

Original Research



Are life skills-based interventions effective to reduce peer problems among school-going adolescents in a conflict-affected rural area in Sri Lanka?

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Abstract

Introduction: Peer problems are common among school-going adolescents, and it is important to take action to reduce them and promote the mental health of the students.

Objectives: To assess the effectiveness of a life skills-based educational module to reduce peer problems among the grade 10 students of Ampara health district, Sri Lanka

Methods: This quasi-experimental study was conducted in Ampara Educational Zone. The schools were purposively selected for the intervention and control groups. A total of 368 grade 10 students were recruited for the study. Out of them, 187 students were allocated to the intervention group and 181 students to the control group. The life skills-based educational intervention was delivered only to the intervention group and the control group was not given any similar kind of training. The effectiveness of the intervention was assessed after 12 weeks of the initiation.

Results: There was a significant improvement in friendships in the intervention group ($p=0.03$). There was no statistically significant reduction in violent activities in the intervention group ($\chi^2=0.5$; $df=1$, $p=0.4$). No statistically significant reduction in the abnormal peer score ($\chi^2=0.01$; $p=0.8$) and total SDQ score ($\chi^2=0.9$; $df=1$; $p=0.3$) was noticed among the intervention group when compared to the control group.

Conclusions & Recommendations: Life skills-based intervention effectively improved friendship activities among the intervention group after 12 weeks of the initiation.

Keywords: *life skills, peer problems, adolescents, intervention, effectiveness*

Introduction

With the onset of puberty, many biological, social and cognitive changes happen during adolescence. A vital component of social cognition in the transition from adolescence to adulthood is the process of understanding oneself, others and relationships. The complexity of social interactions increases during adolescence and adolescents spend more time with their peers and spend less time at home with their family members (1). Thus, friends or peers act as an important source in social support than with the parents and family members (2). Peer influence has both positive and negative influences on adolescent behaviour such as social initiative, self-esteem, empathy, aggression, delinquency and depression (2). The World Health Organization (WHO) reports that 10-20% of adolescents have mental health problems worldwide, and 50% of such problems can be diagnosed by the age of 14 years (3). Among the behavioural problems of Sri Lanka's school-going adolescents, peer problems were the most common problem (4-6). As per the Global School-based Student Health Survey in Sri Lanka, one-third of the school children are being bullied and one-fifth are physically attacked (7). These findings may be related to the students' peer problems and poor social interactions. It seems there is a gap between the mental health service provision and needs. Hence, properly trained teacher counsellors at schools, identifying high-risk adolescents and school-based interventions to develop life skills among the students are recommended in the local and international literature (7). Sri Lanka has been impressive in most health indicators for many decades. However, mental health resources (psychiatrists and psychologists) and the physical infrastructure for mental health are very limited in Sri Lanka, especially in rural areas of the country where services are poor (8).

Previous interventions conducted locally and internationally had shown promising results to improve the mental health of the adolescents and youths (9-11). Therefore, a life skills-based intervention was designed, implemented and evaluated to assess its effectiveness in reducing peer problems, improving friendships among them and ultimately improving

the mental health of the school-going adolescents of Sri Lanka.

Ampara is one of the three districts in the Eastern Province of Sri Lanka. Agriculture is the main livelihood for more than 95% of the district population, thus reports a high level of poverty. In addition, the area was severely affected by the civil war which lasted about 18 years. With this unfavourable background, about one quarter of the students leave the school early and show unfavourable behaviours such as using alcohol (12-13). Therefore, this study was conducted in remote agriculturally based conflict affected area to examine effectiveness of a life-skills based interventional module to improve the mental health of the students.

Methods

This quasi-experimental study was conducted from January to March 2019 in Ampara Educational Zone of Ampara Regional Director of Health Services (RDHS) Area, which is one of the two health areas of Ampara District. Parents of the students were informed of the study and their consent was sought to participate in the study. Assent was also obtained from students prior to enrolment to the study.

From Ampara Educational Zone, considering the facilities available (electricity and overhead projectors), three schools were randomly selected from Ampara division to conduct the intervention and four schools from Uhana and Damana divisions for the control groups. All grade 10 students of the selected schools were recruited for the study. The sample size was calculated using appropriate formulae (14), for which the prevalence of peer problems was taken as 32.4% (4), effect size of 45%, power of 80%, 5% significance and 5% non-response rate. The sample size was taken as 200 for each group.

Development of the life skills-based educational module

We developed the life skills-based educational package after doing an extensive literature search. The WHO has described the participatory teaching

methods for building skills and influencing the attitudes of individuals and the advantages of active participatory learning (15). According to Bandura's Social Learning Theory, children learn to behave through formal instructions and observations. Children's behaviour is reinforced or modified by the consequences of their actions and others' responses to their behaviour (16). These concepts have been used in developing this education module. We developed a teachers' manual on adolescent development, power point presentation on life skills, a cartoon video on empathy and worksheets. All the teaching materials were pretested with the same age students in a different school.

To assess the effectiveness of the intervention, we used two primary outcomes (violent and friendship activities of students) and two secondary outcomes (peer problems score and total abnormal Strengths and Difficulties Questionnaire (SDQ) score) (17). Students' violent activities were measured using a self-reported questionnaire on aggressive behaviour developed by Wijeratne et al. (2014) (18). It consisted of 21 questions on the physical violence of the students. Student friendship activities were measured using Friendship questionnaire which was developed by the principal investigator after studying the McGill friendship questionnaire (19). Student mental health status was measured by the SDQ questionnaire which had been translated into the Sinhala language and validated in the Sri Lankan context (20).

Phase I – An introductory session was conducted on the first day. The session lasted for two study periods around 1.5 hours. Before the session, the PI administered the questionnaire to students after explaining the process of data collection. The students were taught about mental health and life skills during the first sessions. The participatory activities were based on self-awareness.

Phase II - During the second session, students were taught about interpersonal relationships, empathy and effective communication. The participatory activities were based on identification of good friends and effective communication. No such educational

module was delivered to the students of the control group.

Phase III - Post-intervention assessments of the primary and secondary outcomes were done 12 weeks after the initiation. Feedback forms on the sessions were given to the students at the end of the intervention.

Data analysis

We analysed the data at individual level and all data were analysed as they were allocated to the groups (intention to treat). The basic socio-demographic factors were compared using the Chi-squared test to assess the similarity between the two groups. Chi-squared test was applied to compare pre- and post-intervention stages of the intervention and control groups by the proportion of students not involved in violent activities and students with abnormal SDQ scores. Means of the Friendship questionnaire were compared using independent sample t-test.

Results

A total of 368 secondary school students (187 in experimental group and 181 control group) participated in the study. All students consented to participate in the study. The socio-demographic characteristics were well matched in the two study groups. The mean friendship score was higher in the intervention group than in the control group (Table 1) at post-intervention stage after 3 months of intervention. This difference was statistically significant ($p=0.03$). There was no statistically significant difference in the proportion of students involved in violent activities in the control group as well as intervention group at the post-intervention stage (Table 2). Table 3 summarises the control and intervention groups in relation to peer scores and total scores for the SDQ. There were no statistically significant differences in the proportion of students who had abnormal scores for the peer problems subscale or a total score of SDQ in the control and intervention groups at the post-intervention stage.

Table 1: Comparison of the mean friendship scores of the intervention and the control groups at the pre- and post-intervention stages

Friendship scale	Intervention	Control	Significance
	Mean score (SD)		
Pre-intervention	22.8 (5.3)	22.7 (5.6)	p=0.9
Post-intervention	23.7 (4.2)	22.7 (4.6)	p=0.03

Table 2: Distribution of the study participants by pre- and post-comparison of the intervention and control groups violence of the participants

Violence	Control				Significance	Intervention				
	Post		Pre			Post		Pre		
	No.	%	No.	%		No.	%	No.	%	
Not violent	26	53.1	23	46.9	$\chi^2=0.23$	25	54.3	21	45.7	$\chi^2=0.5$
Violent	154	49.4	158	50.6	df=1	159	48.8	167	51.2	df=1
					p= 0.63					p= 0.4

Table 3: Distribution of the control and intervention groups by peer problem score in the post- and pre-assessment stages

	Intervention group				Significance	Control group				
	Post		Pre			Post		Pre		
	No.	%	No.	%		No.	%	No.	%	
Peer problems					$\chi^2=0.4$					$\chi^2=0.01$
Normal	156	50.6	152	49.4	df=1	150	50.2	149	49.8	df=1
Abnormal	30	46.2	35	53.8	p=0.5	31	49.2	32	50.8	p=0.8
Total SDQ					$\chi^2=0.09$					$\chi^2=0.9$
Normal	166	50.2	165	49.8	df=1	147	48.8	154	51.2	df=1
Abnormal	20	47.6	22	52.4	p=0.7	34	55.7	27	44.3	p=0.3

Discussion

This life skills-based education module was developed based on Bandura's Social Learning Theory and aimed at a behaviour change to improve friendships and reduce violent activities among them and ultimately improve their mental health. Since the schools for intervention and controls were more than 20 km apart, we assume that there was no contamination of the control and the intervention groups.

There was a significant increase in the friendship score (p=0.03) among the intervention group when

compared to the control group. However, we could not see any difference in the violent activities between the intervention and control groups. We could not see any difference in the percentage of students having an abnormal score in the intervention and control groups in peer problems subscale or total scores. These results show the impact of the intervention on friendship which could be easily measurable and short-term results due to the change of attitudes of the students with the intervention. To reduce the violent activities, more focused and prolonged intervention would be needed and a significant change in the scores for SDQ, reflecting the improvement of the mental health of the students.

One previous study done locally assessed the effectiveness of the life skills-based education intervention to improve the knowledge of life skills had shown significant favourable results (9). However, many international studies have shown the effectiveness of the life skills to reduce violence, delinquency, and promote mental health and coping skills (20).

This study was evaluated in 12 weeks after the intervention due to time constraints. It would be better if we could assess it after 6 months to see the behavioural changes among the students.

This study showed the importance of using the participatory teaching methods in the school system instead of teacher centred teaching methods. International studies also have emphasized the importance of using participatory methods in teaching the life skills programmes (10). The use of audio-visual and digital resources in teaching was appreciated by the study participants. Therefore, it is important to incorporate the novel educational methods into the school health programme of Sri Lanka.

The valuable information on feasibility of conducting mental health promotion activities in the school system, acceptability of the beneficiaries and the need for continuous monitoring and evaluation of such programmes could be gathered from this study. Further, the results of this study showed that even a small-scale training programmes, would benefit to improve friendship activities among the students and pave the path for large-scale intervention projects. Conducted this study in only one educational zone is a limiting factor of this study. Also, as this study was conducted among the Sinhala speaking students, the findings should be generalized cautiously.

Conclusions & Recommendations

The intervention was effective in improving friendship activities of the students after 12 weeks of the life skills-based intervention. Therefore, it is recommended to strengthen the life skills education module of the school programme of Sri Lanka.

Public Health Implications

- Life skills-based intervention has improved friendship activities in the intervention group after 12 weeks. Therefore, the life skills programme which is incorporated into the school health programme of Sri Lanka could be utilized to improve the mental health of the school going adolescents.

Author Declarations

Competing interests: The authors declare that they have no competing interests.

Ethics approval and consent to participate: Ethics approval (P/102/03/2018) to conduct this study was obtained from the Ethical Review Committee of the Faculty of Medicine University of Kelaniya, Sri Lanka. This study was registered in the Sri Lanka Clinical Trials Registry managed by the Sri Lanka Medical Association. Administrative approval was obtained from the Ministry of Health, Sri Lanka.

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Author contributions: SN designed the project, coordinated the interventional activities, collected and analysed data and drafted the manuscript. KW provided technical inputs and supervision throughout the study and manuscript writing.

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