to publish responsible Phase I clinical observations so that others will be inspired to conduct controlled Phase II and Phase III in the future. It is hoped that the present Phase I findings will encourage some readers to explore HAT in research and in practice.

Further discussion is appropriate regarding the potential limitations of this clinical study relative to other forms of analyzing clinical data.

First, there was no control group. We realize that not having a control group, and the lack of a randomized use of patients, can be viewed as limitations. However, those research approaches are appropriate for research performed in clinic and university-based facilities (and not private practice). For example, if a psychologist knows (by experience) that a specific therapy intervention is effective, then there is great difficulty withholding such treatment for patients who seek help by employing an alternative treatment approach for the purpose of research. Further, payment for psychotherapy, either out-of-pocket or insurance, also poses potential ethical and/or legal challenges when a control group is used in a private practice.

Second, this study relied on self-report outcomes only (i.e., SUD levels). In our opinion, the use of SUD levels both quantifies and parallels the patient's self-report of distress when beginning therapy, and then afterwards. Both clinicians are in private practice like so many of us who are in the trenches doing psychotherapy. This paper describes real world findings of typical clinicians who do not have the funds or luxury of secondary measures in treatment. However, future Phase II and III research can employ standardized clinical scales to acquire additional

information.

Third, there is only speculation regarding the underlying mechanisms of the HAT approach. As HAT was born out of over 30 years of clinical experience and training, observations of people in general, and advancing findings of the heart, the body's innate electrophysiology, and the mind-body interactions,⁵ there is much room for research to better understand the active ingredients that produce the striking clinical effectiveness. In our opinion, Heart Assisted Therapy encompasses a great deal more than "heart holding." HAT is a model of psychotherapy with its own process and procedures with guiding principles. It is not an add-on component to existing therapy approaches, nor was it devised that way. However, HAT is integrative and is used in conjunction with the entirety of a clinician's skills and techniques.

Fourth, HAT is a new and integrated mind-body-energy psychotherapy model that warrants further use and study. It is different than the well-known cognitive, exposure, imagery, hypnotic, meridian-based, emotion or sensory-based, and mindfulness approaches that prevail. However, HAT, via the unique phenomenological experiences reported by the patient, can result in components that reflect all of these mainstream approaches to some degree.

The breathing used with HAT involves more than an adjunct tool for stabilization. With HAT, the *natural* respiratory process of the individual is observed and utilized. For example, there are no requirements for diaphragmatic breathing, any time sequenced (e.g., 4-4-8) replacement breathing, or the like. While all HAT sessions begin with a series of 9 "heart-breaths" (i.e., overlapping hands over the heart for 3 respirations, then reversing the hands for 3 respirations, then reversing the hands again for 3 respirations), and often end with these 9 "heart-breaths", it is the normal respirations of the patient that is honored and utilized as a guide in moving treatment forward. There are no "breathing exercises" in use or inserted during HAT aside from the above. Also, the placement of the hands over the heart (L over R and R over L) are guided by the patient's respirations and in keeping with the protocol. The reversing of hands placement during treatment also serves a specific purpose, which is not found in any standard breathing exercises outside of HAT. The use of hands over the heart does play a vital role in the treatment process as it amplifies the heart-brain connection/communication¹⁵ (non-published data; second author).

In summary, from the clinical outcome perspective, these real-world data support that individual psychotherapy incorporating HAT for the integrative treatment of distressful life events is remarkably effective in reducing subjective levels of distress to zero for the treated event. As reported in detail in the results, this outcome held true for civilians and veterans, across gender and age, and proved effective regardless of the duration of time since the incident(s). Further, follow-up data indicate that the beneficial effects of HAT treatment continue long after the treatment is completed and is consistent across therapists. Also, there are no harmful effects of the HAT model in psychotherapy.

Acknowledgement

The authors gratefully acknowledge Roger Eugene Poiré, Psy.D. for his involvement in this study. His dedication to master the application of HAT, incorporate this modality into psychotherapy, and to share in the study of clinical efficacy is a professional blessing.

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