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Strokes of Strength: An Expressive Arts-based Intervention with Adolescents

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ABSTRACT

In order to explore how adolescents who have been affected by traumatic experiences would respond to an expressive arts-based intervention, a module was designed, implemented and its effect on certain behavioral and emotional constructs was evaluated. The sample included 10 female adolescents between the ages of 12 and 17 who underwent a 2-month long group expressive arts therapy in their institutional home, namely, Prayas Juveline Aid Centre, New Delhi, India. The tools which were used to assess the changes in the pre – post intervention scores in self – reported behavioral and emotional difficulties were: The Youth Self Report Form (YSR Form 11-18, CBCL; ASEBA, 2001) and the ‘Severity of Post – Traumatic Stress Scale’ (NSESSS; APA, 2013). The tools used to assess the changes in the pre – post intervention ratings of the caregiver were, the ‘DSM – 5 Parent / Guardian Rated Level 1 Cross Cutting Symptom Measure’ (APA, 2013) and the ‘Caregiver’s Observation Checklist: Children at – risk’ (WCCL, 2013). The results revealed that 4-week expressive arts -based intervention elicited a statistically significant difference in the self – reported behavioural and emotional difficulties by the participants. The verbatim reports, diary excerpts and paintings of the participants were qualitatively analysed. In future, there is room to investigate how an intervention with a longer duration and a representative sample would explain the effectiveness of expressive – arts-based therapy with such populations.

1. Introduction

An alarming number of children are under institutional care in India, however a concrete and accurate figure representation of the same is not available^[1]. Studies have indicated that institutionalised upbringing brings with it

emotional problems like insecure attachment styles, lack of sympathy, poor sense of self, aggressiveness, non – compliance, internalising problems (anxiety, depression), externalising problems (aggression, impulsivity) and other behavioural problems^[2].

The lack of a caregiver especially during the develop-

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mental years may lead to role confusion, identity crisis and problems with attachment for these students as a nurturing connection between a caregiver facilitates and ensures the psychological and emotional well-being of individuals^[3]. The absence of that condition, calls for urgent interventions which would ensure an environment which provides the same. By introducing creative therapies into this realm, one is tapping into the cognitive, emotional, mental and social development of these students. The effect of art therapy with sexually abused children and adolescents was assessed and it was noted that there was a statistically significant reduction in symptomatology scores on nine of the ten clinical subscales^[4].

“Expressive therapy has been defined as the use of drama, painting, music and literature for psychotherapeutic purposes which include improving and enhancing the physical, emotional and cognitive functions of individuals, resolution of conflicts and stress reduction”^[5]. The sessions can be structured in a way that allows the client to move carefully and safely towards challenging core issues^[6]. This lays the foundation for increased self – awareness, communication and emotional literacy.

Expressive Arts Therapy with Trauma

The theoretical evidence for art therapy with children and youth suggests that as an intervention it is a constructive way to manage emotional and physical disturbances through the promotion of self-discovery and healing. A review of art therapy done with traumatized children noted that there were qualitative changes, along with evidence in effectiveness for emotion regulation and expression, reduction in PTSD symptom scores, reduction in anxiety and disassociation and increase in the understanding of traumatic events^[7].

As has been proven by literature, trauma – focused expressive arts therapy elicits positive behavioural and emotional changes in the lives of adolescents. Traumatized youth have difficulty recognising safety and danger because of trauma exposure^[8]. Would trauma – focused art therapy help female adolescents explore their fundamental experiences associated with safety and threat? Would it create opportunities for different ways of orienting to safe and dangerous situations using non – verbal representations? The non – verbal representations that would be used in the present research are different forms of art, theatre and movement. These imaginal representations would be used as the basis for verbalising the associated experiences in a supportive social context.

The arts have been proven to help promote social inclusion among struggling and marginalized communities. Recognizing that the arts have power, even to fulfil

primary needs, makes expressive arts therapy much more important than something that is occasionally used by therapists when dealing with trauma. Would the inclusion of arts, considered by many only a means of entertainment, bring fundamental changes in the behavioural and emotional difficulties faced by the students?

As emphasised with the help of studies, the delicate emotional, social and cognitive conditions these adolescents are exposed to calls for interventions in these areas. A comfortable, non – threatening, safe environment which promotes fostering of relationships and expression of the trauma and delicate areas these children have been exposed to, is a major part of the therapeutic process aiding the students to develop strong mechanisms and basis for their development and growth later.

The current research caters to children ‘in need of care and protection’ (CNCP) which can be understood as encompassing children below 18 years of age found to be begging, homeless, living on the street, runaway children, with a history of exploitation, special needs, subject to maltreatment and inadequate maternal and familial care. The inappropriate family conditions of these students are why the Child Welfare Committee along with HAQ, Centre for Child Rights has taken a decision to provide institutional care to these children.

The family background and traumas faced by the students in these institutions are not adequately represented only by looking at their verbatim reports, FIR’s, medical examinations and hearing to what their family wants to say. In a lot of situations where they are required to share their experiences which compelled them to run away from home, for example, the clear picture might not be put forward. Already dealing with issues of trust and empathy, these students do not easily share their experiences with reporters or social workers. It is only after addressing their mental health needs and providing a safe and comfortable environment where expression is promoted that they would be able to share a clear picture of their problems. Among the several problems the country is facing, this should not be pushed under the carpet taking into consideration the negative consequences it holds for the children cognitively and mentally. Their mental health condition should not be neglected keeping in mind that their psychological well-being affects every aspect of their lives, from their ability to learn, be healthy, play, be productive and relate to other people as they grow^[9]. In this context, this research is an attempt to provide a systematic and researched intervention to acknowledge the mental health problems and give a space to these adolescents by addressing psychological problems,

socialization skills, engaging them in extracurricular activities and improving their coping strategies.

2. Materials and Methods

The aim of the current research was to test the effectiveness of an expressive arts-based intervention with adolescents who have survived trauma.

The research aimed to answer the following questions:

Does an expressive arts intervention bring behavioural and emotional changes in adolescents who are ‘in need for care and protection’?

How do adolescents ‘in need of care and protection’ in institutional homes respond to expressive arts therapy?

The hypotheses of the study were:

There will be significant difference in the self – reported checklist of behavioural and emotional difficulties by the participants, after the pre-post expressive arts – based intervention.

There will be significant difference in the behavioural difficulties of the participants, after the pre – post expressive arts-based intervention, reported by the caregiver.

2.1 Participants

The participants of the current study were 10 female adolescents in need of care and protection who underwent group expressive arts therapy in their institutional home, namely, Prayas Juveline Aid Centre, New Delhi, India. The participants were selected through convenience sampling, as only 10 students were available during 4-6 pm, they were involved in the study after taking permission from the head of the institution and their caregiver. Since it was an institutional home for females only, the sample of the present study consists of females only.

As was mutually agreed upon between the researcher and the head of the institution, all personal information about the participants was kept confidential. As the participants are in conflict with the law, it was insured that their name, family background and information about the convicts in each case would not be disclosed. The information disclosed in the research was not used for any legal or administrative reasons.

The range of the participants age was between 12-17; the mean age was 14.2 and the average number of months all the participants had spent in the institution was 13.1. Information about the nature of abuse was not disclosed by the institution, however through the activities it was revealed that all had been victims of sexual, verbal, or physical abuse. The same students attended all the sessions and 4 students missed one session each out of the 12 sessions due to personal reasons. The institution which

the sample belongs to, is a non-governmental organisation with its base in New Delhi, India. It describes itself as a humanitarian, gender-sensitive and child-focused development organization with a vision to restore the lost childhood of children in need of care, protection and development.

Table 1. Demographic Details of Participants

Age	Number of months spent in Prayas	Educational Background
12	18	No schooling
13	18	Grade 2
17	16	Vocational Training in institution
16	15	Vocational Training in Institution
12	12	Grade 3
13	12	Grade 4
14	8	Grade 6
17	7	Vocational Training in Institution
14	12	Grade 6
14	13	Grade 6

2.2 Assessments and Measures

Severity Of Posttraumatic Stress Symptoms – Child Age 11-17 National Stressful Events Survey PTSD Short Scale (NSESSS; APA, 2013)

A 9-item measure that assesses the severity of posttraumatic stress disorder in children ages 11–17 following an extremely stressful event or experience. It was administered before and after the intervention to track the changes in the reported problems experienced by the students.

The DSM – 5 Parent/Guardian- Rated Level 1 Cross Cutting Symptom Measure-Child Age 6-17 (APA, 2013)

It was administered for each child by the same caretaker once before and once after the intervention to track changes over time with regards to the symptoms that can be observed differently for the intervention group.

Caregiver’s Observation Checklist: Children at-risk (WCCL, 2013)

This checklist was developed as a part of the Arts Based Therapy (ABT) Project by the World Centre For Creative Learning Foundation, Pune. Permission to use the checklist was granted by Mr. Zubin Balsara from the WCCL Foundation, who also graciously agreed to share the checklist. The caregiver of the institution who lived with all the children was able to clearly point out the behaviours and subsequent difference in behaviours that hold true for each child.

The Child Behaviour Checklist: Youth Self Report Form 11-18 (CBCL; ASEBA, 2001)

The module used for the present research was the youth – self report form of the child behaviour checklist which

was filled by the participants themselves. The Hindi translation of the YSR/11-18 was provided by the licensor, ASEBA (Research Center for Children, Youth & Families Inc.), countersigned by Dr. Thomas M. Achenbach, President of the Research Center for Children, Youth & Families, Inc (License #1641 -02-08-18).

2.3 Procedure

After an institution with a sample similar to the target population was finalised, permission was taken from the head of the institution and the care giver after explaining the procedure and activities of the intervention in detail. The researcher is a UNESCO – certified Expressive Arts Based Therapist having successfully completed the course titled “Expressive Arts Therapy in Clinical Practice” with 150 hours of expressive movement therapy and over 100 hours of practice, having worked with NGO’s and corporates using expressive arts. The researcher was also a member of the International Dance Council CID under Registration Number 19717.

The group consisted of 10 female adolescents with a mean age of 14.2 years. The group met for more than 2 months, from January 26, 2018 to March 30, 2018. The two weeks from January 25, 2018 – February 10, 2018 were utilised for rapport formation and pre – intervention scoring by both the students and the care giver. In the period from February 12, 2018 – March 6, 2018, 12 sessions were held in the institution, every Monday, Wednesday and Friday from 4 – 5:30/6 pm. As mentioned in their paper titled ‘Best Practices in ABT’, the WCCL Foundation (2013), after an analysis of some studies done previously in the field, 1.5 hours emerged as the optimum time for each session. Each session started with deep breathing, chanting om in a circle and ‘Surya namaskars’ for 7-8 minutes. After this, a warm – up exercise was facilitated in each session which lasted from about 4:10 – 4:20, which focused on utilising various parts of the body in different ways and involved voice and music. From 4:20 – 5:20 the main goal of each session was tackled, by introducing activities which catered to the goal. For example, in the session which focused on movement and vulnerabilities, Gabrielle Roth’s 5 rhythms exercise was facilitated and, in a session, focusing on group cohesiveness, trust falls and group performance activities were facilitated. After focusing on the goal of every session, 10 minutes towards the end were used for closure where the students were encouraged to share their feelings and thoughts, followed by ‘surya namaskars’ and deep breathing. Each participant was given a personal diary on the first session itself where they could pen down their

thoughts and draw whatever came to their mind during the course of the sessions.

The period from March 12, 2018 – March 17, 2018 was used for providing closure to the students and they were given opportunities to facilitate, lead and design some activities themselves for the entire group. Following this, in the last phase of the study, post- intervention scoring was carried out with the care giver and the students from March 19, 2018 to March 30, 2018, where they were required to answer all the tools they had answered before the intervention.

The data were analysed and the paintings and diaries of the students were understood keeping in mind literature and the discussions they had with the researcher during which similar themes came up.

3. Results and Discussion

To assess the effectiveness of the expressive arts-based intervention, it was hypothesized that there would be a significant difference in the self – reported checklist of behavioural and emotional difficulties, as responded to by the participants, after the pre-post expressive arts – based intervention. The results were statistically analysed using the Wilcoxon signed ranks test. The verbatim reports, diary excerpts and paintings of the participants were qualitatively analysed. The Wilcoxon signed – rank test showed that a 4- week expressive arts-based intervention elicited a statistically significant difference in 10 out of the 11 behavioural constructs (Table 2). A statistically significant difference was also noted for the post – intervention self – reported traumatic symptoms (Table 4). Thus, the hypothesis stating that there will be a significant difference in the self-reported behavioural and emotional difficulties after the intervention by the participants, has been accepted.

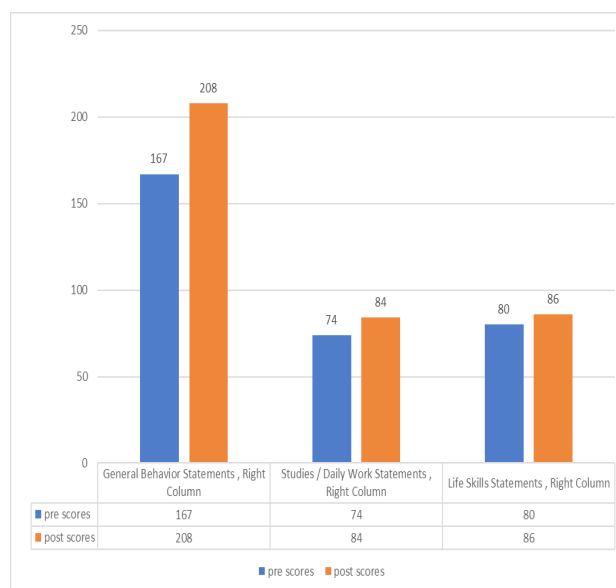
Quantitative analysis using the Wilcoxon signed rank test was based on the analysis of the following tools:

- The Youth Self Report Form (YSR Form 11-18) of the Child Behavior Checklist (CBCL; ASEBA, 2001)- Table 2
- DSM – 5 Parent / Guardian Rated Level 1 Cross Cutting Symptom Measure Measure-Child Age 6-17 (APA, 2013) –Table 3
- Severity of Post – Traumatic Stress Scale - Child Age 11-17 National Stressful Events Survey PTSD Short Scale (NSESSS; APA, 2013)-Table 4
- Caregiver’s Observation Checklist: Children at – risk’ (WCCL, 2013) – Graph 1

The analysis of each construct in each tool has been attached in the Appendix (Appendix A)

Table 2. Post Intervention scores – Youth Self Report Form

Name of the Tool	Overall Analysis	Constructs with significant difference post intervention	Constructs with no significant difference post intervention
Youth Self Report Form of the Child Behavior Checklist	Statistically significant post intervention scores ($p < .01$; 10 out of 11 constructs)	Depressive Problems. ($Z = 2.66, p < .01$) Anxiety Problems. ($Z = 2.81, p < .01$) Somatic Problems. ($Z = 2.38, p < .05$) Attention deficit / Hyperactivity problems. ($Z = 2.68, p < .01$) Oppositional defiant problems. ($Z = 2.04, p < .05$) Internalising problems. ($Z = 2.7, p < .01$) Externalising problems. ($Z = 2.4, p < .05$) Social problems. ($Z = 2.8, p < .01$) Thought problems ($Z = 2.81, p < .01$) Attention problems. ($Z = 2.69, p < .01$)	Conduct problems $Z = 1.866$ Asymp. Sig. (2-tailed) = .062 There was no significant difference in the pre and post scores for conduct problems.



Graph 1. Caregiver's Observation Checklist: Results Pre and Post Intervention

Graph 1 depicts the difference in the observational ratings checked by the care giver of the institution before and after the intervention.

The right column represented the more functional and adaptive behavioural alternatives to the ones in the left column. As can be noted, the care giver observed that the scores in all the domains had increased in general behaviour, daily work and life skills after the intervention with an increase of 41, 10 and 6 points respectively.

The statistically significant difference can be attributed to the fact that earlier emotions which were intensified as somatic or avoidant symptoms were now being expressed through some medium [10]. The movement exercises involved exaggeration and humour of certain body parts along with imitation which was used by movement therapists like Trudi Schoop for body image issues [11]. The exercises in the warm up session generally focused on swinging motions which provided a sense of freedom and security to the students [12].

Table 3. Post Intervention Scores on the Cross Cutting Symptom Measure.

Name of the Tool	Overall Analysis	Statistical difference post intervention	No statistical difference post intervention
Cross-Cutting Symptom Measure	Statistically significant difference post intervention scores (2 out of the 9 constructs)	Sleep problems ($Z = 2, p < .05$). Depression ($Z = 2.24, p < .05$)	Somatic symptoms Inattention Anger and irritability Mania Anxiety Psychosis Repetitive thoughts and behaviours

Table 4. Post Intervention Scores on the Severity of Posttraumatic Stress Symptoms Scale.

Name of the Tool	Overall Analysis	Statistical difference post intervention	No statistical difference post intervention
Severity of Posttraumatic Stress Symptoms Scale	Improvement in self – reported scores of all female participants, $p < .01$ **.	All the participants of the study showed an improvement in their self – reported scores, indicating a statistically significant difference in the post – intervention scores.	N. A

Progressive changes in art work

The usage of art and its various mediums brought about a significant change in the scores of constructs like depressive, anxiety, somatic, attention, oppositional defiant, internalising, externalising, social and thought problems. The activities aimed to teach the participants coping skills for loss and building resilience [13].

The images which have been attached in the appendix, highlight the images made by the participants of the present study, indicating the presence of abuse along with

the positive changes through some representations in their artwork. Malchiodi^[14] recorded recurring features which she observed in the art images of abused children, some of which have also appeared in the current research., which are:

- Sexual connotations in the art work
- Disorganization and distortion of body parts
- Encapsulation
- The use of the colour red
- Heart shapes.
- Artistic regression

The use of projective techniques was intentionally used as re- traumatization and an over load of the nervous system had to be avoided^[15]. The mindfulness training provided them skills through which they could increase their tolerance of distress associated with negative experiences to reduce avoidance^[16].

There was also a statistically significant difference in the self – reported measure of Severity of Post-traumatic Stress Symptoms. Trauma -focused art therapy intervention has been known to reduce trauma symptoms after post treatment^[17] which might also explain a significant difference in the reduction of the self-reported scores on the severity of posttraumatic stress scale.

The difference in the pre and post observational ratings of the care giver on general behaviour, daily work and life skills (Graph 1), were also looked at. A Wilcoxon signed – rank test showed a statistically significant difference in 2 constructs i.e., sleep problems and depression, as reported by the caregiver (Table 2). Hence, the hypothesis that there would be a significant difference in the behavioural difficulties of the participants, after the pre – post expressive arts based intervention, reported by the caregiver, has been partially accepted.

4. Conclusions

The present research was an attempt by the researcher to test the effectiveness of an expressive arts-based intervention with a specific gender, age and target population. A potential limitation to the external validity and generalisability of the current research is the fact that it has a restricted sample of females belonging to a certain socio – economic strata with similar traumatic experiences.

In the future, there is room to implement and assess an intervention on these lines albeit with a larger sample size, different age groups, genders, classes, races and ethnicities, which would enhance the research done in the field, especially in the Indian context. The problems of child abuse and the traumatic conditions which come with certain social prevailing conditions in the Indian context make it necessary for interventions of this scope to reach

out to more people, across all ages. More importantly, it is important to accept and introduce non – conventional forms of psychotherapy as openly as psychotherapy and counselling. In a country where the stigma related to counselling and mental health is already very intense, accepting a non – conventional form of the same will most definitely be a challenge, but a necessary step.

The intervention took place with imperfections in time and design, sans a control group, yet it produced a positive outcome. The results indicate that even though time and a small sample would reduce the generalisability, if an intervention on these lines is introduced into the community level, the ripple effect it will have on innumerable domains is unquestionable. An intervention is not a cure for the survivors of such wide expanse of trauma, it is a sincere attempt to minimise the extent to which the experience still interferes with their entire existence.

Author Contributions

Each credited author has had a significant contribution to the article.

Conflict of Interest

Nil.

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Appendix A

Tables 1A – 1K reflect the differences in post - intervention and pre – intervention ranks for the youth self-report form of the child behaviour checklist.

Table 1A. Difference in the post – intervention and pre – intervention scores for depressive problems.

	Ranks	N	Mean Rank	Sum of Ranks	Test Statistics
Post	Negative Ranks	9a	5.00	45.00	Z = -2.670
Pre	Positive Ranks	0b	.00	.00	Asymp. Sig. (2-tailed)
	Ties	1c			=.008**
	Total	10			

9 out of 10 students showed improvement indicating that post – intervention ranks were statistically significantly higher than pre – intervention ranks. (Z = 2.66, p < .01).

Table 1B. Difference in the post – intervention and pre – intervention scores for anxiety problems.

	Ranks	N	Mean Rank	Sum Of Ranks	Test Statistics
Post	Negative Ranks	10a	5.50	55.00	Z = - 2.812
Pre	Positive Ranks	0b	.00	.00	Asymp. Sig. (2-tailed)
	Ties	0c			=.005**
	Total	10			

All 10 students reported an improvement in scores on anxiety indicating that post – intervention ranks were statistically significantly higher than pre – intervention ranks (Z = 2.81, p < .01).

Table 1C. Difference in the post – intervention and pre – intervention scores for somatic problems.

	Ranks	N	Mean Rank	Sum Of Ranks	Test Statistics
Post	Negative Ranks	7a	4.00	28.00	Z =2.388
Pre	Positive Ranks	0b	.00	.00	Asymp.
	Ties	2c			Sig. (2 tailed)
	Total	9			= .017*

The scores for 7 students increased post intervention and remained the same for 2, indicating that post – intervention ranks were statistically significantly higher than pre – intervention ranks ($Z = 2.38$, $p < .05$).

Table 1D. Difference in the post – intervention and pre – intervention scores for attention deficit / hyperactivity problems.

	Ranks	N	Mean Rank	Sum Of Ranks	Test Statistics
Post	Negative Ranks	9a	5.00	45.00	Z = 2.684
Pre	Positive Ranks	0b	.00	.00	Asymp.
	Ties	1c			Sig.
	Total	10			(2-tailed) =.007**

9 out of 10 children showed an improvement in their scores for attention deficit / hyperactivity problems indicating that post – intervention ranks were statistically significantly higher than pre – intervention ranks. ($Z = 2.68$, $p < .01$)

Table 1E. Difference in the post – intervention and pre – intervention scores for oppositional defiant problems.

	Ranks	N	Mean Rank	Sum Of Ranks	Test Statistics
Post	Negative Ranks	8a	5.94	47.50	Z = - 2.048
Pre	Positive Ranks	2b	3.75	7.50	Asymp.
	Ties	0c			Sig.
	Total	10			(2-tailed) =.041*

The scores on the construct measuring oppositional defiant disorders improved for 8 students and increased for 2 students, showing significance at the 0.5 level ($Z = 2.04$, $p < .05$).

Table 1F. Difference in the post – intervention and pre – intervention scores for conduct problems

	Ranks	N	Mean Rank	Sum Of Ranks	Test Statistics
Post	Negative Ranks	5a	5.00	25.00	Z = 1.866
Pre	Positive Ranks	2b	1.50	3.00	Asymp.
	Ties	3c			Sig.
	Total	10			(2-tailed) = .062

There was no significant difference in the pre and post scores for conduct problems with 5 participants showing

improvement, 3 reporting the same score, and 2 reporting an increase in scores.

Table 1G. Difference in the post – intervention and pre – intervention scores for internalising problems.

	Ranks	N	Mean Ranks	Sum Of Ranks	Test Statistics
Post	Negative Ranks	9a	6.00	54.00	Z = -2.703
Pre	Positive Ranks	1b	1.00	1.00	Asymp.
	Ties	0c			Sig. (2 tailed)
	Total	10			= .007**

A statistically significant difference was seen for internalising problems wherein 9 children showed improvement and the scores for 1 increased after the intervention. ($Z = 2.7$, $p < .01$).

Table 1H. Difference in the post – intervention and pre – intervention scores for externalising problems

	Ranks	N	Mean Ranks	Sum of Ranks	Test Statistics
Post	Negative Ranks	9a	5.67	51.00	Z = -2.402
Pre	Positive Ranks	1b	4.00	4.00	Asymp.
	Ties	0c			Sig.
	Total	10			(2-tailed) = .016*

A statistically significant difference was noted for externalising problems with 9 students showing improvement post intervention ($Z = 2.4$, $p < .05$).

Table 1I. Difference in the post – intervention and pre – intervention scores for social problems

	Ranks	N	Mean Rank	Sum Of Ranks	Test Statistics
Post	Negative Ranks	10a	5.50	55.00	Z = -2.805
Pre	Positive Ranks	0b	.00	.00	Asymp.
	Ties	0c			Sig.
	Total	10			(2-tailed) = .005**

The scores on social problems reduced significantly as well with all students showing improvement post intervention ($Z = 2.8$, $p < .01$).

Table 1J. Difference in the post – intervention and pre – intervention scores for thought problems

	Ranks	N	Mean Rank	Sum Of Ranks	Test Statistics
Post	Negative Ranks	10a	5.50	55.00	Z = -2.814
Pre	Positive Ranks	0b	.00	.00	Asymp. Sig.
	Ties	0c			(2-tailed)
	Total	10			= .005**

Scores on thought problems also reduced with statistical significance with all 10 students showing a reduction in their scores post the intervention ($Z = 2.81, p < .01$).

Table 1K. Difference in the post – intervention and pre – intervention scores for attention problems.

	Ranks	N	Mean Rank	Sum Of Rank	Test Statistics
Post	Negative Ranks	9a	5.00	45.00	$Z = -2.692$
Pre	Positive Ranks	0b	.00	.00	Asymp. Sig.
	Ties	1c			(2-tailed) = .007**
	Total	10			

Scores on the domain of attention problems reduced significantly for 9 students and remained the same for 1 student indicating a statistically significant difference. ($Z = 2.69, p < .01$).

Note. a = post- intervention scores < pre – intervention scores * = $p < .05$

b = post – intervention scores > pre – intervention scores ** = $p < .01$

c = post – intervention scores = pre – intervention scores

Graph 1 depicts the means of the scores of the students in the DSM 5 based and empirically- based syndrome scales measured by the child behaviour checklist. As can be seen, across all dimensions the scores in the post intervention phase have decreased.

Table 2A. the difference in the ranks of the self – reported scores on the ‘severity of posttraumatic symptoms’ post the expressive – arts based intervention.

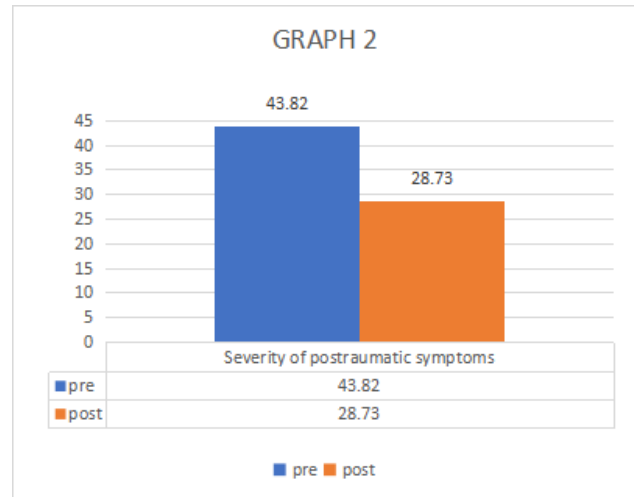
	RANKS	N	Mean Rank	Sum Of Ranks	Test Statistics
Post	Negative Ranks	10a	5.50	55.00	$Z = -2.807$
Pre	Positive Ranks	0b	.00	.00	Asymp. Sig.
	Ties	0c			(2-tailed) = .005**
	Total	10			

All the participants of the study showed an improvement in their self – reported scores, indicating a statistically significant difference in the post – intervention scores ($Z = 2.8, p > .01$)

Note. a = post- intervention scores < pre – intervention scores * = $p < .05$

b = post – intervention scores > pre – intervention scores ** = $p < .01$

c = post – intervention scores = pre – intervention scores



Graph 2 depicts the decrease in the self – reported severity of posttraumatic symptoms after the intervention. As can be interpreted from the graph, the means decreased from 43.82 in the pre – intervention phase to 28.73 in the post – intervention phase.

Tables 3A – 3I reflect the scores on the cross-cutting symptom measure answered by the care giver of the institution.

Table 3A. Difference in the scores of somatic symptoms post – intervention as reported by the caregiver.

	Ranks	N	Mean Rank	Sum Of Ranks	Test Statistics
Post	Negative Ranks	0a	.00	00	$Z = .000$
Pre	Positive Ranks	0b	.00	.00	Asymp. Sig.
	Ties	10c			(2-tailed) = 1.000
	Total	10			

The scores for all 10 students remained exactly the same indicating no statistically significant difference.

4 participants showed improvement, and the scores for 6 students remained the same, indicating a statistically significant difference in the scores. ($Z = 2, p < .05$).

Table 3B. Difference in the scores of sleep problems post – intervention as reported by the caregiver

	Ranks	N	Mean Rank	Sum Of Ranks	Test Statistics
Post	Negative Ranks	4a	2.50	10.00	$Z = -2.000$
Pre	Positive Ranks	0b	.00	.00	Asymp. Sig.
	Ties	6c			(2-tailed) = 0.46*
	Total	10			

Table 3C. Difference in the scores of inattention post – intervention as reported by the caregiver

	Ranks	N	Mean Rank	Sum Of Ranks	Test Statistics
Post	Negative Ranks	2a	1.50	3.00	Z = -1.414
Pre	Positive Ranks	0b	.00	.00	Asymp. Sig. (2-tailed) = .157
	Ties	8c			
	Total	10			

2 students showed improvement however the scores for 8 students remained the same, showing no statistical difference in inattention as reported by the care giver.

Table 3D. Difference in the scores of depression post – intervention as reported by the caregiver

	Ranks	N	Mean Rank	Sum Of Ranks	Test Statistics
Post	Negative Ranks	5a	3.00	15.00	Z = -2.236
Pre	Positive Ranks	0b	.00	.00	Asymp. Sig. (2-tailed) = .025*
	Ties	5c			
	Total	10			

5 participants showed improvement while the scores for 5 participants remained the same, indicating a statistically significant difference in the post – intervention scores for depression ($Z = 2.24, p < .05$).

Table 3E. Difference in the scores of anger and irritability post – intervention as reported by the caregiver.

	Ranks	N	Mean Rank	Sum Of Ranks	Test Statistics
Post	Negative Ranks	5a	3.50	17.50	Z = -1.633
Pre	Positive Ranks	1b	3.50	3.50	Asymp. Sig. (2-tailed) = .102
	Ties	4c			
	Total	10			

5 students showed improvement, while the scores for 2 increased and remained the same for 1, indicating that the results were not statistically significant.

Table 3F. Difference in the scores of mania post – intervention as reported by the caregiver

	Ranks	N	Mean Rank	Sum Of Ranks	Test Statistics
Post	Negative Ranks	0a	.00	00	Z = .000
Pre	Positive Ranks	0b	.00	.00	Asymp. Sig. (2-tailed) = 1.000
	Ties	10c			
	Total	10			

The scores for the participants remained exactly the same post intervention, indicating no statistically significant difference in the scores post – intervention.

Table 3G. Difference in the scores of anxiety post – intervention as reported by the caregiver

	Ranks	N	Mean Rank	Sum Of Ranks	Test Statistics
Post	Negative Ranks	3a	c	6.00	Z = -1.732
Pre	Positive Ranks	0b	.00	.00	Asymp. Sig. (2-tailed) = .083
	Ties	7c			
	Total	10			

The results did not indicate a statistically significant difference with the reduction in scores of only 3 participants.

Table 3H. Difference in the scores of psychosis post – intervention as reported by the caregiver

	Ranks	N	Mean Rank	Sum Of Ranks	Test Statistics
Post	Negative Ranks	0a	00	00	Z = .000
Pre	Positive Ranks	0b	.00	.00	Asymp. Sig. (2-tailed) = 1.000
	Ties	10c			
	Total	10			

The results did not indicate a statistically significant difference as the scores for the participants remained the same post intervention.

Table 3I. Difference in the scores of repetitive thoughts and behaviours post – intervention as reported by the caregiver

	Ranks	N	Mean Rank	Sum Of Ranks	Test Statistics
Post	Negative Ranks	0a			Z = .000
Pre	Positive Ranks	0b	.00	.00	Asymp. Sig. (2-tailed) = 1.000
	Ties	10c	.00	.00	
	Total	10			

The results did not indicate a statistically significant difference as the scores for the participants remained the same post intervention.

Note. a = post- intervention scores < pre – intervention scores * = $p < .05$

b = post – intervention scores > pre – intervention scores ** = $p < .01$

c = post – intervention scores = pre – intervention scores

Graph 3 depicts the difference in the mean pre – intervention scores and post – intervention scores as reported by the care giver. As can be interpreted, the means for 4 dimensions have remained exactly the same.

GRAPH 4

Graph 4 depicts the difference in the observational ratings checked by the care giver of the institution before and after the intervention. The right column represented the more functional and adaptive behavioural alternatives to the ones in the left column. As can be noted, the care giver observed that the scores in all the domains had increased in general behaviour, daily work and life skills after the intervention with increase of 41 , 10 and 6 points respectively.

