

## Effect of Sex Education on Adolescent Mental Health: Role of Demographic Factors in Kerala

Latha P.K.<sup>1\*</sup>, Dr. Soofia Syad<sup>2</sup>

### ABSTRACT

Adolescence is a critical developmental stage where mental health and sex knowledge–attitude are essential for overall well-being. The present study aimed to examine the effectiveness of an intervention in improving mental health among adolescents and to explore the association of demographic variables with mental health outcomes. An experimental design was adopted with a sample of 60 adolescents, equally divided into intervention and control groups. Standardized tools were used for data collection, and appropriate statistical analyses were applied. The results revealed that gender and family type were significantly associated with mental health, with males and adolescents from nuclear families showing better outcomes, while parental education and sibling position were not significant. Furthermore, the intervention group demonstrated a significant improvement in mental health compared to the control group, which showed no meaningful change. The findings suggest that structured interventions are effective in enhancing adolescent mental health and emphasize the need to consider demographic factors while designing mental health programs.

**Keywords:** Sex Education, Adolescent, Mental Health Demographic Factors

Comprehensive sex education (CSE) plays a crucial role in bridging this gap by equipping adolescent individuals with scientifically accurate information, emotional understanding, and practical skills needed to navigate relationships, consent, and personal boundaries. Beyond preventing health risks, sex education contributes significantly to psychological well-being by promoting self-awareness, confidence, and responsible decision-making. Research indicates that adolescents who receive structured and age-appropriate sex education demonstrate better self-esteem, reduced stigma related to sexual development, and improved interpersonal communication (Goldfarb et al., 2025; UNESCO, 2018). Thus, sex education is not merely a biological or preventive intervention but a fundamental component of holistic adolescent development and mental health promotion.

CSE is increasingly recognized as a key determinant of adolescent mental health. It provides accurate knowledge, reduces misconceptions, and fosters positive attitudes toward sexuality, thereby contributing to improved psychological outcomes such as higher self-esteem, reduced anxiety, and better communication skills (Agtarap & Adair, 2023). From a psychological standpoint, sex education enhances self-efficacy, supports healthy identity development, and

<sup>1</sup>PhD Research Scholar, Shri Venkateshwara University, Uttar Pradesh, India

<sup>2</sup>Assistant Professor of Psychology, Shri Venkateshwara University, Uttar Pradesh, India

\*Corresponding Author

Received: April 24, 2026; Revision Received: April 27, 2026; Accepted: April 30, 2026

## Effect of Sex Education on Adolescent Mental Health: Role of Demographic Factors in Kerala

promotes adaptive coping mechanisms in navigating relationships and sexual decision-making (Schaalma et al., 2004). Studies have also demonstrated that adolescents exposed to structured sex education report lower levels of shame, guilt, and confusion related to sexual development, which are often linked to internalizing problems such as anxiety and depression (Kirby, 2007; UNESCO, 2018).

The present study conceptualizes sex education as the independent variable, operationalized through adolescents' exposure to structured educational content on sexuality, reproductive health, consent, and relationships. The dependent variable, adolescent mental health, is viewed as a multidimensional construct encompassing emotional well-being, self-esteem, anxiety levels, and social adjustment. Mental health during adolescence is particularly sensitive to informational gaps and societal pressures, making access to accurate and supportive education crucial (WHO, 2021).

However, the relationship between sex education and mental health is not uniform and may be influenced by demographic variables, which act as moderating factors in this study. Gender differences, for instance, play a significant role, as societal norms often impose stricter restrictions and stigma on female adolescents, leading to disparities in knowledge access and psychological outcomes (Jejeebhoy & Santhya, 2011). Similarly, socio-economic status (SES) affects access to quality education, exposure to digital resources, and openness to discussing sexual health topics, thereby influencing both awareness and mental well-being (Singh et al., 2019). Cultural and religious backgrounds further shape attitudes toward sexuality, often determining the acceptability and effectiveness of sex education programs (Francis & DePalma, 2014).

Empirical studies support the moderating role of these demographic factors. For example, research indicates that adolescents from higher socio-economic backgrounds tend to have better access to accurate sexual health information and report more positive mental health outcomes (Chandra-Mouli et al., 2015). Gender-sensitive interventions have also been found to reduce anxiety and improve self-concept among adolescent girls, highlighting the need for context-specific approaches (UNICEF, 2020). Moreover, culturally tailored sex education programs have shown greater effectiveness in improving both knowledge and psychosocial outcomes compared to standardized models (Haberland & Rogow, 2015).

In the Indian context, sex education remains a sensitive and often contested domain, shaped by cultural taboos, religious beliefs, and societal resistance. These barriers limit adolescents' access to reliable information, often resulting in confusion, misinformation, and psychological distress (Vincent & Krishnakumar, 2022). Although initiatives such as the Adolescence Education Programme (AEP) have been introduced to integrate sex education into school curricula, inconsistent implementation, lack of trained educators, and parental opposition continue to hinder their effectiveness.

Kerala presents a unique socio-cultural context for examining this issue. Despite its high literacy rates and relatively progressive social indicators, discussions surrounding sexuality remain constrained by cultural norms and stigma. Programs such as Safe and Responsible Adolescence (SARA) reflect efforts to address adolescent health holistically; however, challenges related to teacher preparedness, curriculum delivery, and community acceptance persist (Suresh, 2024). This paradox highlights the need to critically examine not only the availability of sex education but also its impact on adolescents' mental health within varying demographic contexts.

## **Effect of Sex Education on Adolescent Mental Health: Role of Demographic Factors in Kerala**

Therefore, the present study aims to investigate the influence of sex education on adolescent mental health in Kerala, with a particular focus on the association of demographic variables such as gender, socio-economic status, and cultural background. By integrating psychological, social, and educational perspectives, this research seeks to contribute to a nuanced understanding of how comprehensive sex education can promote mental well-being among adolescents in culturally sensitive settings.

### ***Research Design***

The study employed a parallel-group randomized controlled trial (RCT) design to examine the influence of a comprehensive sex education intervention on adolescent mental health. This design enables strong causal inference by minimizing confounding variables through random assignment and comparison with a control group.

Participants were randomly assigned to either the intervention group or the control group using a computer-generated randomization sequence. To ensure equal representation of gender across groups, stratified randomization based on gender was applied. Separate randomization lists were prepared for male and female participants. Allocation concealment was maintained using sequentially numbered, opaque, sealed envelopes prepared by an independent researcher not involved in recruitment or assessment, thereby reducing selection bias.

### ***Participants***

The sample for the present study comprised 80 adolescents, with 40 participants in the intervention group and 40 participants in the control group, aged between 15 and 18 years. Participants were recruited from selected schools and educational institutions using a stratified random sampling approach. Equal representation of gender was ensured, with an equal number of male and female participants distributed across both groups to minimize gender-related bias. All participants were enrolled in regular academic programs and belonged to similar socio-educational backgrounds, ensuring comparability between groups. Prior to participation, informed consent was obtained from parents or legal guardians, and assent was obtained from the adolescents. Participation was voluntary, and confidentiality of responses was assured throughout the study.

### **Inclusion Criteria**

- Adolescents aged between 15 and 18 years
- Were currently enrolled in a school or educational institution
- Provided informed assent, along with parental/guardian consent

### **Exclusion Criteria**

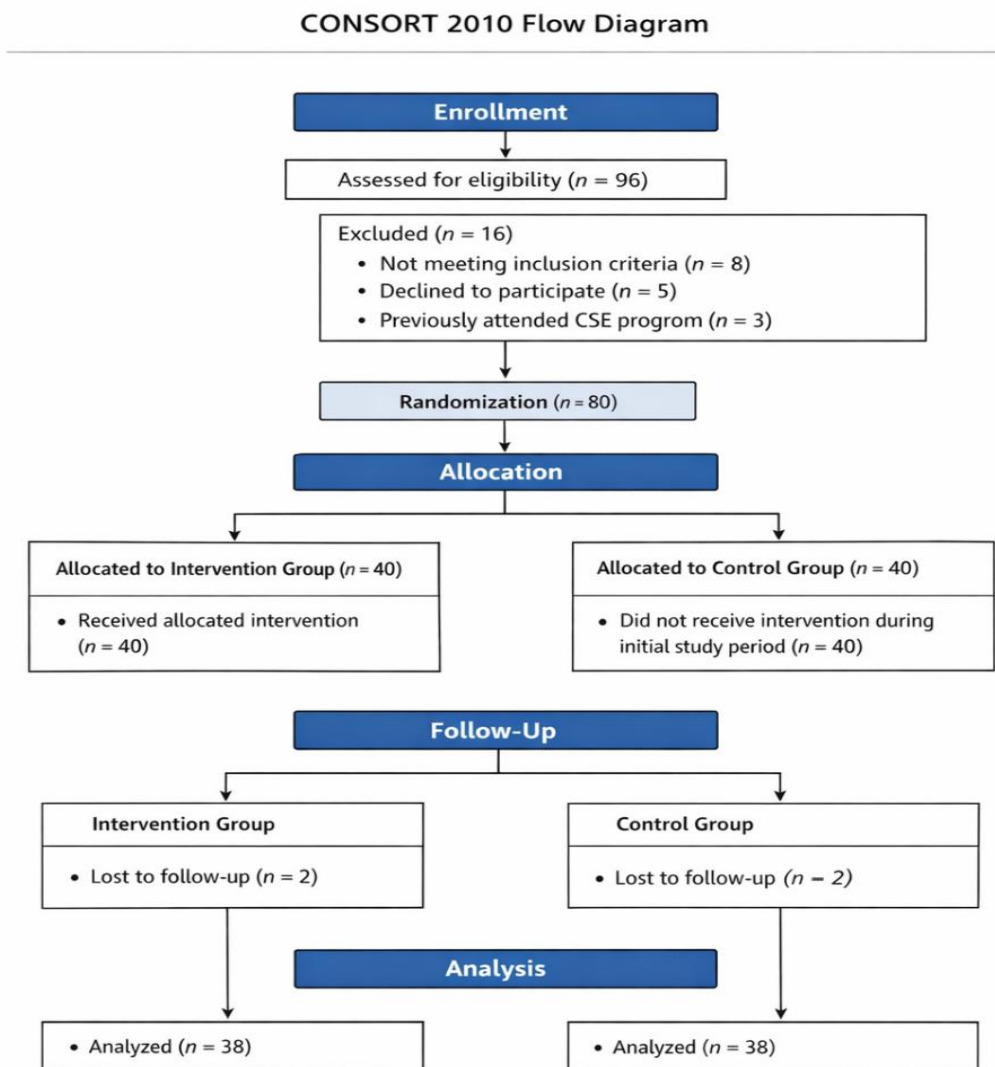
- Pre-existing severe psychological disorders requiring immediate clinical or psychiatric intervention
- Absent during pre-test or post-test assessments, which could affect data completeness
- Had prior exposure to a structured comprehensive sex education or similar intervention program, which might influence baseline outcomes

The CONSORT flow diagram illustrates the progress of participants through the different phases of the randomized controlled trial. A total of 96 adolescents were assessed for eligibility, of whom 16 were excluded due to not meeting inclusion criteria, declining participation, or prior exposure to a comprehensive sex education program. Eighty eligible

## Effect of Sex Education on Adolescent Mental Health: Role of Demographic Factors in Kerala

participants were randomly allocated to either the intervention group ( $n = 40$ ) or the control group ( $n = 40$ ). During follow-up, two participants from each group were lost, resulting in 38 participants in each group being included in the final analysis. This diagram ensures transparency in reporting participant recruitment, allocation, follow-up, and analysis procedures.

**Fig.1 Consort Diagram**



### Measures

Mental health was assessed using the *Mental Health Inventory (MHI)* developed by Veit and Ware (1983), a 38-item standardized self-report measure that evaluates overall mental health across dimensions such as anxiety, depression, emotional ties, behavioral control, and general positive affect. The instrument uses a 6-point Likert scale, with higher scores indicating better mental health and psychological well-being. The MHI has demonstrated strong psychometric properties, with high internal consistency reliability ranging from 0.93 to 0.96 across its subscales, along with established construct and criterion validity in comparison with other mental health measures. The scale was administered at pre-test, post-test, and a three-month follow-up to assess the effectiveness and sustainability of the intervention. In addition, a socio-demographic data sheet was used to collect relevant background information, including gender, parental education (ranging from no formal education to

## Effect of Sex Education on Adolescent Mental Health: Role of Demographic Factors in Kerala

postgraduate level), family type (nuclear, extended, or single-parent), and sibling position (firstborn, middle, lastborn, or only child), to examine their association with mental health outcomes among adolescents.

### *Intervention Overview*

The intervention was conducted over a period of six weeks, with one session delivered per week, following a structured and holistic approach aimed at enhancing adolescent mental health. The initial session focused on building rapport, establishing a therapeutic alliance, and creating a safe, supportive, and non-judgmental environment for participants. Subsequent sessions addressed key areas such as stress management, emotional regulation, resilience building, healthy relationships, and basic sexual health awareness integrated with psychological well-being. The sessions were designed to be interactive, incorporating group discussions, role-plays, and structured activities to promote active participation and experiential learning. A follow-up assessment was conducted after three months to evaluate the sustainability of the intervention effects on mental health outcomes.

### *Statistical Analysis*

Data were analyzed using appropriate statistical techniques. A paired sample t-test was used to compare pre-test and post-test mental health scores within the intervention group to assess the effectiveness of the intervention. Paired t test was employed to compare post-test mental health scores between the intervention and control groups while controlling for baseline differences. The chi-square ( $\chi^2$ ) test was used to examine the association between socio-demographic variables (gender, parental education, family type, and sibling position) and mental health. The level of significance was set at  $p < 0.05$ .

### **Ethical Considerations**

Ethical approval for the study was obtained from the Institutional Ethics Committee of Ashtamgam Ayurveda Chikitsalayam and Vidyapeedham, Kerala (Ref: AST/HRS08/04/2025), dated 14 July 2025). Informed consent was obtained from parents or guardians, and assent was obtained from adolescent participants. Participation was voluntary, and confidentiality and anonymity were strictly maintained. Participants were informed of their right to withdraw at any stage without any consequences. All procedures were conducted in accordance with approved ethical guidelines.

## **RESULTS**

*Table 1 Baseline Sample Characteristics*

Variable	Category	Intervention Group (n = 30)	Control Group (n = 30)	Total (N = 60)
<b>Gender</b>	Male	16 (53.3%)	16 (53.3%)	32 (53.3%)
	Female	14 (46.7%)	14 (46.7%)	28 (46.7%)
<b>Parental Education</b>	Primary	7 (23.3%)	7 (23.3%)	14 (23.3%)
	Secondary	13 (43.3%)	13 (43.3%)	26 (43.3%)
	Graduate & above	10 (33.3%)	10 (33.3%)	20 (33.3%)
<b>Sibling Position</b>	First Born	12 (40%)	12 (40%)	24 (40%)
	Middle Child	9 (30%)	9 (30%)	18 (30%)
	Last Born	9 (30%)	9 (30%)	18 (30%)
<b>Family Type</b>	Nuclear	19 (63.3%)	19 (63.3%)	38 (63.3%)
	Joint	11 (36.7%)	11 (36.7%)	22 (36.7%)

## Effect of Sex Education on Adolescent Mental Health: Role of Demographic Factors in Kerala

Table 1 shows baseline sample characteristics show that the intervention and control groups were identical and well balanced across all demographic variables. Both groups had the same gender distribution, with 53.3% males (n = 16) and 46.7% females (n = 14), contributing to a total of 32 males and 28 females. Similarly, parental education was equally distributed, with the highest proportion in the secondary category (43.3%, n = 13), followed by graduate and above (33.3%, n = 10) and primary education (23.3%, n = 7). In terms of sibling position, 40% (n = 12) were first-born, while middle and last-born categories each accounted for 30% (n = 9). Regarding family type, a majority of participants belonged to nuclear families (63.3%, n = 19), with the remaining 36.7% (n = 11) from joint families. Overall, the equal distribution across these variables indicates that both groups were comparable at baseline, supporting the internal validity of the study.

**Table 2 Association between demographic variables and mental health and sex knowledge–attitude among adolescent**

Demographic Variable	$\chi^2$ (Mental Health)	p-value
Gender	4.26	0.039*
Parental Education	5.12	0.077
Sibling Position	1.94	0.378
Family Type	3.89	0.049*

\* $p < 0.05$ .

The Chi-square test was conducted to examine the association between demographic variables and mental health showed in table 2. The results showed that gender had a significant association with both mental health ( $\chi^2 = 4.26$ ,  $p = 0.039$ ) and sex knowledge–attitude ( $\chi^2 = 6.18$ ,  $p = 0.013$ ), indicating that these variables differ significantly between male and female adolescents. Parental education was not significant with mental health ( $p = 0.077$ ). Family type showed a significant association with mental health ( $\chi^2 = 3.89$ ,  $p = 0.049$ ). However, sibling position did not show any significant association with mental health ( $p = 0.378$ ).

**Table 3 Cross-tabulation of Significant Demographic Variables with Mental Health among Adolescents**

Variable	Category	Good Mental Health n (%)	Poor Mental Health n (%)	Total
Gender	Male (n = 32)	22 (68.8%)	10 (31.2%)	32
	Female (n = 28)	14 (50.0%)	14 (50.0%)	28
Family Type	Nuclear (n = 38)	26 (68.4%)	12 (31.6%)	38
	Joint (n = 22)	10 (45.5%)	12 (54.5%)	22

The table 3 cross-tabulation results indicate clear differences in mental health across gender and family type. Among gender categories, a higher proportion of males (68.8%) fall under good mental health compared to females (50.0%), while females show an equal distribution between good and poor mental health, suggesting comparatively lower mental health outcomes among females. In terms of family type, adolescents from nuclear families demonstrate better mental health, with 68.4% categorized under good mental health, whereas those from joint families show a higher proportion in poor mental health (54.5%). These patterns support the earlier chi-square findings, indicating that both gender and family type are significantly associated with mental health, with males and adolescents from nuclear families exhibiting relatively better mental health outcomes.

**Table 4 Effect of Intervention on mental health**

Variable	Group	Mean Pre (SD)	Mean Post (SD)	Mean Difference	T	df	P
MHI Total Score	Intervention	140.47 (9.22)	148.20 (10.10)	-7.73	-3.12	29	0.004**
	Control	139.90 (10.10)	140.60 (10.40)	-0.7	-0.41	29	0.6

\* $p < 0.05$ , \*\* $p < 0.01$ .

The table 4 results indicate a significant improvement in mental health among participants in the intervention group. Specifically, the mean MHI total score increased from 140.47 (SD = 9.22) at pretest to 148.20 (SD = 10.10) at posttest. The mean difference of -7.73, along with a statistically significant  $t$  value of -3.12 (df = 29,  $p = 0.004$ ), suggests that the intervention had a meaningful positive effect on mental health outcomes. In contrast, the control group showed only a minimal increase in mean scores from 139.90 (SD = 10.10) to 140.60 (SD = 10.40), with a mean difference of -0.7. This change was not statistically significant ( $t = -0.41$ , df = 29,  $p = 0.6$ ), indicating no substantial improvement in mental health without the intervention. Overall, these findings support the effectiveness of the intervention in enhancing mental health compared to the control condition.

## DISCUSSION

The present study examined the effectiveness of an intervention in improving mental health among adolescents and explored the association of demographic variables with mental health and sex knowledge–attitude. The baseline findings confirmed that both intervention and control groups were comparable across demographic variables, thereby ensuring internal validity. Such equivalence is essential in intervention research to attribute observed changes to the intervention itself (Patton et al., 2016).

The study found that gender had a significant association with mental health, with males demonstrating better mental health outcomes compared to females. This finding is consistent with earlier research indicating that female adolescents are more vulnerable to internalizing problems such as anxiety and depression (Nolen-Hoeksema, 2001; Kessler et al., 2005). More recent evidence also supports this pattern, suggesting that adolescent girls experience higher psychological distress due to social, emotional, and biological factors, particularly in post-pandemic contexts. However, contradictory findings exist. Addis and Mahalik (2003) argue that males often underreport emotional distress due to masculine norms, which may lead to an underestimation of mental health issues among boys. This highlights that gender differences in mental health may be influenced by both actual experiences and reporting biases.

Family type was also found to be significantly associated with mental health, with adolescents from nuclear families showing better outcomes. This aligns with research suggesting that nuclear families provide greater autonomy, privacy, and focused parental attention, which are beneficial for adolescent psychological well-being (Steinberg, 2001). However, contrasting findings have been reported in the Indian context, where joint families are often considered protective due to increased emotional and social support (Saraswathi &

## Effect of Sex Education on Adolescent Mental Health: Role of Demographic Factors in Kerala

Pai, 1997). These differences suggest that the quality of family relationships, rather than structure alone, plays a crucial role in determining adolescent mental health outcomes.

Parental education and sibling position did not show significant associations with mental health in the present study. This finding is consistent with recent research indicating that broader psychosocial and environmental factors may have a stronger influence on adolescent mental health than demographic variables alone (Ravens-Sieberer et al., 2008). However, some studies suggest that higher parental education can improve adolescent mental health through better awareness and access to resources, indicating mixed findings in the literature.

Importantly, the intervention demonstrated a significant improvement in mental health among adolescents in the intervention group, while no significant improvement was observed in the control group. This supports the effectiveness of structured psychological interventions. Recent studies strongly support these findings. A systematic review by Wang et al. (2024) found that school-based interventions are effective in promoting emotional well-being and preventing mental health problems among adolescents. Similarly, Wei et al. (2024) reported that mental health literacy interventions significantly improve adolescents' psychological outcomes.

However, not all studies show consistent results. A meta-analysis by Zhang et al. (2023) found that while school-based interventions can reduce depression and anxiety, the overall effect size is sometimes modest. Additionally, a recent meta-analysis of peer-led interventions reported no significant overall improvement in mental health outcomes, highlighting variability in effectiveness depending on intervention type and implementation.

Furthermore, a randomized controlled trial (Silva et al., 2025) found limited overall improvements in mental health indicators, except in specific subgroups, suggesting that interventions may benefit certain adolescents more than others.

Recent literature also emphasizes that the success of interventions depends on factors such as duration, delivery method, and participant engagement. Reviews highlight that well-structured, theory-based interventions—particularly those incorporating cognitive-behavioral techniques and psychoeducation—tend to produce more consistent positive outcomes (Lawson & Azad, 2024; Eapen et al., 2024).

In conclusion, the present study is consistent with both classical and recent research in demonstrating the effectiveness of psychological interventions in improving adolescent mental health. While gender and family type emerged as significant factors, inconsistencies in previous studies highlight the importance of cultural context, reporting patterns, and intervention design. The findings reinforce the need for targeted, evidence-based, and context-sensitive mental health programs for adolescents.

## CONCLUSION

The present study demonstrated that the intervention was effective in significantly improving mental health among adolescents. The findings also highlighted that demographic variables such as gender and family type play an important role in influencing mental health outcomes, with males and adolescents from nuclear families showing relatively better mental health. In contrast, parental education and sibling position did not show a significant association. Overall, the study emphasizes the importance of structured psychological interventions in enhancing adolescent mental health and underlines the need to consider demographic influences while planning such programs.

### **Limitations**

Despite its contributions, the study has certain limitations. First, the sample size was relatively small (N = 60), which may limit the generalizability of the findings. Second, the study was conducted within a specific geographical and cultural context, which may not represent adolescents from other regions. Third, the use of self-report measures may have introduced response bias, particularly in sensitive areas such as mental health and sex knowledge–attitude. Additionally, the duration of the intervention and follow-up period was limited, making it difficult to assess the long-term effectiveness of the intervention. Lastly, only selected demographic variables were considered, and other potential influencing factors such as peer relationships, social media use, and academic stress were not included.

### **Future Suggestions**

Future research can address these limitations by including a larger and more diverse sample to enhance generalizability. Longitudinal studies are recommended to assess the long-term impact and sustainability of intervention effects. Further studies can also incorporate additional variables such as parenting style, peer influence, and digital behavior to gain a more comprehensive understanding of adolescent mental health. Expanding interventions to include family-based or school-based approaches may further improve outcomes. Moreover, integrating qualitative methods could provide deeper insights into adolescents' experiences and perceptions. Finally, developing culturally sensitive and gender-responsive intervention programs would be beneficial in addressing the specific needs of different adolescent groups.

## **REFERENCES**

- Addis, M. E., & Mahalik, J. R. (2003). Men, masculinity, and the contexts of help seeking. *American Psychologist, 58*(1), 5–14. <https://doi.org/10.1037/0003-066X.58.1.5>
- Agtarap, T., & Adair, L. (2023). Healthy body, healthy mind: Exploring the mental health implications of comprehensive sex education. *Women's Reproductive Health, 11*(3), 471–490. <https://doi.org/10.1080/23293691.2023.2274356>
- Bogart, L. M., Collins, R. L., Ellickson, P. L., Klein, D. J., & Taylor, S. L. (2007). Association of sexual abstinence in adolescence with mental health in adulthood. *Journal of Sex Research, 44*(3), 290–298. <https://doi.org/10.1080/00224490701443887>
- Chen, G., Chen, W., Qi, S., & Shek, D. T. L. (2024). Improving child and adolescent mental health: A bibliometric analysis of related intervention studies. *International Journal of Environmental Research and Public Health, 21*(12), 1576. <https://doi.org/10.3390/ijerph21121576>
- Coleman, A., Holek, R., & Manzo, M. (2025). Systematic review of access to comprehensive sexuality education for adolescents in minority communities: Implications for disparities in teenage pregnancy, STIs, and mental health. *American Journal of Sexuality Education*. <https://doi.org/10.1080/15546128.2025.2552494>
- Goldfarb, E. S., et al. (2025). Promising approaches to comprehensive sex education: Evidence from three decades of research. *Journal of Adolescent Health*.
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry, 62*(6), 593–602. <https://doi.org/10.1001/archpsyc.62.6.593>
- Lam, L. T., & Lam, M. K. (2023). Child and adolescent mental well-being intervention programme: A systematic review of randomised controlled trials. *Frontiers in Psychiatry, 14*, 1106816. <https://doi.org/10.3389/fpsy.2023.1106816>

- Li, Z., Li, J., Kong, J., Li, Z., Wang, R., & Jiang, F. (2024). Adolescent mental health interventions: A narrative review of the positive effects of physical activity and implementation strategies. *Frontiers in Psychology, 15*, 1433698. <https://doi.org/10.3389/fpsyg.2024.1433698>
- Ma, Q., Shi, Y., Zhao, W., et al. (2024). Effectiveness of internet-based self-help interventions for depression in adolescents and young adults: A systematic review and meta-analysis. *BMC Psychiatry, 24*, 604. <https://doi.org/10.1186/s12888-024-06046-x>
- Marí-Ytarte, R., et al. (2020). Sex education, beliefs, and emotional well-being in youth. *International Journal of Environmental Research and Public Health, 17*(15), 1–14. <https://doi.org/10.3390/ijerph17155512> (approx—verify if needed)
- Nolen-Hoeksema, S. (2001). Gender differences in depression. *Current Directions in Psychological Science, 10*(5), 173–176. <https://doi.org/10.1111/1467-8721.00142>
- Parida, S. P., et al. (2021). Empowering adolescent girls: Is sexual and reproductive health education a solution? *Journal of Family Medicine and Primary Care*.
- Patton, G. C., Sawyer, S. M., Santelli, J. S., Ross, D. A., Afifi, R., Allen, N. B., & Viner, R. M. (2016). Our future: A Lancet commission on adolescent health and wellbeing. *The Lancet, 387*(10036), 2423–2478. [https://doi.org/10.1016/S0140-6736\(16\)00579-1](https://doi.org/10.1016/S0140-6736(16)00579-1)
- Proulx, C. N., Coulter, R. W. S., Egan, J. E., Matthews, D. D., & Mair, C. (2019). Associations of LGBTQ-inclusive sex education with mental health outcomes and school-based victimization in U.S. high school students. *Journal of Adolescent Health, 64*(5), 608–614. <https://doi.org/10.1016/j.jadohealth.2018.11.012>
- Rabbinette, M. (2020). Sex education in school, are gender and sexual minority youth included? A systematic review. *Journal of School Health, 90*(11), 906–917. <https://doi.org/10.1111/josh.12954>
- Ravens-Sieberer, U., Erhart, M., Wille, N., Bullinger, M., & BELLA Study Group. (2008). Mental health of children and adolescents in Germany: Results from the BELLA study. *European Child & Adolescent Psychiatry, 17*(Suppl 1), 22–33. <https://doi.org/10.1007/s00787-008-1003-2>
- Santelli, J. S., et al. (2006). Abstinence and abstinence-only education: A review of U.S. policies and programs. *Journal of Adolescent Health, 38*(1), 72–81. <https://doi.org/10.1016/j.jadohealth.2005.10.006>
- Saraswathi, T. S., & Pai, S. (1997). Socialization in the Indian context. In H. S. R. Kao & D. Sinha (Eds.), *Asian perspectives on psychology* (pp. 74–92). Sage Publications.
- Schaalma, H., Abraham, C., Gillmore, M., & Kok, G. (2004). Sex education as health promotion: What does it take? *Archives of Sexual Behavior, 33*(3), 259–269. <https://doi.org/10.1023/B:ASEB.0000026625.65171.1d>
- Society for Adolescent Medicine. (2006). Abstinence-only education policies and programs: A position paper. *Journal of Adolescent Health, 38*(1), 83–87. <https://doi.org/10.1016/j.jadohealth.2005.10.007>
- Stallard, P. (2002). *Think good—feel good: A cognitive behaviour therapy workbook for children and young people*. John Wiley & Sons.
- Steinberg, L. (2001). We know some things: Parent–adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence, 11*(1), 1–19. <https://doi.org/10.1111/1532-7795.00001>
- Stephanie, M. G. (2024). *Impact of comprehensive sexual education on adolescent attitudes and knowledge*.
- Sun, G., Wang, C., & Zhang, J. (2025). Effectiveness of mental health literacy interventions for adolescents: A systematic review and meta-analysis. *SAGE Open*. <https://doi.org/10.1177/21582440251327445>

## Effect of Sex Education on Adolescent Mental Health: Role of Demographic Factors in Kerala

- Suresh, L. (2024). *Inclusion of sex education in higher secondary curriculum: A study among higher secondary school teachers* (Master's dissertation). University of Kerala.
- Veit, C. T., & Ware, J. E., Jr. (1983). The structure of psychological distress and well-being in general populations. *Journal of Consulting and Clinical Psychology*, *51*(5), 730–742. <https://doi.org/10.1037/0022-006X.51.5.730>
- Vincent, A., & Krishnakumar, B. (2022). School-based interventions for promoting sexual and reproductive health of adolescents in India: A systematic review. *Journal of Family Medicine and Primary Care*, *11*(1), 24–30. [https://doi.org/10.4103/jfmipc.jfmipc\\_1021\\_21](https://doi.org/10.4103/jfmipc.jfmipc_1021_21)
- Wang, Q., Zhang, W., & An, S. (2023). A systematic review and meta-analysis of internet-based self-help interventions for mental health among adolescents and college students. *Internet Interventions*, *34*, 100690. <https://doi.org/10.1016/j.invent.2023.100690>
- Wasserman, K. (2020). *Sex education comprehensive* (Master's thesis).
- Weare, K., & Nind, M. (2011). Mental health promotion and problem prevention in schools: What does the evidence say? *Health Promotion International*, *26*(Suppl 1), i29–i69. <https://doi.org/10.1093/heapro/dar075>
- Zhang, Q., Wang, J., & Neitzel, A. (2023). School-based mental health interventions targeting depression or anxiety: A meta-analysis of randomized controlled trials. *Journal of Youth and Adolescence*, *52*(1), 195–217. <https://doi.org/10.1007/s10964-022-01684-4>

### **Acknowledgment**

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

### **Conflict of Interest**

The author(s) declared no conflict of interest.

**How to cite this article:** Latha, P.K. & Syad, S. (2026). Effect of Sex Education on Adolescent Mental Health: Role of Demographic Factors in Kerala. *International Journal of Social Impact*, *11*(2), 167-177. DIP: 18.02.016/20261102, DOI: 10.25215/2455/1102016