

CP 04

Prevalence and associated factors of distress and coping strategies among school-going late adolescents in Kilinochchi South Educational Zone

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Abstract

Background and objective: Distress significantly impacts the daily lives of adolescents by disrupting their working capacity, academic performance, and contributing to comorbidity. The development of distress is associated with various day-to-day life factors and can lead to harmful consequences. The aim of this study was to determine the prevalence and associated factors of distress and coping strategies among school-going late adolescents (Grade 12 and 13) in Kilinochchi South Education Zone.

Method: A descriptive cross-sectional study was conducted among 593 adolescents aged between 17 to 19 years, using multi-stage probability proportionate cluster sampling. Data were collected using a self-administered questionnaire, which included the Kessler Psychological Distress Scale (K10), the Modified Scale of Coping Inventory for Stressful Situations (CISS), and questions to evaluate associated factors. The relationship between distress and associated factors, as well as coping strategies, was assessed by the chi-square test and independent sample t-test. A p value ≤ 0.05 was considered significant.

Results: The study sample comprised 230 (38.8%) males and 363 (61.2%) females. The prevalence of psychological distress among the participants was 33.1% (n=196; 95% CI 29.3-37.0). Psychological distress was significantly associated with being female (p=0.012), having a single parent family without a father (p=0.008), father's employment (p=0.022), mother's employment (p=0.037), living conditions (p=0.025), parents suffering from chronic illnesses (p=0.022), achieving lower than expected marks in the last examination (p<0.001), participating in extracurricular activities (p=0.003), perceiving teachers as not helpful (p<0.001), experiencing favoritism from teachers (p<0.001), and having a history of alcohol consumption (p=0.024). In the sample, 445 (75%) had high skills in coping and 148 (25%) had medium skills in coping. There were no students with low skills in coping. The majority of distressed students (84.2%) had high skills in coping while 11.8% of distressed students had medium skills in coping (p<0.001).

Conclusion: A substantial proportion adolescents had distress. Contributors to distress include female gender, parental factors and academic burden. Level of coping skills was high but varied with distress level.

Key words: Psychological distress, Adolescents, Coping strategies, Kilinochchi.

Introduction

Adolescence is a transitional phase marking the shift from childhood to adulthood, characterised by significant physical, biological, and psychological transformations. Late adolescence refers to the ages group between 15 and 19 years (1). During this period, individuals undergo substantial changes in their social dynamics, cultural expectations, and

perceptions. Physical growth, including sexual maturation, is a prominent aspect of adolescence, often influencing the initiation of intimate relationships (2).

There are 1.3 billion adolescents worldwide, more than ever before, making up 16 percentage of the world's population (3). Nearly 80% of adolescents live in developing countries, and tend to make up a large proportion of the population (4). The estimated number of adolescents in Sri Lanka is 3.8 million comprising 16% of the total population (5).

Globally mental health conditions constitute a major burden of disease among adolescents. Mental health conditions are a major public health challenge, affecting the daily activities of adolescents including their school and work performance, relationships with family and friends, and involvement in the community (6).

The Northern Province has 13 Education Zones including two Education Zones in Kilinochchi district. To our knowledge no prior research has been done in Kilinochchi district regarding adolescent's mental health. Kilinochchi is one of the poorest districts in Sri Lanka having been affected by several natural and man-made disasters in the last several decades. There are a significant number of single parent families in the district. At 34.81/100,000 population, the suicide rate of Kilinochchi was two folds higher than the national rate in 2022. Therefore, it is very important to assess mental wellbeing and coping capacity among adolescents. The objective of the study was to determine the prevalence and associated factors of distress and coping strategies among school-going late adolescents in Kilinochchi South Education Zone.

Methods

A descriptive cross-sectional study with an analytical component was conducted in Kilinochchi South Educational Zone. Data collection was conducted from 2nd to 17th September 2023. The study population was students of grade 12 and 13 (A/L 2023 and A/L 2024 batches) in 67 government schools in Kilinochchi South Education Zone. The population size was 2461 (male 1007, female 1454). Of them 2052 (83%) students studied in type 1AB schools and 409 (17%) students in type C schools. The required sample size was 613. Multi stage probability proportionate cluster sampling was used to select the sample. Data collection involved the use of a self-administered questionnaire, which included the Sri Lanka-validated Kessler Psychological Distress Scale (K10) to determine the prevalence of distress (7), Sri Lanka-validated Modified scale of Coping Inventory for Stressful Situations (CISS) to assess coping skills (8), and questions on associated factors. A K10 of ≥ 16 was considered positive for psychological distress. The CISS consists of three subdomains: problem-focused subdomain, emotion-focused subdomain and avoidance subdomain. Each question has a maximum score of 4 and minimum 1. A score 0 to 46 indicates low skills in coping, 47 to 93 indicates medium skills in coping and 94 to 140 indicates high skills in coping. In addition, the level of coping skills can be measured subdomain wise by this tool. The relationship between distress and associated factors, as well as coping skills, was assessed by the chi-square test and independent sample t-test. A p value ≤ 0.05 was considered statistically significant. Ethical clearance was obtained from the Ethics Review Committee of the Post graduate Institute of Medicine, University of Colombo.

Results

The study sample comprised 593 school-going adolescents aged 17 to 19 years and the response rate was 94.7%.

Table 1 Socio demographic characteristics of study participants (n= 593)

		n	%
Gender	Male	230	38.8
	Female	363	61.2
Age (Years)	17	280	47.2
	18	298	50.3
	19	15	2.5
Ethnicity	Tamil	588	99.2
	Muslim	4	0.7
	Singhalese	0	0
	Burger	1	0.1
Religion	Hindu	476	80.3
	Christian	110	18.5
	Islam	4	0.7
	Buddhist	0	0
	Do not declare	3	0.5

There were 230 (38.8%) males and 363 (61.2%) females. The mean age of students was 17.5 years ($SD \pm 0.55$). In the sample, 11.8% did not have their fathers, 4.6% did not have their mothers and 1.2% did not have both parents. Among the fathers, 14.2% were unemployed and 71.3% of mothers were housewives. A quarter (25.8%) of the sample reported their father consumed alcohol.

With respect to academic burden, 17.5% of adolescents felt parental pressure to achieved scholastic accolades and 18.2% felt they had too many academic assignments. Over two-thirds (68.1%) of the sample got lower marks than expected in the last examination. One fifth (19.7%) felt that extracurricular activities affected their academic performance, 8.9% reported that teachers were not helpful and 31.9% believed teachers showed favoritism. Nearly half the sample (49.7%) felt that disciplinary measures were excessively strict at schools.

Table 2. Categorization of the participants according to the presence of psychological distress (n= 593)

Psychological distress	n	%
Positive (K10 score ≥ 16)	196	33.1
Negative (K10 score <16)	397	66.9

A K10 of ≥ 16 was considered positive for psychological distress. The prevalence of psychological distress was 33.1% (n= 196; 95% CI 29.3-37.0).

Table 3. Association of psychological distress with various factors (n=593)

	n	Psychological Not distressed	distress distressed	Significance
Gender				X ² = 6.309
Male	230	168 (73.0)	62 (27.0)	df= 1
Female	363	229 (63.1)	134 (36.9)	p= 0.012
Age				X ² = 3.469
17	280	198 (70.7)	82 (29.3)	df= 2
18	298	189 (63.4)	109 (36.6)	p= 0.176
19	15	10 (66.7)	5 (33.3)	
Father alive				X ² = 7.122
Yes	523	360 (68.8)	163 (31.2)	df= 1
No	70	37 (52.9)	33 (47.1)	p= 0.008
Father's occupation				X ² = 5.214
Employed	514	353 (68.7)	161 (31.3)	df= 1
Unemployed	79	44 (55.7)	35 (44.3)	p= 0.022
Mother's occupation				X ² = 4.356
Employed	170	103 (60.6)	67 (39.4)	df= 1
Housewife	423	294 (69.5)	129 (30.5)	p= 0.037
Living with whom				X ² = 12.338
With both parents	440	312 (70.9)	128 (29.1)	df= 2
With single parent	105	57 (54.3)	48 (45.7)	p= 0.002
Others	48	28 (58.3)	20 (41.7)	
Do parents follow monthly clinic?				X ² = 5.207
Yes	219	134 (61.2)	85 (38.8)	df= 1
No	374	263 (70.3)	111 (29.7)	p= 0.022
In the last examination did you get lower marks than expected?				X ² = 14.705
Yes	404	250 (61.9)	154 (38.1)	df= 1
No	189	147 (77.8)	42 (22.2)	p= <0.001
Do you think participating in extracurricular activities affects your academic performance?				X ² = 8.549
Yes	117	65 (55.6)	52 (44.4)	df=1
No	476	332 (69.7)	144 (30.3)	p= 0.003
Do you feel your teachers are not helpful?				X ² = 19.639
Yes	53	21 (39.6)	32 (60.4)	df= 1
No	540	376 (69.6)	164 (30.4)	p= <0.001
Do the teachers show favoritism?				X ² = 26.603
Yes	189	99 (52.4)	90 (62.5)	df= 1
No	404	298 (73.8)	106 (26.2)	p= <0.001
Have you ever consumed alcohol?				X ² = 5.092
Yes	31	15 (48.4)	16 (51.6)	df= 1
No	562	382 (68.0)	180 (32.0)	p= 0.024

CISS was used to categorise students based on their level of coping skills. Of 593 students, 445 (75%) had high skills in coping and 148 (25%) had medium skills in coping. There were no students with low skills in coping. When considering domain wise coping strategies, 97% of the sample had high skills in problem-focused coping, while a lower proportion had high skills in emotion-focused (23.9%) and avoidance coping (47.6%) (Tables 4 and 5).

Table 4 Level of coping skills by the presence of psychological distress

Level of coping	Psychological distress					
	Not distressed		Distressed		Total	
	n	%	n	%	n	%
High skills	280	70.5	165	84.2	445	75.0
Medium Skills	117	29.5	31	11.8	148	25.0
Low Skills	0	0.0	0	0.0	0	0.0
Total	397	100.0	196	100.0	593	100.0

$X^2= 13.063$; $df= 2$; $p< 0.001$; $OR= 2.224$ (95% $CI= 1.432-3.454$)

The majority of distressed students ($n= 165$, 84.2%) had high skills in coping while 11.8% of distressed students had medium skills in coping ($p= <0.001$). Level of problem-focused coping skills and level of emotion-focused coping skills was associated with the presence of distress ($p\leq 0.05$) (Tables 4 and 5).

Table 5 Domain wise coping strategies by presence of psychological distress

Level of coping	Psychological distress					
	Not distressed		Distressed		Total	
	No.	%	No.	%	No.	%
Problems Focus						
High skill	389	98.0	186	97.0	575	97.0
Medium skill	8	2.0	10	3.0	18	3.0
Low skill	0	0.0	0	0.0	0	0.0
Total	397	100.0	196	100.0	593	100.0
	$X^2=4.25$;	$df= 2$	$p= 0.039$			
Emotion Focus						
High skill	52	36.6	90	45.9	142	23.9
Medium skill	340	85.6	106	54.1	446	75.2
Low skill	5	1.3	0	0.0	5	0.8
Total	397	100.0	196	100.0	593	100.0
	$X^2=78.87$	$df= 2$	$p< 0.001$			
Avoidance						
High skill	197	49.6	85	43.4	282	47.6
Medium skill	199	50.1	111	56.6	310	52.3
Low skill	1	0.3	0	0.0	1	0.2
Total	397	100.0	196	100.0	593	100.0
	$X^2=2.64$	$df= 2$	$p= 0.268$			

Discussion

The prevalence of psychological distress among school-going late adolescents was 33.1% in Kilinochchi South Educational Zone. The prevalence of psychological distress in the general population of Sri Lanka is unavailable, although an online survey following the recent economic crisis suggested that the prevalence of perceived stress among the general population in Sri Lanka was 21.95% (95% $CI 15.86-28.05$) (9). A study in the Colombo Educational Zone reported a similar prevalence of distress (35.1%) among school-going late adolescents (10). In

the present study, a greater proportion of female students had distress than male students ($p=0.012$), similar to the Colombo study where more females (35.2%) were found to experience psychological distress compared to males (26.0%), and this difference was statistically significant ($p=0.015$) (10).

A study in Norway on young adults reported a similar prevalence of 30% among females (11), and a significantly higher prevalence was observed among Indian female adolescents (12). The factors contributing to distress among female adolescents in these studies were related to school attendance, uncertainty about the future, academic burden, peer pressure, and cultural and social expectations. Similar findings were noted in a study conducted among female adolescents in the Galle district (13). This study revealed a relationship between single parenting (without a father) and the level of distress; a significant proportion of students without fathers (47.1%) experienced psychological distress compared to students with fathers ($p=0.008$). A similar relationship was observed in a recent study conducted in Philadelphia, USA (14).

In our study population, psychological-distress was significantly associated with being female, father not living, not living with parents, and parents having a chronic medical conditions. With respect to the employment status of parents, having an unemployed father was significantly associated with having psychological distress in the present study ($p=0.022$). Similar findings were reported in a recent study conducted in Europe (15). In contrast, a statistically significant association was identified between mother's employment status and having distress where 39.4% of students with working mothers were psychologically distressed compared to 30.5% of students with mothers who are housewives ($p=0.037$).

Significant associations were also identified between psychological distress and factors related to academic burden, such as having obtained lower than expected marks in the last examination and certain perception, for instance, that participating in extracurricular activities would affect academic performance, and perceiving teachers as unhelpful or showing favoritism. Having psychological distress was also significantly associated with a history of ever consuming alcohol.

In the present study, a significant number of students with high coping skills belonged to the distressed group (84.2%). This may be attributed to their ability to tolerate problems (16). At the same time, the majority in the non-distressed group also exhibited high coping skills (70.5%). Problem-focused strategies were preferred by both the distressed (97%) and non-distressed (98%) groups with high coping skills.

This study was conducted exclusively among late adolescents attending schools in the Kilinochchi South Education Zone. Therefore, generalizing the findings nationwide is challenging.

Conclusion

A third of the adolescents in the Kilinochchi South Educational Zone had psychological distress. Which could adversely impact their academic performance, achievement of life goals and the economy of the country in future. A high level of coping skills was observed in both distressed and not distressed adolescents. Counseling services in schools need to be strengthened, and efforts should be made to empower teachers to provide effective counseling to improve mental health and wellbeing among adolescents.

Competing interests

The authors declare that they have no competing interests.

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