

Adolescent Perspectives on Sex Education in South India: An Observational Study of Knowledge, Attitudes, and Legal Awareness

Dr. Subhashini¹, Dr Sajeetha Kumari R^{2*}, Dr. Vinodhini shanmugham³ and Dr. Poorna Pragathi B⁴

^{1,4}3rd year Postgraduate, Department of Obstetrics and Gynaecology, SRM Medical College Hospital and Research centre, SRM Institute of Science and Technology, Kattakulathur, Chengalpattu, Tamil nadu

²Professor, Department of Obstetrics and Gynaecology, SRM Medical College Hospital and Research Centre, SRM Institute of Science and Technology, Kattankulathur, Chengalpattu, Tamil Nadu.

³Associate Professor, Department of Obstetrics and Gynaecology, SRM Medical College Hospital and Research centre, SRM Institute of Science and Technology, Kattakulathur, Chengalpattu, Tamil nadu

subhathangaraj080@gmail.com¹, sajeethr@srmist.edu.in², vinodhis@srmist.edu.in³ and poorna37pragathi@gmail.com⁴

Corresponding Author: Dr Sajeetha Kumari R

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ABSTRACT

Background: Comprehensive sex education remains a critical yet underexplored area in Indian educational settings, particularly in the context of adolescent development, health outcomes, and legal awareness. This study examined knowledge levels, attitudes toward sex education, and awareness of legal protections among high school students in South India.

Methods: A cross-sectional observational study was conducted among 393 high school students (aged 15-17+ years) from four schools in Chengalpattu district, Tamil Nadu, between February and September 2025. Data were collected using a structured questionnaire covering demographic information, general awareness, knowledge of sexual and reproductive health, attitudes toward sex education, and awareness of the Protection of Children from Sexual Offences (POCSO) Act.

Results: Overall, 74.67% of adolescents reported receiving formal sex and reproductive health education. The prevalence was highest among students aged 17+ years (84.07%) and those in urban areas (73.23%). Private school students showed higher exposure rates (77.36%) compared to government schools (71.35%). Logistic regression revealed that rural students were significantly less likely to report good knowledge compared to urban students (OR: 0.478; CI: 0.295--0.774). Most students supported school-based sex education (83.85% Grade 12, 61.58% Grade 11). Significant knowledge gaps persisted regarding contraception, with over 70% of students across grades unaware of its primary purpose. Regarding legal awareness, 51.1% of students reported knowledge of the POCSO Act, while 48.9% were unaware. When assessed through multiple-choice questions about the purpose of the POCSO Act, only 23.4% of students correctly identified it as legislation for protecting children from sexual offences, with the majority selecting incorrect options or indicating they did not know, revealing critical gaps in legal literacy.

Conclusions: While formal sex education exposure is relatively high, substantial knowledge gaps remain, particularly regarding contraception, sexual health practices, and legal protections. Rural students and those in government schools demonstrated lower knowledge levels, indicating the need for targeted interventions, improved implementation strategies, and integration of legal literacy components.

Keywords: Sex education, adolescents, reproductive health, knowledge, attitudes, POCSO Act, legal awareness, India

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INTRODUCTION

Adolescence represents a critical developmental period characterized by significant physical, psychological, and social changes that emerged as a distinct concept in the late 19th and early 20th centuries (1). During this transformational phase, young individuals often encounter challenges related to misconceptions about sexuality and reproductive health, making comprehensive sex education

essential for promoting healthy development and informed decision-making (2).

Recent evidence from India suggests that sex education has become an urgent need for the country's youth, particularly given the advancement of technologies and the influence of social media. The lack of proper sex education can lead to various adverse outcomes, including sexual abuse,

*Author for Correspondence: Dr Sajeetha Kumari R

unwanted pregnancies, and sexually transmitted infections (3). Despite these recognized needs, the integration of comprehensive sexuality education into the Indian educational system remains challenging and largely neglected.

The Protection of Children from Sexual Offences (POCSO) Act, 2012, represents a landmark legislation providing comprehensive legal framework for protection of children from sexual offences. However, awareness of this protective legislation among adolescents remains understudied, despite its crucial role in empowering young people to recognize inappropriate behavior and seek help when needed.

Studies indicate that digital sources, particularly the internet and pornography, have become primary sources of sexual information for adolescents, often leading to misinformation and risky behaviors (4). The National Education Policy (NEP) 2020 has provided necessary transformation in the education system, yet it remains notably silent on comprehensive sex education (5). Current approaches subsume sex education under "ethical and moral reasoning," which dilutes its specificity and effectiveness.

Understanding current knowledge levels, attitudes toward sex education, and legal awareness among students is crucial for developing effective interventions that promote healthier relationships, responsible decision-making, and protective behaviors among adolescents. This study aimed to assess knowledge, attitudes regarding sex education, and awareness of legal protections among high school students in South India, providing insights for policy development and educational program enhancement.

MATERIALS AND METHODS

Study Design and Setting

This observational cross-sectional study was conducted from February 2025 to September 2025 in four higher secondary schools in Chengalpattu district, Tamil Nadu, India. The study employed a stratified random sampling approach to ensure representative participation across different demographic groups.

Participants

The study included high school students aged 15-19 years who were willing to participate and had no psychological problems or intellectual disabilities. Using a prevalence rate of 82.1% from previous literature (6), with 95% confidence level and 5% precision, the calculated sample size was 224, which was increased to 393 to account for non-response and ensure adequate power.

DATA COLLECTION

A structured questionnaire was developed covering five main sections:

- **Section A:** Demographic information (age, grade, location type, school type)
- **Section B:** General awareness of sex education
- **Section C:** Knowledge of sexual and reproductive health
- **Section D:** Attitudes and perceptions toward sex education
- **Section E:** Awareness of legal frameworks (POCSO Act)

The legal awareness section included **three** specific questions: (P1) "Do you know about POCSO Act?" and (P2) "What is the full form of POCSO?" and (P3) "What is the purpose of the POCSO Act?" with multiple-choice options: a) Domestic violence act, b) Dowry prohibition act, c) Bonded labour act, d) Protecting children from sexual offences to assess adolescents' understanding of legal protections available to them.

Statistical Analysis

Data were analyzed using appropriate statistical tests. Categorical variables were expressed as frequencies and percentages. Chi-square tests were used to examine associations between categorical variables. Logistic regression was performed to identify predictors of perceived knowledge about sexual and reproductive health. Statistical significance was set at $p < 0.05$.

Ethical Considerations

The study was conducted following ethical guidelines with appropriate informed consent procedures, ensuring participant confidentiality and voluntary participation.

RESULTS

Prevalence of Formal Sex and Reproductive Health Education

Out of 393 adolescent respondents, 74.67% reported having received formal education on sex and reproductive health. As shown in **Table 1**, the prevalence was highest among students aged 17 years and above (84.07%), followed by those in **urban locations (73.23%)** and students in Grade 12 (80.41%). Students from private schools (77.36%) were also more likely to report receiving formal sex education compared to those from government or other types of schools (71.35%).

Table 1. Prevalence of Formal Sex and Reproductive Health Education Among Adolescents by Age, Grade, Location, and School Type (N=393)

Variable	Yes (%)	No (%)
Age		
16 years	70.49	29.51
17 & above	84.07	15.93
Grade		

Grade 11	68.13	31.87
Grade 12	80.41	19.59
Location		
Urban	73.23	26.77
Rural	72.46	27.54
School Type		
Government/Other	71.35	28.65
Private	77.36	22.64
Overall	74.67	25.33

Predictors of Perceived Knowledge on Sexual and Reproductive Health

Logistic regression analysis was conducted to examine the association between demographic variables and perceived knowledge about sexual and reproductive health, categorized as good/very good versus average/poor (Table

2). No statistically significant differences were observed with respect to age or grade level. Notably, students from rural areas were significantly less likely to report good perceived knowledge as compared to urban students (OR = 0.478; 95% CI = 0.295--0.774; $p < 0.05$). School type was not significantly associated with higher perceived knowledge.

Table 2. Logistic Regression Analysis of Background Characteristics Predicting Perceived Sexual and Reproductive Health Knowledge

Characteristic	Odds Ratio (OR)	95% CI
Age		
16 years vs 17+ years	0.708	0.382--1.312
Grade		
Grade 12 vs Grade 11	1.078	0.604--1.924
Location		
Rural vs Urban	0.478*	0.295--0.774
School Type		
Private vs Govt/Other	0.908	0.593--1.389

Note: $p < 0.05$; *Reference categories:* 17+ years (age), Grade 11, Urban, Government/Other school

Awareness of POCSO Act

Analysis of legal awareness revealed significant gaps in adolescents' knowledge of protective legislation (Table 3). Overall, 51.1% of respondents ($n=201$) reported being aware of the POCSO Act, while 48.9% ($n=192$) indicated no knowledge of this legislation. Most critically, despite some awareness of the Act's existence, none of the respondents (0%) could correctly identify the full form of POCSO as the "Protection of Children from Sexual Offences Act." Furthermore, when assessed through a

multiple-choice question about the purpose of the POCSO Act, only 23.4% ($n=92$) correctly identified it as legislation for "Protecting children from sexual offences." The majority of students either selected incorrect options—18.1% ($n=71$) chose "Domestic violence act," 15.5% ($n=61$) selected "Dowry prohibition act," and 12.7% ($n=50$) chose "Bonded labour act"—or indicated they did not know the answer (30.3%, $n=119$), further highlighting critical gaps in functional legal literacy among adolescents.

Table 3. Awareness of POCSO Act Among Adolescents ($N=393$)

POCSO Act Knowledge	Frequency	Percentage
Awareness of POCSO Act		
Yes	201	51.1
No	192	48.9
Knowledge of Full Form		
Correct	0	0.0
Incorrect/Don't Know	393	100.0
Purpose of POCSO Act (MCQ)		
a) Domestic violence act	71	18.1
b) Dowry prohibition act	61	15.5
c) Bonded labour act	50	12.7
d) Protecting children from sexual offences (Correct)	92	23.4
Don't Know	119	30.3

Perceived Importance of Sex Education in Schools

A strong majority of adolescents considered sex education to be an important part of the school curriculum, especially among students in Grade 12 (83.85%) and those aged 17 and above (83.04%). Urban students demonstrated

favorable support (73.60%) across location subgroups. As illustrated in Table 4, statistically significant associations were observed by grade ($p < 0.001$), age ($p = 0.012$), and school type ($p = 0.036$), with private school students showing more favorable responses than their government school counterparts.

Table 4. Perceived Importance of School-Based Sex Education by Demographic Characteristics

Variable	Yes (%)	No (%)	Don't Know (%)	p-value
Grade				
Grade 11	61.58	5.65	32.77	<0.001
Grade 12	83.85	3.13	13.02	
Age				
16 years	69.44	5.00	25.56	0.012
17 years & above	83.04	1.79	15.18	
School Type				
Government/Other	68.26	7.19	24.55	0.036
Private	77.51	2.39	20.10	
Location				
Urban	73.60	4.80	21.60	0.143
Rural	68.10	4.91	26.99	

Knowledge About Contraception

Table 5 presents the distribution of knowledge regarding the primary purpose of contraception. Across all subgroups, a substantial proportion of adolescents indicated a lack of knowledge---most notably among government school

students (89.17%) and rural respondents (79.08%). Awareness of both STI and pregnancy prevention purposes was the highest among **urban** and private school students. Grade 12 students demonstrated better knowledge compared to Grade 11 students, though knowledge deficiencies remained high overall.

Table 5. Knowledge of the Primary Purpose of Contraception by Background Characteristics

Table 1: Knowledge of the Primary Purpose of Condoms by Background Characteristics						
Characteristic	STI (%)	STI & Pregnancy (%)	Pregnancy (%)	Pleasure (%)	Don't Know (%)	p-value
Grade						
Grade 11	6.29	1.71	18.29	0.00	73.71	<0.001
Grade 12	18.08	0.00	6.21	2.82	72.88	
Age						
16 years	19.53	1.18	7.69	1.18	70.41	<0.001
17+ years	7.77	0.00	9.71	2.91	79.61	
School Type						
Government/Other	7.64	1.27	1.91	0.00	89.17	<0.001
Private	15.42	0.50	20.40	2.49	61.19	
Location						
Urban	7.38	0.00	10.66	1.64	80.33	<0.001
Rural	9.80	1.31	8.50	1.31	79.08	

Perceived Appropriate Age to Begin Sex Education

As shown in Table 6, the perceived appropriate age to begin sex education varied across background characteristics. Grade 11 students most frequently chose 13--15 years (33.92%), whereas Grade 12 students predominantly

selected 10--12 years (34.41%). Among private school and urban participants, earlier initiation (10--12 years) was favored. In contrast, rural and government school students preferred delayed exposure, with a considerable number suggesting ages 16--18 or above 18 years.

Table 6. Preferred Age for Initiating Sex Education by Grade, Age, School Type, and Location

Variable	10--12 yrs (%)	13--15 yrs (%)	16--18 yrs (%)	>18 yrs (%)	Not Sure (%)	p-value
Grade						
Grade 11	4.68	33.92	25.73	29.82	5.85	<0.001
Grade 12	34.41	20.43	19.35	15.05	10.75	

Age						
16 years	16.86	26.74	23.84	23.84	8.72	<0.001
17+ years	35.14	23.42	17.12	16.22	8.11	
School Type						
Government/Other	6.75	22.70	32.52	25.77	12.27	<0.001
Private	31.00	30.50	13.50	20.00	5.00	
Location						
Urban	29.03	29.84	17.74	12.90	10.48	<0.001
Rural	7.55	22.64	27.04	33.96	8.81	

DISCUSSION

This study provides comprehensive insights into the current state of sex education knowledge, attitudes, and legal awareness among high school students in South India. The relatively high prevalence of formal sex education exposure (74.67%) indicates progress in curriculum implementation. However, substantial knowledge gaps persist, particularly regarding contraception, sexually transmitted infections, and legal protections, highlighting the need for quality improvement rather than mere exposure.

The findings regarding POCSO Act awareness reveal critical gaps in adolescents' knowledge of legal protections available to them. While 51.1% of respondents reported awareness of the POCSO Act, the complete absence of knowledge regarding its full form (0% correct responses) indicates superficial understanding at best. More concerning is the finding that when presented with multiple-choice options to identify the purpose of the POCSO Act, only 23.4% of students correctly selected "Protecting children from sexual offences," while a significant proportion (18.1%) incorrectly identified it as related to domestic violence, and 30.3% indicated they did not know its purpose at all. This knowledge gap is particularly concerning given that the POCSO Act, 2012, provides comprehensive legal framework for protection of children from sexual offences and empowers young people to recognize inappropriate behavior and seek help when needed.

The finding that rural students are significantly less likely to report good knowledge (OR: 0.478) underscores persistent urban-rural disparities in educational quality and access to comprehensive sex education resources (7). This disparity extends beyond formal education exposure, suggesting that implementation quality, teacher training, and cultural factors significantly influence learning outcomes (8).

The strong support for school-based sex education across all demographic groups (ranging from 61.58% to 83.85%) contradicts traditional concerns about cultural inappropriateness. Recent evidence from Project X in Kerala provides a successful model for comprehensive sexuality education implementation in Indian schools (9). This initiative has completed sessions benefiting over 12,000 students, demonstrating that structured, age-appropriate, and culturally sensitive programs can achieve community support and positive outcomes (10, 11).

The persistence of knowledge gaps, particularly regarding contraception, reflects broader challenges in sex education implementation. Recent studies indicate that adolescents increasingly turn to digital sources, particularly pornography and social media, for sexual information. Contemporary research has highlighted that sexuality education in India yet remains a taboo, requiring systematic approaches to overcome cultural barriers (12, 13).

The variation in perceived appropriate age for sex education reflects ongoing debates about optimal timing and content delivery. The preference for earlier initiation among urban and educated populations aligns with international best practices and evidence-based recommendations. Comprehensive sex education programs must address multiple dimensions of adolescent development (14, 15).

This study's cross-sectional design limits causal inference, and the geographic restriction to one district in Tamil Nadu may limit generalizability to other regions. Recent systematic reviews have demonstrated the effectiveness of sex education in adolescence when properly implemented (16). Future research should employ longitudinal designs to track knowledge and attitude changes over time.

Based on these findings, several recommendations emerge: targeted rural interventions, government school enhancement, legal literacy integration, age-appropriate content delivery, digital literacy integration, community engagement, and comprehensive legal education components.

CONCLUSION

This study reveals that while formal sex education exposure among South Indian high school students is relatively high at 74.67%, significant knowledge gaps persist, particularly regarding contraception, sexually transmitted infections, and legal protections. The finding that 51.1% of students reported awareness of the POCSO Act but none could correctly identify its full form and only 23.4% could correctly identify its purpose when presented with multiple-choice options highlights critical gaps in legal literacy that must be addressed through comprehensive educational interventions.

Rural students and those in government schools demonstrate lower knowledge levels, indicating the need for targeted interventions and improved implementation strategies. The strong student support for school-based sex education provides a favorable foundation for program

expansion and enhancement that includes legal literacy components.

Moving forward, policy makers and educators must prioritize quality improvement over mere exposure, ensuring that sex education programs effectively address knowledge gaps while building on existing positive attitudes. The integration of legal literacy, particularly POCSO Act awareness, represents a critical component for empowering adolescents with knowledge of their rights and protections.

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Corresponding Author:

Dr. Sajeetha Kumari R

Department of Obstetrics & Gynaecology

SRM Medical College Hospital & Research Centre, Chennai, Tamil Nadu, India

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