

Establishing Cross-Cultural Utility of Cognitive Behaviour Therapy Based Program for the Promotion of Emotional Resilience: A Feasibility Trial from Pakistan

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ABSTRACT

Objectives: Present study is premeditated with the aim to establish cross-cultural utility of Cognitive Behaviour Therapy Based Program for Pakistani pediatric population in the reduction of emotional and behavioral problems along with the promotion of positive behavioral patterns.

Study Design and Sampling: A pre-post experimental design with a mixed-methods approach and purposive convenience sampling in which 20 young children were recruited.

Place and Duration of Study: The duration of the present study from 3years (2020-2023: Part of PhD Thesis) and data was collected from the primary schools located in Rawalpindi, Pakistan.

Sample of Study: recruited from local school situated at Rawalpindi Distract through convenient purposing sampling. As it is a feasibility study, sample size calculation has not been done and sample size has been selected based on resources available.

Methodology: Study was deliberated through multiphasic procedures starting from the translation and adaptation of protocol as per cultural norms of Pakistan. Planned Adaptation (PA) approach was utilized where need assessment for adaptation, examining the theory of change, understanding the population differences, adapting the program content and evaluation strategy were key ladders. Input from all stakeholders including Special Interest Groups was taken through cognitive interviewing whereas Strength and Difficulties Questionnaire was used at various assessment points.

Results: Results established cross- cultural utility of this program by ensuring high fidelity good inter-rater reliability, high acceptability and feasibility for its future use along with determining efficacy for emotional problems ($t = 2.737, p = 0.014$) whereas it was not effective in reducing behavioral difficulties ($t = 2.026, p = 0.059$) and in improving prosocial behavior of children ($t = -0.228, p = .777$). These verdicts highlight the need to run Randomized Control Trials to establish the efficacy of this protocol for Emotional and Behavioral Problems.

KEYWORDS

Emotional Problems,
Behavioral Problems,
Cognitive Behavioral
Therapy Based Program
Pilot Trial, Cross- Cultural
Utility

Introduction

There is a rapid increase in childhood general emotional and behavioral issues during 21st century which necessitates timely identification, prevention and early intervention (Benton et al., 2022; Gleason & Thompson, 2022). If these issues are not addressed timely, this negative trajectory has the strong tendency to become chronic leading to increased risk of serious mental health problems in subsequent phases of life (Aro et al., 2019; Jones et al., 2018; Mohammadi et al., 2019; Reiss et al., 2019; Wertz et al., 2018). However; it is highly unfortunate that only a small fraction of children with these issues gets detected and able to receive mental health services even in developed regions of the world (Baughman et al., 2020; WHO, 2021). It is pertinent to highlight that these issues are major public health challenge in Middle to Low Income Countries (MLICs) because of limited mental health services and human resources. This situation requires the development of effective and accessible mental health systems based on universal psychological and social preventive approaches (Arzamarski et al., 2022; Maddock et al., 2021; Naveed et al., 2020; Ranjan & Asthana, 2017; Zhou et al., 2020). Similar to the other developing countries, Pakistan has been through various socio-political and cultural changes in past few years by posing grave implications on the development and wellbeing of young children and adolescents. However, not much effort has been done to estimate the effects of these challenges on the mental health of young individuals and design appropriate interventions at government and policy making levels. Only few studies highlighting high prevalence and multiple risk factors of psychological disorders among young children has been done in past few years which can be regarded a call for service providers, researchers and policymakers to expand mental health services for youth in Pakistan (Hossain et al., 2021; Malik et al., 2019; Lakhdir et al., 2021; Naveed et al., 2020; Shafiq et al., 2020; Raja et al., 2015; Zafar et al., 2019; Zahra & Saleem., 2021). Recent development of preventive mental health approaches brought a ray of hope for these countries in which management of these conditions in a stepped care manner would maximize the benefits by approaching maximum individuals despite the scarcity of resources (Cross & Hickie, 2017; Dalgleish et al., 2020; Hodgkinson et al., 2017; Pearl & Norton, 2017). Specially; the Cognitive Behaviour Therapy (CBT) based group proved to highly effective in this regard which are cost effective and also lessen the risk of stigmatizing children (Splett, 2013; Fazel et al., 2014). For example, verdicts of Randomized Control Trails (RCTs) and meta-analysis depict high efficacy CBT oriented school-based programs for emotional and behavioral problems among young children (Dray et al., 2017; Feiss et al., 2019; Werner-Seidler et al., 2017). Some of the famous CBT based group protocols includes SMILES, FRIENDS, FRIENDS for Life Program and Super Skills for Life Program (SSL) (Barrett, 2004; Essau & Ollendick, 2013; Pitman

& Matthey, 2004).

Among these state of art protocols, SSL developed by Essau and Ollendick (2013) is exclusive one which not only effective but is time efficient and cost-effective program for children. It helps young children to deal effectively with their emotional and behavioral problems as well as benefits them to increase their self-confidence, showed improved school performance and increased involvement in social activities (e.g., prosocial behavior). The intervention is a structured program of 8 sessions with 45 minutes' time duration, is designed to be delivered in the form of a group preferably in a small group 6 to 8 children, however it can have delivered in classroom setting as well as has been found to be effective in individual setting. Its frequency can be 1 or 2 sessions per weeks and it is for children of age 6 to 18 years old and it is usually delivered in schools. It has three versions; standard protocol is the children version which is used with children of age 6 to 12 years old; second is the adolescent version that particularly address the youth of age 12 to 18 years old and third one is the preschooler version designed for children less than 6 years. It has a unique feature in which a video recording activity done in the first and last session of the program where each child is given a 2-minute task to speak in front of the whole group or class facing the camera and they are stimulated to say whatever they wanted to say or share with their group, each child is analyzed for behavior and interactions and feedback is given as part of the treatment. This added feature of a video recording which helps children to practice and learn from their mistakes (Fernandez-Martínez et al., 2020). Detail of further sessions is given below;

Table 1 Outline of the Timeline for the SSL Sessions

Timeline	Session's agenda
1 st Session	Introduction of SSL, researcher and children with each other, discussion on group rules, orientation to the concept of self-esteem and doing 2-minutes speech task
2 nd Session	Understanding of feelings through various activities such as role-playing exercise etc.
3 rd Session	Understanding the concept of thoughts through various activities
4 th Session	Linking feelings, thoughts and behavior
5 th Session	Learning-to- Relax and teaching children the importance of relaxation and specific relaxation techniques;
6 th Session	Social Skills Training
7 th Session	Problem Solving Skills Development
8 th Session	Review

Till date numerous researches have been carried out to evaluate the benefits of this program in children and adolescents in different settings throughout the world right after its development in 2013. The very first study was executed with 61 British children with the agenda of find out its effectiveness in dealing the anxiety symptoms among children in their context and found to be effective. Further studies, ensure its efficacy for emotional as well behavioral problems (Allan et al., 2021; Dela Torre-Luque et al., 2020; Essau et al., 2014; Essau et al., 2019; Fernández-Martínez et al., 2019a, 2019b, 2019c; Orgiles et al., 2019, 2020a, 2020b, 2020c; Melero et al., 2021a, 2021b, 2021c, 2021d; Ramdhonee-Dowlot et al., 2021; Zakaria et al., 2021). Later-on, intervention has been used with Spanish child population and has been appraised in many trials in Spain in different settings with different age ranges of children and has been found efficacious for wide range of emotional difficulties such as anxiety, depression and poor self-esteem (Fernández-Martínez et al (2019a). Emotional complications in children are often shown to be associated with peer-problems and less prosocial behaviors; SSL is also proved to be effective in the management of these domains where studies show that along with emotional difficulties, it also reduces other behavioral difficulties such as attention problems and hyperactivity (Fernández-Martínez et al., 2019a). In this liaison; another research on 108 Malaysian with substance use has been done and fallouts described it helped the to be less emotional as well as help them to be more prosocial at post-intervention (Zakaria et al., 2021). This feature further studied with 67 Spanish children and results demonstrated significant positive behavioral variations related to children' social skills (Fernández-Martínez et al., 2019c). Further to it, work of Melero et al (2021b) with 140 children showed that it is highly operative in enhancing social relations among children, although the individual mode displayed more auspicious fallouts for behavioral problems.

Added to it; a study aiming at the evaluation of Spanish SSL program's fidelity level and it's the association with various dimensions of fidelity was executed with 119 school going children and findings exhibited that at post-assessment and follow-up; all dimensions were strongly linked with reduction in emotional and behavioral problems. Thus, SSL program is effective for treating emotional symptoms even with less fidelity, however, high fidelity and loyalty linked with more promising results which emphasized on the establishment of fidelity for adapted versions (Melero et al., 2021d). This CBT based intervention has not only been found suitable in the context of high-income countries, but further efforts have been made in LMICs and resulted in fruitful outcomes. For example, a RCT of this program was conducted in Mauritius with 100 young children of age 9 to 14 years old having emotional problems, poor inhibitory control and attention deficits and it was found to be effective (Ramdhonee-Dowlot et al., 2021).

As far as status of Pakistan is concern, this area is at infancy stage and only few studies have been done so far e.g., Malik et al (2017) has established the preliminary effectiveness of behavioral parent training program for 85 parents of children with Attention deficit and hyperactivity disorder (ADHD) by using quasi-experimental design. Similar type of efforts was also made in recent years by translating and adapting FRIENDS Program and Fun FRIENDS (Ahmed & Masroor, 2018; Najmussaib, et al., 2024). As these interventions are developed in western countries, it is imperative to translate and adapt them. However, while adapting these interventions, it is very important to keep essential concept integral and establish the implementation fidelity (Oosthuizen & Louw, 2013; Dusenbury et al., 2003).

Problem Statement/ Rationale

Disdain the worldwide surge in childhood emotional and behavioral disorders, a significant treatment gap exists in MLICs like Pakistan, where mental health capitals are critically scarce (Naveed et al., 2020). Furthermore, while evidence-based CBT protocols such as the SSL program have demonstrated high efficacy in Western and some East Asian contexts, their utility remains largely unverified within the unique socio-cultural and linguistic framework of Pakistan.

Currently Pakistan is at an infancy stage regarding this phenomenon, focusing primarily on parent trainings, leaving a prominent void in evaluated, school-based group interventions for children. This deficiency of locally validated programs prevents policy-makers and practitioners from implementing scalable, cost-effective prevention strategies. Without establishing the cross-cultural utility and implementation fidelity of the SSL program in Pakistan, it remains unknown whether these Western-developed interventions can effectively mitigate the rising trajectory of psychological distress in Pakistani youth. Therefore, there is an urgent need to evaluate the SSL program to determine its effectiveness in reducing emotional symptoms and enhancing prosocial behavior within this specific demographic.

Methodology

Research Design and Participant

While using descriptive and Quasi-Experimental research design, study was executed through following stages as elaborated below in figure 1. Sample of study was 20 young children recruited from local school situated at Rawalpindi Distract through convenient purposive sampling. As it is a feasibility study, sample size calculation has not been done and sample size has been selected based on resources available (Morree et al., 2020).

According to inclusion/exclusion criteria children of age 9 to 13 years studying in class 5, having anxiety scores more than 25 on screening measure, didn't have any serious illness or diagnosed psychological disorder and not under any psychological treatment. Children with any experience of serious traumatic event in past 6monthse and who are not willing to participate were excluded from the study.

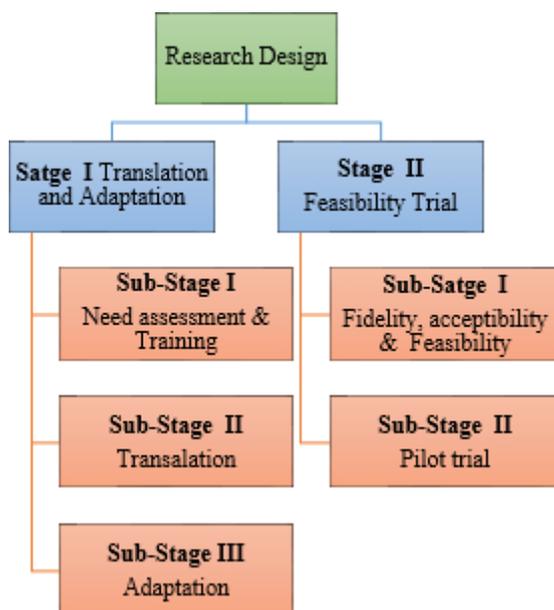


Figure 1: Study Design with various Stages

Stage I: Translation and Adaptation. During this phase, need assessment for translation/adaptation of SSL was deliberated where original developer, community stakeholders (school principals, teachers, mental health professionals and laypersons including parents) and Special Interest Group (SIG) were consulted and them all recommended the translation/adaptation. This whole process was achieved through multiple stages and detail is given below;

a. Translation process. Standardized Back Translation Procedure was utilized to translate the protocols of the study where three language experts (bilingual) translated the protocols of intervention along with provision of points for adaptation to make suitable for Pakistani cultural as per local context and sensitivity of the program. (Anderson & Brislin, 1976; Hambleton & Patsula, 1999). Afterward, five ember committee of Subject Matter Experts (SMEs) finalized one translation which was translated back by three other bilingual experts independently. A detail discussion on back translated versions by SMEs has been done again and final copy generated which

reviewed by supervisor and researcher for any inconsistencies and grammatical errors.

b. **Adaptation Process.** For adaptation, Planned Adaptation (PA) Approach (Lee, 2008) was utilized where need assessment for adaptation, examining the theory of change, understanding the population differences, adapting the program content and evaluation strategy were key ladders. At first step, according to theory of change model for Evidence Based Programs (EBPs), this intervention was considered to be adapt as per content of original intervention and sample' s preferences/ values (Essau & Ollendick, 2013). As this intervention developed in western countries whereas Pakistan being Islamic country has its own specific geopolitical and socio-economical fibers which are very different from western countries. These differences emphasized the need for adaption. So, adaptation was done through input from experts who did translation, SMEs and all stakeholders. Along with this, adaptation evaluation strategy was also considered appropriate as measures to assess various outcomes of intervention were not available in Urdu. Cognitive interviewing of 10 local stakeholders involving head teachers and teachers, psychologists and parents were done to get their input regarding understanding, application and suitability of intervention. Furthermore, involvement of SIGs which was comprised of 10 primary children was the integral part of PA. In the light of their input, content was adapted and their suggestions were merged in translated version, hence producing a final version.

Stage II: Feasibility and Pilot Study. A pilot feasibility trial was integral step of adaptation process through PA which was executed in separate stage of study were main aim is not to find statistically significant differences rather to explore feasibility of implementation of adapted protocols in local context and recruitment parameters to inform future Randomized Control trial (RCT). So, in present study, cross- cultural utility of protocol was established through determining fidelity, acceptability and feasibility and potential efficacy.

a. Now coming to these parameters of feasibility trial, implementation of fidelity is mandatory prerequisite that demands consideration (Dusenbury et al., 2003; Walton et al., 2017). It is tremendously complex process because of the heterogeneity in the operationalization and various expert give different explanation to it. In current study, Bellg's Fidelity model was used which accentuated the development of intervention specific tools, delivery, receipt, enactment as significant elements to measure the fidelity, determining unit of analysis in group-level interventions; handling the missing data issues as key steps. Various quantitative and qualitative method of fidelity assessment were suggested (Bellg et al., 2004; Ginsburg, 2021) and same was done in present study where checklist comprising of all sessions components of intervention was developed (Essau et al., 2012). After this, as per recommended guidelines, around 10% of the

total content is used to determine the fidelity of intervention (Mouter et al., 2012) to make the process more practical. Furthermore, as the intervention was delivered by single person with training by original developer and assessed by independent rater while delivery. Sessions were recorded as well which were rated later-on by another independent rater. Inter-rater reliability was calculated to ensure the fidelity. It was also ensured indirectly through feedback assessment as discussed in acceptability of intervention (Results of fidelity assessment are presented in table 3).

b. Acceptability being vital element of feasibility trials was ensured according to guidelines of The Framework of Acceptability (TFA) (Sekhon et al., 2017) where acceptability was assessed through qualitative and quantitative methods of Feedback assessment. In qualitative assessment; acceptability and feasibility of intervention was explored through qualitative interviews where semi-structured interviews of seven children and from four teachers in school setting were done. Whereas quantitative assessment was done through a feedback assessment form from children and their parents. Interview schedule and feedback assessment form were developed by research through literature and SMEs consultation.

c. Progression criteria by Avery et al (2017) was utilized to check to feasibility of study by researcher. According to it, progress to the next stage of the study accord to the traffic light system where green color specifies that progression to the subsequent phase of the study is appropriate without any alteration; amber color displays progression is apposite with some variations to the protocol whereas red color denotes that progression to the next stage is not advisable.

d. In the end, to determine potential efficacy, it was hypothesized that;

1) There will be significant decrease in general emotional difficulties at the post- assessment as compared to pre- assessment.

2) There will be significant decrease in general behavioral difficulties at the post- assessment as compared to pre- assessment.

f. There will be significant increase in prosocial behavior at the post-assessment as compared to pre- assessment.

g. The Strength and Difficulties Questionnaire (SDQ). This scale is intended to measure general difficulties and positive behavioral patterns among young children with range of 3years to 16 years. The general difficulties measured in this scale includes both emotional problems and

behavioral problems. It is a 25-item questionnaire, with three-point Likert format where 0=Not true, 1=Somewhat true, or 2=Certainly true and five subscales. Emotional subscale measures the overall emotional symptoms including both anxiety and depressive symptoms through items 3,8,13,16 and 24 whereas behavioral problems are assessed through by conduct sub-scale which includes items 5,7,12,18, and 22; hyperactivity subscale (e.g., items 2,10,15,21 and 25) and items 6,11,14,19 and 23 are used to evaluate the peer relationship problems. Further to it; positive behavior or strength are measured prosocial behavior sub-scale (e.g., items 1, 4, 9, 17 and 20). Additionally; items number 7, 11, 14, 21 and 25 are reverse scored and total score ranges from 0 to 10 on each sub-scale, total difficulties score ranges from 0 to 40 where higher scores are reflective of emotional and behavioral problems. However; the prosocial subscale is interpreted inversely where high scores show more positive behavior. As far as its psychometric properties are concerned; it has sound validity and reliability with $r = 0.80$ (Goodman, 2001; Essau et al., 2012). Urdu version was used in this study (Samad et al., 2005) also has good reliability with Cronbach's alpha 0.70 for total score; 0.61 for internalizing subscale and 0.52 for externalizing subscale whereas reliability of prosocial subscale was 0.65 after remove the reverse scoring as it acts as confounding variable (Essau et al., 2017; Riso et al., 2010). The SDQ-U total scores correlated significantly with the Spence Children Anxiety Scale (SCAS) total scores and with all its subscales. The SDQ-U proved to be a reliable and valid measure of emotional and behavioral problems in the Pakistani context (Essau et al., 2017)

h. Procedure and Ethical Consideration. This phase was completed going through multiple steps along with due consideration to ethical aspects at every stage. Detail of this phase is given below;

- 1) Permission and approval related processes. During this step, permission from various channels e.g., authors of scales, developer of intervention and schools' authorities has been sought along with ethical approval Academic Studies and Research Board of university (ASRB NO FJWU/EC/2021/32) and registration of trial at Registry of Efficacy and Effectiveness Studies (ID is 12720.1v1).

- 2) Road Map for Consent and Assessment related Aspects. After this, road map of study has been discussed with schools' administration where written consent of parents and ascent from children were obtained and assessment was done through Group administration before and after the intervention.
- 3) Ethical Consideration. Being working with minors, ethical aspects are more imperative which were under consideration during each stage e.g., keeping child's benefit at priority, ensuring confidentiality, creating referrals liaison to mental health professionals for any probable risks related to emotional disturbance, provision of info-care and counselling session wherever required.
- 4) Delivery of Intervention: Intervention delivery of 45 minutes session two times in week to participants having emotional and behavioral issues was executed in small groups of 10 participants each. In the first and last sessions; they were asked to give 2-minute speech that was video-recorded. This process is explained in CONSORT Flow Diagram is given in figure 2.

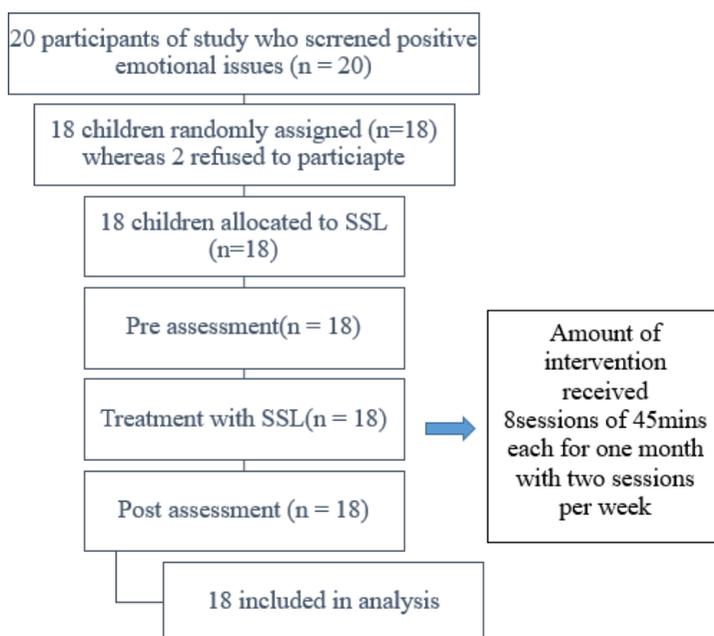


Figure 2: CONSORT Flow Diagram

- i. Data Analysis. Data was analyzed by using Statistical Package for Social Sciences (SPSS version 26, IBM Corp., Armonk, NY, USA) (Dunkley et al., 2006) mean, standard deviation, Kurtosis and kurtosis and Skewness for normality examination, Kappa Coefficient for inter-rater reliability to ensure fidelity and parried sample t pre-post analysis (Field, 2009; Ghasemi, & Zahediasl, 2012) whereas thematic-qualitative-approach to explore the acceptability and feasibility of culturally adapted intervention (Braun &

Clarke, 2006; Gale et al., 2013; Pallan et al., 2018). Outcomes are presented in themes with sub themes.

Results

Fidelity of Intervention

Results revealed that intervention has high fidelity where Kappa Coefficient (Cohen's κ) was run to see agreement between two independent raters to see that the various apparatuses of the intervention were delivered as per protocol in translated version. There was considerable agreement between the raters, $\kappa = .099(95\% \text{ CI})$, $p < .001$ which provide evidence for inter-rater reliability and fidelity of intervention. This was further insured by high acceptability of intervention by participants, parents and teacher through qualitative and quantitative assessment. Feasibility was also pronounced Amber according to Avery et al (2017) model which says progression is suitable with some changes to the protocol. Rest of the results are presented below in tables;

Table 2 Socio-Demographic Profiling of Sample (n = 18)

Variables	Categories	<i>f</i>	%
Gender	Boy	6	33.3
	Girl	12	66.7
Age	9 Years	1	5.6
	10 Years	8	44.4
	11 Years	7	38.9
	12 Years	2	11.1
Family setup	Nuclear	8	44.4
	Joint	10	55.6
Father's Education	Matric and below	2	11.1
	Matric-Graduation	11	61.1
	Graduation and above	5	27.8
Mother's Education	Matric and below	2	11.1
	Matric-Graduation	9	50.0
	Graduation and above	7	38.9

Table 2 shows that demographic details sample of study's sample.

Table 3 Mean, Standard Deviation, Skewness and Kurtosis of Study Variables at Baseline (n = 18)

Variables	M	S. D	n	Min	Max	S	K
EP	5.33	1.84	18	2	8	-.80	-.30
BP	10.94	3.35	18	5	16	-2.5	-.76
C	3.22	1.86	18	0	7	.37	-.21
H	4.22	2.18	18	0	8	-.09	-.43
PP	3.5	1.2	18	2	6	.45	-.58
PSB	7.61	1.97	18	4	10	-.77	-.70

Note. EP = Emotional Problems = Behavioral Problems, C = Conduct problems, H = Hyperactivity, PP = Peer Problems, PSB = Prosocial Behavior

Table 3 shows normality distribution of data was also confirmed as the values of skewness and kurtosis were in the range of +3 to -3 (Brown, 1997;2006).

Table 4. Frequencies and Percentages of Childhood Anxiety and Associated Conditions (n = 18)

Variables	f	Percentages
Emotional Problems	11	61.1%
Behavioral Problems	15	83.5%
Prosocial Behavior	6	33.3%

Table 4 is reflecting overall frequencies and percentages for study variables.

Table 5. Mean Differences of Pre-Assessment and Post-Assessment on Prosocial Behavior, Emotional Problems and Behavioral Problems (n = 18)

Outcomes	Baseline (n = 18) M(SD)	Post (n = 18) M(SD)	t (17)	p	Cohen's d
EP	5.33 (1.84)	3.44(2.3)	2.73	.01	.90
BP	10.94(3.35)	8.28(4.5)	2.02	.06	.67
C	3.22 (1.86)	2.78(2.01)	.72	.48	.22
H	4.22 (2.18)	2.67(1.74)	2.74	.01	.78
PP	3.5 (1.2)	2.83(1.85)	1.16	.26	.42
PSB	7.61 (1.97)	7.78(1.95)	-.28	.77	.08

Note. EP = Emotional Problems = Behavioral Problems, C = Conduct problems, H = Hyperactivity, PP = Peer Problems, PSB = Prosocial Behavior

Table shows the mean differences of pre-assessment and post-assessment prosocial behavior, Emotional Problems and Behavioral Problems (n = 18). Result revealed that there was significant difference between pre and post assessment on emotional problems whereas there were no significant differences between pre- and post-assessment on prosocial behavior and behavioral problems. This is may be because of the fact that sample size of pilot was very small. Secondly, study was carried-out immediately after COVID-19 period, when children were specially educated about new norm of social distancing, that may have effect on their prosocial behaviors.

Discussion

The current study effectively established the cross-cultural utility of a CBT-based mental health program for Pakistani children, representing high implementation fidelity (0.99 inter-rater reliability) and strong acceptability among children, parents, and teachers. While the pilot nature of the trial limited its statistical power to detect broad

changes, the noteworthy decrease in generalized emotional problems ($t = 2.737$, $p = 0.014$) suggests that the transdiagnostic approach is a promising, resource-efficient solution for LMICs (Aro et al., 2019; Arzamarski et al., 2022; Mohammadi et al., 2019; Naveed et al., 2020; Ranjan & Asthana, 2017; Wertz et al., 2018; WHO, 2021; Zhou et al., 2020). Now let's discuss this in more detail, Ensuring the fidelity was the prime goal of the current study and it was achieved through using guidelines given by Bellg's Fidelity model (Bellg et al., 2004) where researcher get extensive training followed by rating of intervention deliver by independent raters for inter-rater reliability. Results showed that intervention has decent fidelity with high inter-rater reliability which was 0.99 ($p < .01$) among raters on various components of intervention. It portrays that intervention was delivered as per standard protocols and adherence to the intervention content which is similar to the adherence levels reported by previous studies (e.g., 78% to 97%) (Essau et al., 2012). Separately to this, the acceptance aspect of fidelity was indemnified indirectly through feedback assessment from children, parents and teachers which showed good measurement outcome. In general, the outcomes revealed high fidelity as almost all sample (90%) participated in all sessions, accomplished the given, and give positive feedback regarding intervention when asked trough qualitative and quantitative measures. These findings are in link with the past studies (Dusenbury et al., 2003; Melero et al., 2021d) which emphasized the implication of ensuring fidelity. There was only one study done previously by Melero et al. (2021d) on the establishing fidelity of SSL where they examined the implementation fidelity of Spanish version of the program and provide evidence for its effectiveness with high implementation fidelity. Above mentioned qualitative and quantitative assessment only ensure fidelity but also measures acceptability of protocol. Data of qualitative interviews tinted numerous dimensions of acceptability. For example, participants considered it a very beneficial for them which helped them to reduce their anxiety, develop their anger control and enhance their confidence. Similarly, it helped them to learning new skills for social interaction and communication with others. They also found it very interesting, motivated to join again and recommended it for others. Correspondingly, parents and teachers' feedback complimented the children experience where they highlighted the need to make such programs as part of syllabus with regular provision. They also suggested some aspects to make this program more practical and suitable to be implemented in schools e.g., instead of two sessions of 45 minutes per week, one session of 60 minutes preferably after school hours with small groups of 6 children is recommended. This data helped researcher to mapped the feasibility of trial and generate the guidelines for future. Another imperative concern was regarding the setting, material required and delivery conditions, which was thoroughly evaluated with respect to feasibility of procedure as well as resources.

Although this trial was not powered to determine significant group differences. However, initial trends of efficacy are projected in the reduction of generalized emotional problems ($t = 2.737$, $p = 0.014$) as measured by SDQ-U. Previous studies also found that this intervention was effective for emotional among children participating in the program. (Essau et al., 2014; Essau et al., 2019; Fernández-Martínez et al., 2019b; Melero et al., 2021b, 2021c, 2021d). As an example of study, we can discuss study of Orgilés et al. (2019) in which he used translated and adapted Spanish version of this intervention with 119 children with age range 8–12 years old engaged from

nine schools. By using quasi-experimental design with one group, pre- and posttest, significant decrease in emotional was demonstrated. Whereas this program was not effective in reducing behavioral difficulties and improving prosocial behavior as scores on behavioral problems were not decrease significantly ($t = 2.026$, $p = 0.059$) and score on prosocial behavior were not decrease at post level ($t = -0.228$, $p = .777$). These are quite interesting findings and multiple explanations can be inferred out of it. First of all, this deviation in results precisely does not indicate a failure of the intervention, but rather highlights two critical contextual insights. Firstly, the unique social distancing norms during the study period likely masked or conflicted with prosocial skill acquisition ((Ares et al., 2021; Spagnola & Fiese, 2020). Secondly, unlike emotional symptoms, behavioral and prosocial improvements appear to require more intensive individualization and longer follow-up periods to move from learned skill to internalized habit as children did not show significant immediate improvements but showed long term effects after one year and two years (Orgilés et al., 2019). It might be because children need individual attention, extra time and occasions to practice these behaviors and were able to generalized them in different contexts (Essau et al., 2014; Orgilés et al., 2019). Similar type of findings was also reported from other countries as well e.g., Allan et al. (2021) explored the effectiveness of this intervention children and adolescents of age group 11- and 14-years old emotional and behavioral problems through randomized controlled trial. Outcomes exhibited that emotional problems were significantly reduced as compared to behavioral issues. Another study presented by Melero et al (2021b) where he studied 140 children and noted that this protocol is operative in enhancing social relations among children and decrease behavioral issues but the individual mode displayed more auspicious fallouts for than group protocol where children significantly get better at behavioral level with greater prosocial behaviors such as helping others; showing empathy and kindness, and sharing their things with others compared to children from group modality.

Furthermore, study on impact of SSL on behavioral problems among Malaysian adolescents with problematic substance use also provided more promising empirical evidence for long term efficacy as compared to short-term (Zakaria et al., 2021). A recent study Spanish SSL program's fidelity level also studied outcomes at posttest and 12-month follow-up to

assess its effects on emotional problems. They testified the results by highlighting the mediation effects of self-concept dimensions to reduce internalizing problems that require more time to produce change (Melero et al (2021d). Later on; results of Spanish study indicated that no benefits for externalizing issues immediately after the intervention. But they reported one-year long term effects in few of these variables (Orgilés et al., 2020a). This proposed the necessity to trace symptoms in long-terms for better outcomes as found in analogous works (Essau et al., 2012). According to Essau et al. (2014) and Orgilés et al. (2020a); these conclusions could be elucidated by the availability of more time for rehearsal and internalization of acquired skills. Present study is pre-posttest study without control group and follow-up which is not adequate time for such complex issues to get resolved.

Ultimately, this study transitions the intervention from a theoretical adaptation to a feasible, practical framework. Future iterations should changeover to a Randomized Control Trial (RCT) design with extended longitudinal follow-ups to measure the sleeper effects of behavioral change that this pilot began to uncover.

Implications of the Study

After discussing and highlighting the shortcomings of present study; it is imperious to throw some light on the practical utility and implication of this study. A snapshot of these implications is charted below;

1. It has wide practical implications, which can be helpful for parents, teachers, school counselors and psychologists; educationists and for overall school system.
2. This study not only guide researcher to plan definitive cRCT but also provide guidelines for a future clinical and cost-effectiveness trials in school psychology discipline as fidelity evaluation is a key aspect of measuring the effectiveness of interventions.
3. High acceptability and participants' willingness to use SSL program as evidenced by the relatively low attrition rate and reported during feedback interviews was perhaps higher than expected that encourages to implement such programs in school settings.
4. Being in resource limited country with limited number of mental health professionals; implementation of the individual based interventions required a longer time and greater material and human. Whereas successful implantation of adapted SSL program in school setting provided mental health professionals and policy makers with better option which more cost-effective and time saving and can be implanted on larger scale as community-based programs.
5. Parallel to cost-effectiveness; being transdiagnostic in nature and implementation of SSL in school setting will also help to reduce the stigma associated with anxiety related issues and consultation in clinical setups. In this way large number of at-risk children can be facilitated without being diagnosed and stigmatized.

6. The challenges faced in research regarding response rates of parents and teachers necessitate awareness raising programs at various levels. For example, arranging community-based programs on a small scale or some online groups where researchers can get the opportunity to address their concerns of parents about their children and can educate them. It can be done through group discussions. This sensitization leads to enrich community engagement phase which is required to enhance the long-term benefits of these programs.

7. Certain essentials for policy makers and child mental systems and agencies in general were also in the scope of this study.

Conclusion

In summary, this feasibility trial specifies the importance of CBT based Transdiagnostic intervention and programs for the management of childhood emotional and behavioral problems and promotion of resilience. These programs being cost-effective and time efficient has special utility for the South Asian LMICs like Pakistan which has high prevalence of such issues with limited resources in mental health services for children (Fernandez et al., 2019; Tanzil & Sana 2016; Maddock et al., 2021; Nezafat et al., 2019; Rapee, 2018). Here, translated and adapted SSL program with high acceptability, fidelity, acceptable and feasibility provided an excellent resource for early prevention for childhood emotional and behavioural problems in Pakistan. This feasibility trial also added useful evidence to inform a future cRCT/RCT.

Declarations

Ethics Approval: Ethical facets were kept under special deliberation as study was with minors. In this regard, study synopsis was presented to the Ethical committee of author's respective university and ethical clearance was obtained before the start of study (NO FJWU/EC/2021/32).

Informed Consent from the participants: Formal permission from schools, written informed consent from parents and assent from children was taken.

Consent for publication: Consent from publication was taken from publication and all others have also consent for publication.

Availability of data and materials: Data will be made available on request.

Declaration of competing interest: The authors declare that they have no conflict of interest.

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Authors' contribution

Nazia Mustafa: Conceptualization of the work, data collection, performing statistical analysis and working on the write-up of the manuscript.

Aneela Maqsood: Supervision of the research; critical reviews of the manuscript.

Sophia Rashid Khan: Assisted in literature search, drafting and data entry.

Hina Iqbal: Assisted in formatting and publication.

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Disclaimer: Present study was conducted as part of PhD thesis.

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