

RESEARCH ARTICLE

**BRIDGING THE GAP OF FEASIBILITY AND PRACTICALITY
IN THE MALAYSIAN CONTEXT: PRELIMINARY SINGLE
COHORT SCHOOL-BASED COGNITIVE BEHAVIORAL
THERAPY (CBT) INTERVENTION**

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Abstract

Objective: The onset of symptomatology in depression many a time occurs in adolescence. Although the symptoms of depression frequently appear during adolescence, the delays in detection often happen among young individuals due to the covert and internalizing nature of depression, self-embarrassments, attempts to conceal symptoms, and possibly due to poor insight. Cuijpers et al. (2006) demonstrated that early intervention especially in school will reduce the burden of disease later and yield better prognosis. Therefore, this study is aimed to evaluate the preliminary feasibility and practicality of a validated school-based Cognitive Behavioral Therapy (CBT) intervention program among Malaysian secondary school students who exhibits elevated depressive symptoms.

Methods: A locally adapted and contextualized school-based CBT module for use with secondary school students having depressive symptoms was conducted via a single cohort study. The 8-session weekly CBT intervention was conducted among 10 (ten) Malaysian secondary school students (mean age=16) who reported elevated levels of depressive symptoms on a screening survey (N=98) via group approach.

Results: The application of the validated school-based CBT module was associated with lower levels of depressive symptoms and negative automatic thoughts among the students who were observed through the repeated measures and this was sustained until 1-month follow up period.

Conclusion: This study answered the feasibility and practicality of the execution of a clinically-based therapy as a school-based intervention. Furthermore, this study contributes greatly as a baseline evidence for future research in school-based intervention for Malaysian adolescents. *ASEAN Journal of Psychiatry Vol. 22(5), July 2021: 1-8*

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Introduction

According to World Health Organization (WHO), depression is so common to the extent that an estimation of 350 million people of all ages suffer

from it worldwide [1]. Depression is especially common among adolescents, with 3-month prevalence of 3.1% among the 16 years old [2]. Adolescent depression is also predictive of frequency and severity of depression in adulthood

[3] and is related to functional impairment in other areas of life [4].

Malaysia is no exception to these increasing trend and the statistics are worrying. The National Health and Morbidity Survey (NHMS) explored meticulously on adolescents' mental health, targeting secondary school students, age 13 to 17 years old in Malaysia. It was reported that the prevalence of depression rose from 17.7% in the 2012 survey to 18.3% in 2017 survey (Institute for Public Health [IPH], 2017). As much as clinical depression being discussed, the presentation of elevated depressive symptoms in fact resemble clinical depression's psychosocial dysfunction, *i.e.*, pessimistic view, low self-esteem, poor interpersonal relationship, emotional reliance on others, and suicidal behaviors [5] which requires crucial attention. Relative to diagnostic estimates as presented earlier, depressive symptomatology was found to be at higher rate. According to Perera (2008), prevalence of depressive symptoms is about 15% as compared to clinically significant depression, 5% among the children and adolescents. Similarly, the prevalence of depressive symptoms among the school adolescents in Malaysia was reported to be high, ranging from 17.7% to 24% [6,7].

Given the statistics, developing ways of addressing the mental health concern when they initially arise during adolescence is of utmost priority. Of the various forms of psychotherapy, Cognitive Behavioral Therapy (CBT) had the most documented effectiveness in treating depression, including a number of meta-analyses [8,9] and was generally regarded as the most effective treatment for depression [10]. In summary, CBT is usually a short-term treatment focusing on developing more effective methods dealing with thoughts, feelings and behaviors [11]. However, in Malaysia, although CBT is used as a therapy in clinical setting, the empirical research on CBT is still far from adequate [12].

Recent research was conducted to adapt the evidence-based intervention in the school setting based on the research and clinical basis of CBT. Considering the amount of time spent by adolescents at schools, it is ideal that mental health services are applied in this setting [13].

Furthermore, [14] highlighted that the school was among the locations where adolescents develop new skills and were faced with challenges within their proximity in ecological validity. For these reasons, the school setting became the interests of the research [15]. School-based CBT intervention is no longer uncommon in other counterparts where numerous systematic reviews indicated the effectiveness of school prevention *via* CBT intervention on student's depressive symptoms upon post-treatment in general [16,17].

Futhermore, many school-based intervention programmes had focused on reducing anxiety symptomatology including a review and meta-analysis on this subject matter [18]. Thus, the aim of this study, is to explore the validated school-based CBT module among the Malaysian adolescents by gauging into the preliminary feasibility, practicality and the treatment outcome in reducing depressive symptoms and automatic negative thoughts. Provided that the major foundation and references of this study were based on studies from the West, there was no basis for feasibility, applicability and execution of the school-based intervention. Nevertheless, this study would explore the shifting of evidence-based therapy into schools with an aim towards managing depressive symptomatology among adolescents.

Methodology

Participants

Ethics approval was obtained from Monash University Human Research Ethics Committee (MUHREC) with project code 1332 and from the Ministry of Education, Malaysia. Potential participants were recruited from a secondary school, where ninety-eight form four students, age 16 years, participated in the exploratory study of depressive symptomatology. Through the screening, a total of ten participants (six Malay females and four Malay males) exhibited elevated depressive symptomatology. All the ten participants were recruited to participate in the intervention programme in which they matched the following criteria: (1) presented with elevated levels of depressive symptomatology, with total raw scores above the cut-off point of 76 using

Reynolds Adolescent Depression Scale – 2nd Edition (RADS-2); (2) were able to read, write and converse in Bahasa Malaysia; (3) did not present with psychiatric disorders, neurological disorders and drug or alcohol abuse; (4) did not undergo any pharmacotherapy and/or psychotherapy and (4) provided written consent.

Measures

Reynolds Adolescent Depression Scale – Second Edition (RADS – 2)

This is a self-rated symptom-oriented scale developed to assess depressive symptoms among adolescents aged 12 through 18 years old [19]. The 30 items in RADS-2 comprised four subscales; Dysphoric Mood, Anhedonia/Negative Affect, Negative Self-Evaluation, and Somatic Complaints. The questionnaire uses four-point response format ('almost never', 'hardly ever', 'sometimes', and 'most of the time'), with test score range from 30 to 120. The higher scores suggest greater severity of depressive symptomatology and cut-off score of 76 (at or above the raw score) was used to indicate a clinical symptoms elevation. Some of the examples of the item includes, "I feel sorry for myself" and "I feel lonely". Reynolds reported good reliability coefficient of 0.93 and has found to be a valid measure when compared with other scales.

Automatic Thoughts Questionnaire - Malay (ATQ - Malay)

This was a 17-item inventory developed by [20]. This was a Malay version translated from the original 30-item Automatic Thoughts Questionnaire (ATQ) by [21]. ATQ-Malay comprised 17 negative thoughts, to be rated based on a scale of 1 (not at all) to 5 (all the time). Higher scores indicate increased severity of negative thoughts. Reported good reliability (ranging from 0.83 to 0.93). A previous study with the Malaysian adolescents revealed an alpha of 0.90.

Validated School-Based CBT Module

The school-based CBT intervention module was an adapted and validated module based on the

"Treatment Manual for Cognitive Behavioural Therapy for Depression" by [22]. The module has translated into Bahasa Malaysia while undergone vigorous adaptation and contextualization by the subject matter experts (SMEs) in the validation process. The module was framed within the Cognitive Behavioral Therapy principles that focus on the re-alignment of the behavioural and cognitive components. The module consists of 8 sessions covering three main themes; (1) How activities affect your mood (Sessions 1-3); (2) How thoughts influence mood (Sessions 4-6); and (3) How relationship affect your mood (Sessions 7-8). The module includes mood charting, homework, and also active discussion during the sessions. This module was tailored for adolescents in group format as how it was originally purported and demonstrated favourable outcomes [23,24].

Procedure

A total of 98 form four students that were recruited from the secondary school was briefed and given information related to the screening procedure for depressive symptomatology and the school-based CBT intervention through the explanatory statement leaflets in school. Consent was obtained from the students and their parents/guardian for participation. In total, 98 consents were obtained and the screening using the questionnaire booklet with demographic information, RADS-2, and ATQ-Malay items were administered. From the screening, 10 participants who fulfilled the inclusion and exclusion criteria were invited to the next phase. All the 10 participants consented and agreed to undergo the 8-session school-based CBT intervention. The intervention sessions lasted for 60-70 minutes each session over eight weeks in group modality. The 10 participants were grouped into smaller cohort of five in each group. All the sessions were conducted in the school (counselling room) by the intervention's facilitator.

Assessment and evaluation using the questionnaire booklet was conducted at different intervals; mid-intervention (week 4), post-intervention (week 8) and 1-month follow-up after intervention by an independent research assistant. Focus group interview session regarding the feasibility and practicality of the school-based CBT intervention

was also conducted with the school counsellors by the independent research assistant to avoid bias.

Results

Preliminary Study of the Validated School-Based CBT Intervention

Table 1: Repeated Measures of Depressive Symptomatology within Subjects

	Time of Evaluation							
	Time 1		Time 2		Time 3		Time 4	
	(Pre-intervention)		(Mid-intervention)		(Post-intervention)		(1-month follow-up-intervention)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Depressive symptomatology	80.2	4.83	73.8	9.9	68.9	10.29	59.8	14.94
Time Error (time)	Greenhouse-Geisser	F		7.104	df	p	Partial Eta Squared	
		1.549, 13.939			0.011		0.441	

One-way within subjects ANOVA was performed to investigate whether there was difference of total scores of depressive symptoms during pre-intervention, mid-intervention, post-intervention and 1-month follow-up after intervention. As the data violated the assumption of sphericity, Greenhouse-Geisser correction was referred. Mean scores of total depressive symptomatology differed statistically between time points ($F (1.549, 13.939)=7.104, P<0.05, \eta_p^2=0.44$). Post hoc tests using Bonferroni correction revealed that school-based CBT intervention elicited slight reduction in total depressive symptomatology scores from pre-intervention (80.20 ± 4.83) to mid-intervention (73.80 ± 9.90), which was not statistically significant ($p=0.176$). However, post-intervention had been reduced to 68.90 ± 10.29 , which was

(Table 1) presents the mean scores of the depressive symptoms of the participants at pre, mid, post, and 1-month follow-up after interventions. The group of participants' depressive symptoms were found to improve across the interventions and this was sustained till one-month follow-up.

statistically significantly different to pre-intervention ($p=0.020$). One-month follow-up after intervention was reduced to 59.80 ± 14.94 , which was statistically significantly different to pre-intervention ($p=0.013$). Therefore, complete intervention of 8 sessions elicits a statistically significant reduction in total depressive symptomatology. The intervention withstands a significant reduction at 1-month follow-up after intervention.

(Table 2) presents the mean scores of the negative automatic thoughts of the participants at pre, mid, post, and 1-month follow-up after intervention. The group of participants' negative automatic thoughts were found to improve across the intervention.

Table 2: Repeated Measures of Negative Automatic Thoughts within Subjects

	Time of Evaluation							
	Time 1		Time 2		Time 3		Time 4	
	(Pre-intervention)		(Mid-intervention)		(Post-intervention)		(1-month follow-up-intervention)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Negative Automatic Thoughts	45.8	10.7	36.9	4.65	32.6	8.28	31.2	14.34

Time Error (time)	Greenhouse- Geisser	F	df	p	Partial Eta Squared
		6.45	2.267, 20.404	0.005	0.417

One-way within subjects ANOVA was performed to investigate whether there was difference of total scores of negative automatic thoughts during pre-intervention, mid-intervention, post-intervention and 1-month follow-up after intervention. A repeated measures ANOVA with a Greenhouse-Geisser correction determined that mean of total negative automatic thoughts differed significantly between time points ($F = 2.267, 20.404 = 6.450, P < 0.05, \eta_p^2 = 0.42$). Post hoc tests using Bonferroni correction revealed that school-based CBT intervention elicited slight reduction in total negative automatic thoughts scores from pre-intervention (45.80 ± 10.70) to mid-intervention (36.90 ± 4.65), which was not statistically significant ($p = .238$). However, post-intervention had been reduced to 32.60 ± 8.28 , which was statistically significantly different to pre-intervention ($p = .031$). One-month follow up after intervention was reduced to 31.20 ± 14.34 , which was not statistically significantly different to pre-intervention ($p = .064$). Therefore, complete intervention of 8 sessions elicits a statistically significant reduction in total negative automatic thoughts at post-intervention but did not sustain till 1-month follow-up after intervention.

Feedback Evaluation from School Counsellors

The school counsellors provided verbal feedback evaluation in a meeting with the independent research assistant at the end of the intervention program. One of the counsellors observed some positive changes among the participants at school; be it during the regular purported individual counselling sessions, as well as during the brief discussion shared between the counsellor and the participants. The counsellor narrated about a participant in particular, on how the student changed her perception about her friendship issues using the cognitive skills of correcting and challenging maladaptive thoughts by applying the techniques taught during the session. Additionally, it was reported that the participant had reduced her visit to counselling session, as she had begun solving her own problems. The counsellor also

stated that other participants shared on how they had managed their own emotional problems with the skills acquired, while changes noted in the mood along with the request to reduce their counselling sessions in school.

Discussion

The practicability and feasibility of the validated CBT intervention programme were the primary concerns in this study to fulfil the gap between science and common practice. This action is one of the attempts of transporting a clinically-driven therapy to the school setting to assist adolescents who experience depressive symptoms in Malaysia. This preliminary study was conducted to facilitate the answers to the findings of the feasibility and practicality of the intervention programme. As a result, three key indications as observed in the post intervention, namely (1) the ability of the adolescents to manage mood, thoughts, and behaviours (treatment outcomes); (2) structure and layout of the programme; and (3) participation in the programme were referred. Similarly, the three key indications of feasibility and practicality of an intervention were reported in other research [25,26].

It was found that the participants were able to manage their mood, thoughts, and behaviours, which effectively contributed to improvement in their emotion. This finding was objectively proven by the significant decrease in the depressive symptoms scores in RADS-2 within the one-month post-evaluation ($M=59.80, SD=14.94$) compared to the baseline score ($M=80.20, SD=4.83$). Furthermore, a reduction in negative thoughts was also found within the same phase ($M=31.20, SD=14.34$) compared to the baseline score ($M=45.80, SD=10.70$). These findings were further supported by the rating of the weekly mood thermometer (homework in the module) by the participants, as verbally reported during the group sessions [27-31].

Pertaining to the treatment outcomes, this study showed that the adolescents' depressive symptomatology and automatic negative thoughts improved significantly from pre-intervention, to mid-intervention, to post-intervention and finally 1-month follow-up. Outcome indicators revealed that the group of participants showed significant improvement in depressive symptomatology, with 80% of the participants with depressive symptomatology in the elevated range pre-intervention showed significant improvement at post-intervention (*i.e.*, Total RADS-2 score fell below cut-off point). The improvement continued to 1-month follow-up with 90% of the participants resumed in normal scores range in RADS-2. The decline in the depressive symptomatology is consistent with the finding among the Puerto Rican adolescents.

In addition, the school counsellors indicated that the program was beneficial for the students. Through the interview session with the counsellors, valuable outcomes of the intervention that was observed among the participants in school upon post-intervention was recorded. The evident changes among the participants included; being able to regulate their mood, behaviour and thoughts by increasing more pleasant activities to counter the depressive symptoms, and able to re-evaluate and change the thoughts that affect them negatively especially dealing with problems in friendship. Another worth mentioning changes, was the ability of the participants to manage their symptoms and problems more effectively, which was apparent by lesser visits to the counselling session as compared to before, and a different approach from the participants in dealing with difficulties were observed by the counsellor during the counselling sessions.

Notably, the structure, delivery, and layout of the programme were crucial to observe its feasibility and practicality before its effectiveness was measured. To illustrate, the core mechanism of transporting the programme is crucial before the participants are introduced to the efficacy of the theory/therapy. This could be proven through the study, where the participants viewed the contextualized school-based CBT intervention as interesting and a good learning process. These aspects were important, as the participants' interest

and motivation to change were based on their willingness to fully participate in the intervention [32]. These characteristics were possibly due to the various group activities, discussions, role-play, and homework offered in the intervention.

While the CBT emphasises on a collaborative working relationship, the CBT treatment also emphasises on fulfilling particular tasks, in which the therapist is required to take a more outward approach. The learning process appreciated by the participants might be contributed by the nature of the Asians, which may be slightly different. This could be seen from their expectation that the therapist would possess higher authority and be more directives in a way a teacher does. Therefore, the therapist is perceived to be more knowledgeable. Meanwhile, [33] reported that based on the Asian college students' participation in the counselling sessions, the therapist was viewed as more competent, the sessions were conducted in more depth, with stronger therapeutic alliance when the nature of directive counselling style was implemented, in comparison to the non-directive counselling style. As a result, the students' willingness to learn and adopt the teachings would increase, as proven by the participants' perception in this study. Based on the participant's statement during the post-intervention focus group session, the utility and application of the skills taught were practised in daily life, indicating the practicality and significant comprehension of the techniques taught. This finding was highly supported by the evaluation by the school counsellors in terms of the positive changes found among the participants in the schools [34,35].

The structure and layout of the module in terms of the length of the intervention, number of sessions, saturation of the content, modality of the intervention, and mode of delivery were appreciated by the participants and the school counsellors [36,37]. The notion that the intervention programme to be conducted annually as a school programme to assist students with depressive symptoms was supported based on the experiences and observation by the participants and school counsellors. The intervention programme was also found to be feasible and acceptable based on the low attrition rate and good

study retention rate throughout the programme. Notably, neither withdrawal nor drop-out was recorded among the participants during the intervention, which was also possibly due to the nature of Malaysian students, who were compliant to any tasks/activities assigned to them in the school setting. For this reason, the participants attended the sessions regularly [38-40]. The feasibility of the programme as a school-based programme was confirmed through the school setting, including the applicability of CBT within the Malaysian adolescents' culture. According to this discussion, the three key indications were indicative of the feasibility and practicality of the contextualised school-based CBT intervention among Malaysian secondary school's students.

Conclusion

This study had yielded initial phase of contribution whereby the validated CBT module may be appropriate to be used as a school-based intervention in Malaysia. The findings from the single-arm cohort study suggested a promising feasibility, acceptability and practicality of school-based CBT intervention for adolescents with depressive symptoms. Preliminary outcomes also indicated improvement in depressive symptoms and automatic negative thoughts among the adolescents.

Although the current study presented important findings, the methodological concerns impose several limitations. The study included only a small sample size and only Malay adolescents; hence, it cannot be generalized beyond the students from the current study as it threatens external validity. Secondly, the follow-up assessment only extended to 1-month follow-up after intervention, which is considered short to observe the magnitude of the attainment of the skills that are learned from the intervention. Despite the limitations, the preliminary study has helped to provide a baseline understanding of school-based CBT intervention in Malaysia. Future studies will need to include more rigorous design to address the limitations.

Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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