

## Design of a Comprehensive One-Year Program at the Be Brave Ranch to help Children who have been Victims of Sexual Abuse

Peter H Silverstone<sup>1\*</sup>, Farrel Greenspan<sup>1</sup>, Millie Silverstone<sup>2</sup>, Hanelle Sawa<sup>2</sup> and Jacqui Linder<sup>2,3</sup>

<sup>1</sup>Department of Psychiatry, University of Alberta, Edmonton, Canada

<sup>2</sup>Little Warriors Be Brave Ranch, Ardrossan, Alberta, Canada

<sup>3</sup>Department of Psychology, City University of Seattle in Canada, Edmonton, Canada

**Corresponding Author:** Silverstone PH, Department of Psychiatry, Faculty of Business, University of Alberta, 1E7.17 Mackenzie Centre 8114 -112 Street, Edmonton, Alberta Canada, Tel: +1-780-407-6576; Fax+1-780-407-6672; E-mail: [peter.silverstone@ualberta.ca](mailto:peter.silverstone@ualberta.ca)

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### Abstract

Childhood sexual abuse (CSA) is frequent, but treatment remains variable. We have designed a novel, intensive, and comprehensive 1-year program for children aged 8-12. This involves 4 periods during which the children stay at a "camp-like" facility (with parents or guardian whenever possible) for an initial period of 4 weeks followed by 3 further 2-week periods (at 4, 8, and 12 months). During these periods they receive more than 200 hours of therapy and in-between the children and their family are supported by weekly outpatient group sessions. The goals are to improve symptoms of post-traumatic stress disorder, depression, anxiety, quality-of-life, self-esteem, and attachment. The primary therapeutic approach is trauma-focused cognitive behavioural therapy (TF-CBT) provided within a group session. Other therapeutic approaches include play therapy, art therapy, and animal assisted therapy. The program, at a facility called the "Be Brave Ranch", has been designed to also provide a enjoyable activities in addition to the therapeutic sessions, including yoga, arts, games, music, animal interactions, as well as evening programming. Children who have been victims of CSA can have problems with cognitive development, and so receive daily cognitive training utilizing the on-line My cognition program to improve memory, attention, psychomotor speed, and executive functioning. We intend to determine the effectiveness of this program, compared to baseline, with each child acting as their own control. Outcomes will be measured in future research studies by changes in the Child Post-Traumatic Stress Disorder Symptom Scale, Kid-KINDL, revised Children's Anxiety and Depression Scale, and questions on attachment. In conclusion, this novel and comprehensive program may offer a new approach to helping children with CSA, and it is intended that key elements will be adapted to outpatient environments to provide more widespread availability of best care for child victims of CSA.

**Keywords:** Child; Sexual; Abuse; Residential; Therapy

### Introduction

Child Sexual Abuse (CSA) occurs frequently in children and youth, with approximately 15% of girls and 6% of boys aged between 2 -17 being significantly sexually abused [1-5]. The vast majority of child sexual abuse goes unreported, likely as much as 95% [1-6]. Approximately 40% of CSA victims show symptoms related to their abuse and many symptoms start to manifest themselves early [7-9]. These symptoms can be longer-term, and there is an elevated risk of medical, psychological, behavioural, and sexual disorders in adults who were sexually abused as children [10]. There is also a clear increase in suicidality and suicide attempts in victims [8,11]. Mental health concerns specifically include increased risks of anxiety disorders, depressive disorders, eating disorders, sleep disorders, and post-traumatic stress disorders [8,12]. It is also possible that CSA can lead to long-term changes in neurobiological development that may make such psychiatric conditions more likely. Longitudinal studies have demonstrated that CSA early in life impacts cognitive development, both during the first 8 years of life and during development into adulthood [13-15]. Of all the psychological symptoms that occur following CSA perhaps the most common are symptoms of post-traumatic stress disorder (PTSD), even if not all children reach therapeutic criteria [16]. The presence of these

symptoms appear to be reasonably reliable predictors that such children will have poorer longer-term outcomes [17].

Taken together, it is clear that CSA is common, severe, and can have major negative long-term impacts on the lives of the victims. Despite this, the most effective treatment approaches remain uncertain, although several studies suggest that trauma-focused cognitive behavioural therapy (TF-CBT) can be effective for many children [6]. TF-CBT consists of (1) skills-building components to enhance children's affective, behavioural, biological, and cognitive self-regulation; gradual exposure to the child's trauma reminders is included throughout these components; (2) trauma narrative (TN) during which children describe and cognitively process their personal trauma experiences; and (3) treatment closure including conjoint caregiver-child sessions and safety planning [18]. Typically, one third of TF-CBT treatment is dedicated to each of these modules, and its benefits have been shown to be continued over extended periods in children who have been victims of CSA [18].

Other treatment modalities that have been found to be effective, but in a more limited range of studies, including eye movement desensitization and reprocessing (EMDR), animal-assisted therapy, art-therapy, and play therapy [6,19-22]. In a recent review we determined that both individual and group therapy can be helpful, but multiple questions remain about what is the best form of therapy for an individual child or youth, and how this may vary depending upon

their age, gender, and type of CSA [6]. Additionally, many of the therapies used in the treatment of CSA were proposed over 30 years ago, but the research on the effectiveness for many of these is poor. Other key issues also remain about the length of treatment and how this could be standardized [7,23,24]. Provision of treatment is also difficult, with significant access issues for children and youth who have experienced CSA [25,26].

Given this large unmet need for effective treatments, and uncertainty about the most appropriate form of therapy, there is a need for novel approaches in addition to those available at this time. Currently, many treatment approaches for victims of CSA are based on out-patient programs offering 12 - 20 sessions occurring once-per-week. However, there is recent evidence suggesting that a shorter-term, more intensive program, can improve PTSD symptoms more effectively than standard treatments [27,28]. For this reason we have developed a novel, intensive, and comprehensive program to help children aged 8 - 12 who have been victims of CSA. This program is a comprehensive 1-year treatment program that combines a total of 10 weeks at an onsite "camp-like" treatment facility called the "Be Brave Ranch" with continuing out-patient support and therapy occurring at least weekly over a 1-year period. In total, children will receive more than 200 hours of direct therapy during the 1-year program as well as an additional 18 hours of distance therapy.

The research on this program will determine the effectiveness on changes from baseline in scores measuring post-traumatic symptoms. Secondary outcomes measured in a research program will determine changes from baseline in depression, anxiety, self-esteem, quality-of-life, attachment, and cognitive functioning.

## Program Objectives

### Primary program objectives

The primary program objective is to improve long-term outcomes for children aged 8-12 who have suffered CSA. This will be achieved by a combination of periods at the Be Brave Ranch where youth stay, accompanied by their parents or guardians, with longer-term outpatient support. The Be Brave Ranch has been carefully designed and programmed to be a blend of a treatment centre with those of a "camp-like" facility, providing lots of fun and recreational activities in addition to specific therapeutic approaches. One of the explicit goals of bringing children to this facility is to allow them to bond with other children who have experienced similar trauma, as the isolation and intense feelings of shame these victims frequently feel [29-31] can be a major impediment to successful long-term outcomes. These brief periods at the Be Brave Ranch (BBR) will be combined with a 1-year series of continuing out-patient sessions for both the child and their family to create the BBR program. This program is more extensive than most existing programs, and will be offering each child and their family more than 200 hours of direct therapeutic support as well as an additional 80 hours of therapeutic support when they are not at the BBR. It is recognized that such a program may be too intensive, expensive, and longer-term for many victims of CSA, but the hope is that it will provide a "gold standard" to compare to other programs. Also, it may emerge that over time certain elements can be easily adapted to other environments so as to provide more widespread availability of the key elements of the BBR program.

The program has undergone some pilot work, and the full program described herein will be starting in early 2015. To allow comparison

with other studies regular measurements will be taken, and it is intended that all research will be carried out on an "intention-to-treat" basis. The primary research objective for this program is to determine if taking part in the BBR program leads to a decrease in the severity of symptoms for post-traumatic stress disorder (PTSD) symptom severity, as measured by the Child PTSD Symptom Scale (CPSS) [32]. This is because while the sequelae of CSA symptoms are diverse, [33,34] the CPSS scale covers many of the different symptoms that may be experienced as a result of CSA. It has been used in several previous studies in this age group and the CPSS scale provides an understanding of overall symptom severity across a range of factors [35,36].

### Secondary program objectives

This program aims to decrease depression and anxiety measured by the Revised Children's Anxiety and Depression Scale (RCADS-Short Version), a 25-item self-report questionnaire with 15 question related to anxiety and 10 related to depression. This has been used in studies of children in this age group [37,38].

This program also aims to increase quality of life and self-esteem as measured by the Kid-KINDL, a 24-item questionnaire which provides an overall measure of quality of life, and has been used in studies of children in this age group [39-41].

The BBR program aims to improve attachment in children so that they have or display secure attachment tendencies. Secure attachment will be measured on a score of 0-5 based on 5 questions relating to secure attachment: "I make friends with other children easily"; "It is easy for me to depend on others, if they're good friends of mine"; "It's all right with me if good friends trust and depend on me"; "I usually believe that others who are close to me will not leave me"; and "Usually, when anyone tries to get too close to me it does not bother me".

## Program Design

The Be Brave Ranch treatment program (BBR program) has been designed based on evidence of treatment efficacy in the CSA literature [6]. All the treatments that will be offered at the Be Brave Ranch have evidence for reducing symptoms associated with CSA. As noted, current evidence suggests the most effective form of treatment for PTSD is an intensive program [27,28]. The current program design is based on this evidence. A separate research program has been designed to examine the effectiveness of the BBR program. Both are described in the following sections.

### Be Brave Ranch treatment program

There are three components to the treatment program. The first is a 28-day treatment program where the children are located at the Be Brave Ranch along with their parents or guardians. During this time children will receive TF-CBT group using a detailed, manualized approach to ensure consistency for all children. In addition to the TF-CBT provided on-site at the Ranch, children will also be living in an enriched environment that will give them access to yoga, arts and crafts, gym exercises, animal interactions, music, daily recreational activities, as well as evening programming. They will also receive cognitive training. The BBR program has been deliberately designed to be very similar to a "camp", with a focus on having fun and bonding with the other members of the treatment cohort that are attending. With the shared traumatic experiences, the children will feel less

isolation and shame, emotions that are common among children of CSA [30].

The second component starts once the children leave the Be Brave Ranch, and is a weekly group program for both children and families. This has been designed to reinforce the learning carried out at the Be Brave Ranch, and to support both the child and their family in their own environment. These sessions also help maintain the bond the children form with their peer group.

The third component is that children will return to the Be Brave Ranch for 2-week follow-up periods, to help reinforce previous therapeutic interventions and to introduce new ones. These will occur at approximately 4, 8 and 12 months after their first visit starts.

### **Inclusion and Exclusion Criteria**

Only children who meet these criteria will be attending the program, and all potential attendees and their parents or guardians will be made aware of the legal requirement to inform relevant authorities if they are disclosing sexual abuse which has never previously been disclosed to the police.

### **Program Inclusion Criteria**

**History of Child Sexual Abuse:** Using published definitions of Child Sexual Abuse [1], children will be categorized as belonging to one of 4 groups: witnessing (Grade 1); genital touching (Grade 2); attempted penetration (Grade 3); and penetration (Grade 4). In the program, only those children who have been subject to Grades 2 - 4 sexual abuse will be considered eligible. There is no requirement for documentary evidence to confirm this, other than a declaration by a child that this has occurred.

**Aged 8 - 12:** One of the goals of this research is to help children who have been abused develop normally. There is substantial evidence that children who have been sexually abused have a much higher risk of developing a range of psychiatric disorders [9, 34], and many of these first start to manifest during the early teen years. To prevent these behaviours from occurring, the children eligible for the BBR program will be those in advance of these higher risk years.

Developmentally able to be in an on-site "camp-like" treatment facility: It is important for children to be able to understand and comprehend the reasoning and rationale as to why they are staying at the treatment facility. One of the reasons for this is to avoid re-traumatizing individuals by putting them in a situation that they do not understand.

**Able to perform skills of daily living for self-care:** Each child will be responsible for keeping and maintaining his/her personal hygiene and living space. This is important, as we do not want children who have been sexually victimized to feel that they need to be supervised during showering periods or to feel that they are being exposed.

**Good physical health:** The Ranch facility is quite large and children need to be in a physical condition that permits them to get around the facility. Additionally, there are gym activities included in the schedule every day to help increase children's physical health. This program works on a cohort model and as such it is important that no child is excluded from being with his/her peers during physical activities.

### **Program Exclusion Criteria**

Severe mental health issues including (but not limited to): recent suicide attempt; history of psychosis; history of significant self-harm; history of homicidal thoughts or actions; history of violent behaviours sufficient to be considered a threat to others; significant eating disorder.

**Significant runaway risk:** Although there are security systems in place on site, children who are at risk of running away or a child who does not want to be included in the treatment program will not be included. Furthermore, if at any point during treatment a child becomes a risk of running away, arrangements will be made for his/her departure from the facility to return to their previous living situation. The BBR program is a voluntary program, thus, in order to be effective the child must want to be there so that healthy healing can occur.

**Serious behavioural problems:** It is crucial that there is a safe and secure space for the children at the treatment facility. As a result of this, any child with serious behavioural problems such as physical aggression, sexualized behaviours, suicidality, and/or damaging property will be excluded from the program.

**Extensive or significant use of drugs or alcohol:** A child will be excluded from the program if he/she has had extensive use of drugs or alcohol. Additionally, if the use of drugs or alcohol has damaged a child's ability to developmentally and physically be involved in treatment programs, then they will also be excluded from attending the program.

**History of sexual violence or sexual behaviour towards others:** It is important to protect all children on the premises, and for this reason any child who has acted sexually towards others will be excluded.

**Police interactions:** A child will be excluded from treatment if he/she has had significant interactions with the police that would warrant or deem the child a risk to the other children, to staff on site, or if he/she is a risk to themselves while under care at the treatment facility.

**Medical conditions that are not stable and/or severe medical conditions:** The treatment facility does not have the medical facilities necessary to be able to stabilize children with unstable medical conditions. For this reason children with unstable medical conditions will be excluded. It is important that any health condition the child may have is well under control before the child is admitted so that medical attention is not be the primary focus of care when coming to the Ranch. The children should focus on self-healing without the distraction of a medical condition.

### **Program details**

All children (and their parents/guardians) who are potentially interested in being part of the program will be given detailed information about the program (including signing an informed consent sheet). They will then be screened via a 1-hour interview carried out either by telephone, in-person, or electronically (via Skype or equivalent). They will complete standard baseline measures (see below). Treatment involves an initial 28-day attendance at the Be Brave Ranch (BBR), a purpose-designed site for children to attend, located about 25 minutes outside of Edmonton, Alberta, Canada. This followed by continuing care groups carried out in their home environment, with three other briefer return visits (each lasting 14 days) to the BBR.

## Screening

All children who attend the Be Brave Ranch are screened in person (or via a Skype interview) for any of the exclusion criteria. Assuming that there are no exclusion criteria, baseline measures will be made. These take between 20-25 minutes for each child, and a similar length of time for the parents to complete information about the child. All potential participants will be asked to fill out a Be Brave Ranch admission form, consent forms (including an informed consent form to allow the data to be studied anonymously), and an intake form. They will also be asked to (whenever possible) have signed approval from their family physician.

Consent for treatment at the Be Brave Ranch will be attained prior to children arriving at the treatment facility. As the children are under age, parents or legal guardians will be required to give informed consent on the child's behalf. Parents and legal guardians will be informed of the type of treatment the child will receive, as well as making sure that each parent/guardian is aware that they may withdraw their child at any time during the treatment process.

## Measurements

During screening the program outcome measures will be given to each child to determine their baseline scores. The same scales will be carried out at the following time-points throughout the program duration: Day 1 and Day 28 of first period at the Be Brave Ranch, Day 14 of the second visit to the Be Brave Ranch (at approximately 4 months from start date), on Day 14 of the third visit to the Be Brave Ranch (at approximately 8 months from start date), and on Day 14 of the fourth and final visit to the Be Brave Ranch (at 12 months from start date).

On each occasion there are 6 measurements carried out (including 2 completed by parents/caregivers), and these are:

**Child Post-Traumatic Stress Disorder Symptom Scale (CPSS):** The CPSS has been used as a primary outcome measure in other studies, including a program comparing prolonged exposure to supportive counseling for sexually abused adolescent girls [35,36].

**Kid-KINDL (Self-esteem and Quality of Life scale):** The Kid-KINDL can be used for children between the ages of 3 and 17, and has been used in other studies as an assessment tool [39-41].

**Revised Children's Anxiety and Depression Scale (RCADS-Short Version):** The RCADS has been shown to accurately measure and assess depression and anxiety in youth [37,38].

**Secure Attachment Questions:** The 5 secure attachment questions are derived from a questionnaire "Attachment Style Classification Questionnaire for Latency Age Children", used in studies with physically abused, neglected and maltreated children [42,43].

Parents/caregivers will be asked to complete the Kid-KINDL (same version as children) for their child entering the treatment program. Additionally, each parent or caregiver will complete the RCADS-P, which is a parent version of Revised Children's Anxiety and Depression Scale.

## Cognitive training

Evidence has demonstrated that children who have been sexually abused may have poorer cognitive development [14,15]. For this reason all children attending the Be Brave Ranch receive cognitive

training, an approach that has been found to be helpful [44]. At the BBR this will be provided by utilizing the on-line My Cognition program specifically designed for children this age [45,46]. This has been shown to improve the five main domains of cognitive functioning namely working memory, episodic memory, attention, psychomotor speed, and executive functioning [45,46].

## Research Design

It is important to determine if this program is effective. For this reason there will be an additional research component to determine the effectiveness, or otherwise, of the program. The primary outcome measure to be studied will be changes in the CPSS scale, with other changes being secondary outcome measures. The research will utilize changes in the scales from baseline, with each child in the program acting as their own control. This will be carried out on an intention-to-treat basis. Should this research suggest benefits, then it is intended to subsequently carry out additional research to identify the key elements and determine if they can be applicable in other settings (such as out-patient groups).

## Sample size and statistical analysis

We carried out a sample size (power) analysis, to determine the appropriate size of the groups needed to provide likely statistically significant outcomes. Our primary outcome measure is score on the CPSS scale, where a score of less than 15 is "sub-clinical" PTSD, and this is the goal of treatment. A score of 11-15 is subclinical, a score of 16-20 is mild, a score of 21-25 is moderate, a score of 26-30 is moderately severe, a score of 31-40 is severe, and a score of 41-50 is extremely severe. A previous study also used the CPSS scale as the primary outcome measure for sexually abused adolescent girls [35], and found that after a 3-month treatment period the mean scores on the CPSS scale decreased from  $29.3 \pm 2.65$  (SD) to  $16.2 \pm 3.6$  (SD). We have assumed that in our program, our mean score will be 24.0 with an SD of 6.0, and we are aiming for a decrease in mean score at 4 months to a mean of 12.0 again with an SD of 6.0. Using this information, with an  $\alpha=0.05$  and  $\beta=0.09$ , we determined that we would need 16 individuals on an intention-to-treat analysis to meet statistical significance.

The primary statistical method will be a paired design, in which each child who completes both baseline ratings and follow-up ratings will be their own control. As the data is expected to show evidence of non-normality, a non-parametric test will be carried out to compare the differences between the mean scores at baseline and 12-week follow-up. This will be the Wilcoxon signed-rank test (paired) in most instances, unless otherwise specified. Statistical analysis will be performed using SPSS software, and will be on an "intention to treat" basis.

## Data handling and record keeping

All data collected will be in accordance with the Health Information Act of Alberta, and all other regulatory and legal requirements. A parent or legal guardian will be required to consent on behalf of their children. Electronic data will be password protected. The researchers will have access to all data collected during the program process. Any documentation that is not electronic will be stored in a secure and locked filing cabinet. Furthermore, all data collected will be kept for a period of at least 5 years. Only individuals involved in the program will have access to any of the information collected. Any participants will



be assigned an ID number to help protect the confidentiality of the data collected.

### Confidentiality

This program will adhere to all appropriate code of ethics and all laws and regulations regarding confidentiality of data. However, it is important to note that while all information will be regarded as confidential, there are two specific legal issues regarding confidentiality that will be made clear to all participating children and their parents/guardians.

**Child Abuse:** if a disclosure is made about the abuse (physical, emotional, sexual, neglect) of a child, we are required to report it to Alberta Child and Family Services and/or the appropriate authority.

**Harm to self or others:** if a disclosure is made about immediate or risk of self-harm, or harm to another client, we will act appropriately including (as necessary) calling emergency services, the individual's family, or taking the child to a place of safety.

### Conclusion and next steps

This is a novel, intensive, and comprehensive 1-year program for children aged 8-12 who have been victims of child sexual abuse. It is unique in the combination of approaches, the blending of the "camp-like" environment with the intensive group-based therapeutic approach, as well as the length of time for treatment (1-year). The addition of multiple return visits to the Be Brave Ranch as a group, specifically designed to encourage interactions within the group and to lessen feelings of shame and isolation, are also unique. Despite the fact that the program is based upon significant evidence of the effectiveness of each of the elements involved, it is important that a rigorous evaluation and research program is carried out. This will focus on the primary outcome measure of changes in symptoms of post-traumatic stress disorder with secondary outcomes measured in a research program will determine changes from baseline in depression, anxiety, self-esteem, quality-of-life, attachment, and cognitive functioning. However, it needs to be recognized that in the present study design there is no randomized control group. Should the program prove successful, this will be important to incorporate into future research studies.

Given the relative expense of this program, having robust evidence demonstrating efficacy is clearly important. Similarly, it will be important if the program is successful, that key elements may be easily adapted to other environments so as to provide more widespread availability of best care for children who have experienced CSA. It is hoped that study results regarding shorter-term outcomes for the BBR program will become available in the near future.

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