Section: Paediatrics

Original Research Article

SCREENING FOR PSYCHOSOCIAL PROBLEMS AMONG EARLY ADOLESCENTS USING THE PEDIATRIC SYMPTOM CHECKLIST-17 : A CROSS-SECTIONAL STUDY

Chelamkuri Pardha Venkateshwar Rao[1], Krishnappa J[2], Murali Mohan B A[3], SSNSP Deepthi[4]

[1]*Junior Resident , Department of Paediatrics , Sri Devaraj Urs Medical College & RLJH hospital, Kolar, Karnataka, India*
[2]*Professor, Department of Paediatrics , Sri Devaraj Urs Medical College & RLJH hospital, Kolar, Karnataka, India*
[3]*Clinical Psychologist , Department of Paediatrics , Sri Devaraj Urs Medical College & RLJH hospital, Kolar, Karnataka, India*
[4]*Senior Resident , Department of Paediatrics , Sri Devaraj Urs Medical College & RLJH hospital, Kolar, Karnataka, India*

Received *: 25/02/2026*
Received in revised form *: 05/04/2026*
Accepted *: 22/04/2026*

Corresponding Author:
Dr. Krishnappa J,
Sri Devaraj Urs Medical College, Tamaka, Kolar, Karnataka, India.
Email: jkrishnappa@sduaher.ac.in

DOI: 10.70034/ijmedph.2026.2.418

Source of Support: Nil,
Conflict of Interest: None declared

Int J Med Pub Health
2026; 16 (2); 2510-2515

ABSTRACT

Background: Psychosocial problems during early adolescence can adversely affect mental health and development. This study aimed to assess the prevalence and associated sociodemographic factors of psychosocial problems among early adolescents attending a paediatric outpatient department.

Materials and Methods: A cross-sectional study was conducted among 250 adolescents aged 10–14 years attending a tertiary care hospital's paediatric outpatient department. Psychosocial problems were screened using the Pediatric Symptom Checklist-17 (PSC-17). Data on sociodemographic variables were collected, and associations with psychosocial problems were analyzed using appropriate statistical tests.

Results: The prevalence of psychosocial problems was 11.2%, with externalizing problems being the most common domain (10.8%). Significant associations were found between psychosocial problems and gender (higher prevalence in males, p = 0.021) and family structure (higher prevalence in nuclear families, p = 0.025). No significant associations were observed with age, parental education, or socioeconomic status.

Conclusion: Psychosocial problems affect a notable proportion of early adolescents in clinical settings, particularly externalizing behaviors. Routine psychosocial screening and attention to family environment factors are essential for early identification and intervention.

Keywords: Early adolescence, psychosocial problems, Pediatric Symptom Checklist-17, externalizing behaviors, family structure.

INTRODUCTION

Adolescence is a critical developmental period marked by rapid physical, psychological, and social changes that significantly influence emotional and behavioural development. Early adolescence (10–14 years) is particularly vulnerable to psychosocial problems that may affect mental health, academic performance, and interpersonal relationships.[1]

Mental health disorders represent a major public health concern among adolescents worldwide. Recent global estimates suggest that approximately 10–20% of adolescents experience mental health conditions, with many cases remaining undiagnosed and untreated, particularly in low- and middle-income countries.[2]

Psychosocial problems during adolescence commonly manifest as internalizing symptoms such as anxiety and depression, externalizing behaviours including aggression and conduct problems, and attention-related difficulties such as inattention and hyperactivity.[3] These problems can significantly impact educational attainment, social functioning, and long-term mental health outcomes if not identified early.[4]

Screening tools are important for the early identification of psychosocial difficulties in children

and adolescents. The Paediatric Symptom Checklist-17 (PSC-17) is a brief and widely used screening instrument designed to identify emotional and behavioural problems in children and adolescents in both clinical and research settings.[5,6]

The PSC-17 evaluates psychosocial functioning across three domains: internalizing problems, externalizing problems, and attention problems. Studies have demonstrated that the PSC-17 has good reliability and validity as a screening tool for detecting psychosocial problems among adolescents.[7]

Recent studies have emphasized the importance of incorporating psychosocial screening into routine paediatric care to facilitate early identification and timely intervention for adolescents at risk of mental health problems.[8]

MATERIALS AND METHODS

A cross-sectional study was conducted among early adolescents aged 10–14 years attending the paediatric outpatient department of a tertiary care hospital over a period of two months, from March 2026 to April 2026. Psychosocial problems were assessed using the Pediatric Symptom Checklist-17 (PSC-17), a validated screening tool comprising 17 items across three domains: internalizing, externalizing, and attention problems. Each item was scored on a three-point scale (0 – Never, 1 – Sometimes, 2 – Often), with total scores ranging from 0 to 34; a score of ≥15 was considered indicative of psychosocial impairment.

The sample size was calculated using the formula $n = (Z^2pq)/d^2$, with a 95% confidence level (Z = 1.96), an assumed prevalence (p) of 20%, and an allowable error (d) of 5%, yielding a sample size of approximately 246. Considering feasibility and potential non-response, a total of 250 participants were included in the study. A convenience sampling method was employed, and eligible adolescents attending the paediatric OPD during the study period who met the inclusion criteria were recruited consecutively until the desired sample size was achieved.

Children aged 10–14 years attending the paediatric OPD whose parents or guardians provided informed consent and who provided assent were included in the study. Children with previously diagnosed psychiatric disorders, those with severe acute illness requiring emergency management, and those whose parents or guardians did not provide consent were excluded.

Data collection was initiated after obtaining approval from the Institutional Ethics Committee. Eligible participants were identified, and written informed consent from parents or guardians, along with assent from the adolescents, was obtained prior to participation. Demographic details were collected using a structured proforma, followed by administration of the PSC-17 questionnaire. Participants who screened positive were advised further evaluation and referral as appropriate. Data were entered into Microsoft Excel and analyzed using Statistical Package for Social Sciences (SPSS) version 22. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were computed, and the distribution of internalizing, externalizing, and attention problems was analyzed.

RESULTS

The age distribution of the study population showed that the participants were fairly evenly distributed across the 10–14 year age group, with a slight predominance in the higher age categories. The largest proportion of participants were aged 13 years (24.0%), followed by 14 years (22.0%) and 12 years (21.2%). Younger adolescents constituted a relatively smaller proportion, with 10-year-olds accounting for 18.4% and 11-year-olds for 14.4% of the study population. The mean age of the study population was 12.17 ± 1.40 years.

Table 1: Age distribution of the study population

Age in years	Frequency	Percentage
10	46	18.4
11	36	14.4
12	53	21.2
13	60	24.0
14	55	22.0
Total	250	100.0

The gender distribution of the study population was nearly equal, with a slight predominance of males. Out of the total 250 participants, 127 (50.8%) were males and 123 (49.2%) were females.

Table 2: Gender distribution of the study population

Gender	Frequency	Percent
Male	127	50.8
Female	123	49.2
Total	250	100.0

The prevalence of psychosocial problems among the study participants was relatively low. Out of 250 adolescents, 28 (11.2%) were found to have psychosocial problems based on the screening tool,

while the majority, 222 (88.8%), did not exhibit such problems. This indicates that approximately one in nine adolescents in the study population screened positive for psychosocial impairment.

Table 3: Distribution of Psychosocial problems

Psychosocial problems	Frequency	Percent
Present	28	11.2
Absent	222	88.8
Total	250	100.0

The domain-wise distribution of psychosocial problems revealed that externalizing problems were the most commonly observed, affecting 27 participants (10.8%). This was followed by internalizing problems, seen in 22 participants (8.8%), and attention problems, which were present in 16 participants (6.4%). Overall, externalizing behaviors constituted the predominant domain of psychosocial issues among the adolescents, while attention-related problems were the least common.

Table 4: Domains of Psychosocial problems

Domains	Frequency	Percentage
Internalizing Problems	22	8.8
Externalizing Problems	27	10.8
Attention Problems	16	6.4

There was no statistically significant association between age and psychosocial problems (p = 0.108). Although the prevalence appeared highest among 11-year-olds (25.0%) and lowest among 10-year-olds (6.5%), the variation across age groups was not statistically significant, indicating that age did not have a meaningful influence on psychosocial problems in this study population.

A statistically significant association was observed between family structure and psychosocial problems (p = 0.025). Participants from nuclear families had a higher prevalence of psychosocial problems (15.2%) compared to those from joint families (6.3%). This suggests that children from nuclear families were more likely to experience psychosocial problems.

There was no statistically significant association between parental education and psychosocial problems (p = 0.345). Although higher proportions were noted in participants whose parents had master's (33.3%) and PhD (25.0%) qualifications, these categories had very small sample sizes, limiting meaningful interpretation. Overall, psychosocial problems were distributed across all educational levels without a clear trend.

No statistically significant association was found between socioeconomic status and psychosocial problems (p = 0.245). While the upper lower class showed a relatively higher prevalence (18.8%), the differences across socioeconomic groups were not statistically significant, indicating no clear relationship.

Table 5: Association between sociodemographic factors and psychosocial problems

Variable	Categories	Present	Absent	Total	P value
Age	10	3 (6.5)	43 (93.5)	46	0.108
	11	9 (25.0)	27 (75.0)	36	
	12	4 (7.5)	49 (92.5)	53	
	13	7 (11.7)	53 (88.3)	60	
	14	5 (9.1)	50 (90.9)	55	
Family structure	Nuclear	21 (15.2)	1117 (84.8)	138	0.025*
	Joint	7 (6.3)	105 (93.8)	112	
Parental education	Primary school	10 (9.9)	91 (90.1)	101	0.345*
	Secondary school	7 (12.3)	50 (87.7)	57	
	High School	5 (12.2)	36 (87.8)	41	
	Bachelors degree	3 (7.3)	38 (92.7)	41	
	Masters degree	2 (33.3)	4 (66.7)	6	
	PhD	1 (25.0)	3 (75.0)	4	
Socioeconomic status	Lower class	5 (7.2)	64 (92.8)	69	0.245
	Upper lower class	13 (18.8)	56 (81.2)	69	
	Lower middle	7 (10.1)	62 (89.9)	69	
	Upper middle class	3 (7.5)	37 (92.5)	40	
	Upper class	0 (0.0)	3 (100.0)	3	

There was a statistically significant association between gender and psychosocial problems among the study participants (p = 0.021). A higher proportion of males were found to have psychosocial problems, with 20 out of 127 males (15.7%) affected, compared to 8 out of 127 females (6.5%). Conversely, the majority in both groups did not exhibit psychosocial problems, accounting for 84.3% of males and 93.5% of females.

Table 6: Association between gender and psychosocial problems

Gender	Present	Absent	Total	P value
Male	20 (15.7)	107 (84.3)	127	0.021*
Female	8 (6.5)	115 (93.5)	127	
Total	28 (11.2)	222 (88.8)	250	

*p value<0.05; Hence statistically significant

There was no statistically significant association between gender and internalizing problems among the study participants (p = 0.713). Internalizing problems were present in 12 out of 127 males (9.4%) and 10 out of 123 females (8.1%), showing comparable proportions between the two groups. The majority of both males (90.6%) and females (91.9%) did not exhibit internalizing problems.

Table 7: Association between gender and internalizing problems

Gender	Present	Absent	Total	P value
Male	12 (9.4)	115 (90.6)	127	0.713
Female	10 (8.1)	113 (91.9)	123	
Total	28 (11.2)	222 (88.8)	250	

There was a statistically significant association between gender and externalizing problems among the study participants (p = 0.031). A higher proportion of males exhibited externalizing problems, with 19 out of 127 males (15.0%) affected, compared to 8 out of 123 females (6.5%). The majority in both groups did not have externalizing problems, accounting for 85.0% of males and 93.5% of females.

Table 8: Association between gender and externalizing problems

Gender	Present	Absent	Total	P value
Male	19 (15.0)	108 (85.0)	127	0.031*
Female	8 (6.5)	115 (93.5)	123	
Total	28 (11.2)	222 (88.8)	250	

*p value<0.05; Hence statistically significant

There was no statistically significant association between gender and attention problems among the study participants (p = 0.138). Attention problems were observed in 11 out of 127 males (8.7%) and 5 out of 123 females (4.1%), indicating a slightly higher proportion among males; however, this difference was not statistically significant. The majority of both males (91.3%) and females (95.9%) did not exhibit attention problems.

Table 9: Association between gender and attention problems

Gender	Present	Absent	Total	P value
Male	11 (8.7)	116 (91.3)	127	0.138
Female	5 (4.1)	118 (95.9)	123	
Total	28 (11.2)	222 (88.8)	250	

The total score was slightly higher among males (10.12 ± 3.67) compared to females (9.76 ± 2.84), but this difference was not statistically significant (p = 0.385). Similarly, mean scores for internalizing problems were nearly identical in males (2.75 ± 1.41) and females (2.74 ± 1.25) (p = 0.961). Although males had marginally higher mean scores for externalizing problems (4.23 ± 1.89 vs. 3.92 ± 1.64) and attention problems (3.14 ± 1.86 vs. 3.10 ± 1.54), these differences were also not statistically significant (p = 0.168 and p = 0.838, respectively).

Table 10: Association between gender and mean score values

		N	Mean	Std. Deviation	P value
Total score	Male	127	10.12	3.666	0.385
	Female	123	9.76	2.838	
Internalizing problems	Male	127	2.75	1.414	0.961
	Female	123	2.74	1.253	
Externalizing Problems	Male	127	4.23	1.891	0.168
	Female	123	3.92	1.638	
Attention Problems	Male	127	3.14	1.859	0.838
	Female	123	3.10	1.544	

DISCUSSION

The present study assessed psychosocial problems among early adolescents aged 10–14 years using the Pediatric Symptom Checklist-17 (PSC-17) and found an overall prevalence of psychosocial problems of 11.2%, with externalizing problems being the most common domain.

Erazo et al.'s cross-sectional study in Ecuador reported a higher prevalence of psychosocial dysfunction at 20.8% among children and adolescents aged 4–16 years, with internalizing symptoms being the most prevalent (30.7%), followed by externalizing and attention symptoms.9 This contrasts with the current study's lower overall prevalence and the predominance of externalizing problems. The discrepancy may be attributed to differences in age ranges, assessment tools (PSC-35 versus PSC-17), and contextual factors such as the COVID-19 lockdown during which the Ecuadorian study was conducted. The pandemic context likely exacerbated internalizing symptoms such as anxiety and depression, as indicated by Erazo et al., whereas the current study, conducted in a non-pandemic clinical setting, may reflect baseline psychosocial conditions. Furthermore, Erazo et al. highlighted family relationship quality as a significant factor influencing psychosocial dysfunction, a finding partially echoed in the current study where nuclear family structure was associated with higher psychosocial problems.[9]

Bista et al.'s study in Nepal reported a psychosocial dysfunction prevalence of 17.03% among adolescent students aged 11–19 years, which is intermediate between the current study and Erazo et al.'s findings.10 Similar to Erazo et al., Bista et al. found family-related factors, including family disputes, nuclear family structure, and parental literacy, to be significantly associated with psychosocial dysfunction. The current study also observed a significant association between family structure and psychosocial problems, with adolescents from nuclear families showing higher prevalence. However, unlike Bista et al., the current study did not find significant associations with parental education or socioeconomic status, possibly due to different sociodemographic compositions or sample sizes.[10]

Gender differences in psychosocial problems were observed in the current study, with males exhibiting a significantly higher prevalence of overall psychosocial problems and externalizing behaviors. This is consistent with Bista et al., who reported a higher proportion of males affected by psychosocial dysfunction, although the gender difference was not statistically significant in their sample.10 Erazo et al. found no significant sex differences in psychosocial dysfunction prevalence, although internalizing symptoms were more prominent in females, highlighting potential cultural or contextual variations in gender-related psychosocial outcomes.[9]

The domain-specific findings also warrant comparison. The current study found externalizing problems to be the most common domain, whereas Erazo et al. reported internalizing symptoms as predominant. Bista et al. did not provide detailed domain-specific prevalence but emphasized overall psychosocial dysfunction linked to family factors. The prominence of externalizing problems in the current study may reflect the clinical outpatient setting, where behavioral concerns often prompt evaluation, whereas community-based samples such as Erazo et al.'s may capture a broader spectrum of internalizing symptoms.[9,10]

Limitations in all studies, including cross-sectional designs and reliance on screening tools rather than diagnostic interviews, constrain causal inferences. Additionally, the current study's convenience sampling and smaller sample size may limit generalizability compared to the larger, population-based samples in Erazo et al. and Bista et al. Nonetheless, the converging evidence underscores the critical role of family environment and structure in adolescent psychosocial health across diverse cultural contexts.

CONCLUSION

The study found that 11.2% of early adolescents attending the paediatric outpatient department exhibited psychosocial problems, with externalizing behaviors being the most prevalent domain. Significant associations were observed between psychosocial problems and both gender, with males more affected, and family structure, with higher prevalence in nuclear families. No significant relationships were found with age, parental education, or socioeconomic status. These findings highlight the importance of routine psychosocial screening in clinical settings to identify at-risk adolescents and underscore the influence of family environment on adolescent mental health.

REFERENCES

1. Sawyer SM, Azzopardi PS, Wickremarathne D, Patton GC. The age of adolescence. Lancet Child Adolesc Health. 2018 Mar;2(3):223–8. doi:10.1016/S2352-4642(18)30022-1
2. Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, Walters EE. Lifetime Prevalence and Age-of-Onset Distributions of DSM-IV Disorders in the National Comorbidity Survey Replication. Arch Gen Psychiatry. 2005 Jun 1;62(6):593. doi:10.1001/archpsyc.62.6.593
3. Babicka-Wirkus A, Kozłowski P, Wirkus Ł, Stasiak K. Internalizing and Externalizing Disorder Levels among Adolescents: Data from Poland. Int J Environ Res Public Health. 2023 Feb 3;20(3):2752. doi:10.3390/ijerph20032752
4. Hu M, Shu X, Yu G, Wu X, Välimäki M, Feng H. A Risk Prediction Model Based on Machine Learning for Cognitive Impairment Among Chinese Community-Dwelling Elderly People With Normal Cognition: Development and Validation Study. J Med Internet Res. 2021 Feb 24;23(2):e20298. doi:10.2196/20298
5. Spasojevic S, Doronjski A. Risk factors associated with failure of extubation in very-low-birth-weight newborns. The Journal of Maternal-Fetal & Neonatal Medicine. 2018 Feb 21;31(3):300–4. doi:10.1080/14767058.2017.1285884
6. McLean RK, Tully LA, Dadds MR. Reliability, predictive validity and normative data for the Pediatric Symptom Checklist-17 in a national Australian sample. Australian & New Zealand Journal of Psychiatry. 2025 Aug 26;59(8):702–12. doi:10.1177/00048674251342952
7. Bernstein HH, Slora EJ, Mathias-Prabhu T, Park HS, Spino C. Association of Severe Acute Respiratory Syndrome Coronavirus 2 Infection With Early Breastfeeding. Acad Pediatr. 2023 Mar;23(2):343–50. doi:10.1016/j.acap.2022.10.005

8. Gasper G, Huttle A, Green CM, Leslie LK, Leyenaar JK. Behavioral and Mental Health Screening Practices, Barriers, and Facilitators: A National Survey of Pediatricians. Acad Pediatr. 2026 Mar;103291. doi:10.1016/j.acap.2026.103291
9. Erazo C V, Cifuentes AC, Navas AM, Carrión FG, Caicedo-Gallardo JD, Andrade M, et al. Psychosocial dysfunction of children and adolescents during the COVID-19 lockdown in Ecuador: a cross-sectional study. BMJ Open. 2023 Jun;13(6):e068761. doi:10.1136/bmjopen-2022-068761
10. Bista B, Thapa P, Sapkota D, Singh SB, Pokharel PK. Psychosocial Problems among Adolescent Students: An Exploratory Study in the Central Region of Nepal. Front Public Health. 2016 Aug 4;4. doi:10.3389/fpubh.2016.00158.