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Comparative Study to Assess the Level of Knowledge and Preparedness Regarding Puberty Between Girls and Boys at Panchayat Union Primary School, Koladi, Thiruverkadu, Chennai

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Abstract:

Introduction: Puberty is a natural stage of human development characterized by physical, emotional, and psychological changes. It typically occurs between 8–13 years in girls and 9–14 years in boys, with individual variations. Girls often receive structured education on menstruation and hygiene, whereas boys receive limited information about pubertal changes. **Aim of the study:** To assess and compare the knowledge and preparedness regarding puberty among girls and boys **Methodology:** A quantitative comparative study was conducted among 60 students (30 girls and 30 boys) aged 8–12 years at a Panchayat Union Primary School, Koladi, Thiruverkadu. Stratified sampling was used to ensure equal gender representation. Data were collected using a self-structured questionnaire. **Results:** Among girls, 90% had inadequate knowledge of puberty, while 100% of boys showed inadequate knowledge. Moderate preparedness was observed in 76.6% of girls and 66.6% of boys, while high preparedness was found in 6.6% of girls and 33.3% of boys. Mean knowledge scores were 6.03 ± 2.34 for girls and 4.93 ± 1.93 for boys. Mean preparedness scores were 4.93 ± 1.05 for girls and 6.07 ± 1.28 for boys. A moderate positive correlation between knowledge and preparedness was observed among girls ($r = 0.413$), whereas boys showed a weak negative correlation ($r = -0.318$). Significant associations were found between study variables and selected demographic factors. **Conclusion:** The study revealed poor knowledge regarding puberty among both boys and girls. Although boys demonstrated better preparedness, girls showed a positive relationship between knowledge and preparedness.

Keywords: Puberty, Knowledge, Preparedness, School Children, Gender Comparison.

INTRODUCTION

Puberty is a major developmental milestone marked by significant physical, emotional, and psychological changes that prepare adolescents for adulthood. It typically begins between ages 8–13 for girls and 9–14 for boys and is driven by hormonal changes such as estrogen and testosterone. Girls often experience more visible and structured puberty education due to menstruation, while boys may receive less guidance, leading to gaps in knowledge and preparedness. Individual experiences of puberty vary widely due to genetics, nutrition, health, socio-economic factors, and access to accurate information.

Cultural norms and taboos often limit open discussions about puberty, causing many adolescents to rely on peers or unreliable sources for information. Adequate knowledge about puberty is closely linked to better emotional well-being, self-esteem, and healthy coping strategies. Lack of awareness, on the other hand, can result in fear, confusion, embarrassment, and social anxiety. School-based education programs play a vital role in providing accurate, age-appropriate, and culturally sensitive information. Emotional changes during puberty affect boys and girls differently and require gender-sensitive support.

It Puberty is a critical developmental stage involving physical, emotional, and psychological changes, and inadequate preparedness during this period can lead to anxiety, confusion, and negative self-image among adolescents. Significant disparities exist between boys' and girls' knowledge of puberty, largely influenced by cultural taboos, gender norms, limited school-based education, and parental discomfort, particularly in developing countries like India.

While girls often receive some information related to menstruation—frequently surrounded by myths and stigma—boys are commonly excluded from structured education, leaving both genders vulnerable in different ways. Schools and parents play a vital role in providing accurate, age-appropriate, and gender-sensitive education, yet inconsistencies in curriculum, teacher preparedness, and home communication weaken this support system.

Parents and guardians play a crucial role in puberty education, yet discussions are often avoided due to discomfort, cultural norms, or lack of knowledge. This silence, combined with inconsistent school education, leaves adolescents confused, isolated, and dependent on unreliable sources of information. Addressing myths and misconceptions—such as viewing menstruation as a curse or associating pubertal changes with illness or deviance—is essential, as these beliefs contribute to stigma and anxiety. Evidence from structured teaching programs shows that accurate puberty education improves knowledge, reduces fear, and promotes healthy practices among adolescents. A comparative assessment of boys' and girls' knowledge and preparedness allow for gender-specific strategies that address menstruation management for girls and emotional expression and bodily awareness for boys. Therefore, a comprehensive, gender-sensitive, and culturally appropriate approach to puberty education is necessary to empower adolescents and inform educators, parents, and policymakers.

AIM OF THE STUDY

To assess and compare the knowledge and preparedness regarding puberty among girls and boys in a Panchayat Union Primary School, Koladi, Thiruverkadu , Chennai.

METHODOLOGY

A quantitative, non-experimental comparative research design was adopted to systematically assess and compare the knowledge and preparedness regarding puberty among boys and girls. Students aged 8–12 years who were able to understand English or Tamil and whose parents provided consent were included in the study.

Students who were on long-term leave, those with cognitive impairment, and girls who had already attained menarche were excluded from the study.

Tools:

The data collection tool consisted of Section A, which assessed socio-demographic variables; Section B, comprising structured questionnaires to evaluate puberty-related knowledge among boys and girls; and Section C, which included pubertal preparedness scales to assess preparedness for puberty separately among boys and girls.

Ethical Clearance:

Ethical clearance was obtained from the Institutional Ethics Committee of A.C.S Medical College and Hospital (No. 1274/2024/IEC/ACSMCH dated 05.07.2024), informed consent was obtained from parents along with oral assent from the participants, and assurance was given that confidentiality and privacy would be strictly maintained.

Data Collection Procedure:

Data collection was conducted over four days from 02.12.2024 to 05.12.2024 at Panchayat Union Primary School, Kolady, Thiruverkadu, Chennai, after obtaining official permission from the concerned authorities. Informed consent was obtained from the parents, and oral assent was obtained from the study participants prior to data collection. A total of 60 students (30 boys and 30 girls) aged 8–12 years were selected using a stratified sampling technique to ensure equal gender representation. The purpose of the study was clearly explained to both the participants and their parents. Data were collected using a self-structured questionnaire and a pubertal preparedness scale.

Data Analysis:

Data were analyzed using descriptive statistics, including mean and standard deviation, to summarize the results. Karl Pearson's correlation coefficient was used to examine the relationship between knowledge and preparedness, and inferential analysis was performed using the Chi-square test to assess associations with selected demographic variables.

RESULTS

Demographic variables included age, gender, parents' education and occupation, family type, and prior formal education on puberty. Participants were grouped by age (8–9, 8–10, 10–11, and 11–12 years) and gender (male/female). Parental education was categorized as undergraduate and above, secondary, primary, or no formal education, and occupation as self-employed,

government, private, or homemaker. Family type was classified as nuclear or joint, and prior puberty education as yes or no. Most participants were aged 8–10 years (girls: 53.3%; boys: 66.6%). Fathers' and mothers' education was mainly at the secondary level. Fathers were predominantly self-employed, while most mothers were homemakers (girls) or self-employed (boys). The majority belonged to nuclear families and had received prior formal education on puberty.

Table 1 shows that the majority of participants in both groups were aged 8–10 years (girls: 16, 53.3%; boys: 20, 66.6%), with all participants being of their respective gender (girls: 30, 100%; boys: 30, 100%). Fathers' education was predominantly at the secondary school level (girls: 14, 46.6%; boys: 12, 40%), and mothers' education was also mostly secondary (girls: 15, 50%; boys: 12, 40%). Most fathers were self-employed (girls: 23, 76.6%; boys: 18, 60%), while mothers were primarily homemakers among girls (14, 46.6%) and self-employed among boys (11, 36.6%). A majority of participants belonged to nuclear families (girls: 19, 63.3%; boys: 22, 73.3%) and had previously received formal education about puberty (girls: 17, 56.6%; boys: 19, 63.3%).

Table 2 presents the level of knowledge regarding puberty among girls, showing that the majority (27, 90%) had inadequate knowledge, 3 (10%) had moderately adequate knowledge, and none had adequate knowledge. Table 3 illustrates the level of preparedness, with 5 (16.6%) demonstrating low preparedness, 23 (76.6%) moderate preparedness, and 2 (6.6%) high preparedness. As shown in Table 4, the mean scores for knowledge and preparedness were 6.03 ± 2.34 and 4.93 ± 1.05, respectively, with median scores of 6 and 5. The mean percentages were 30.17% (range: 3–14) for knowledge and 49.33% (range: 3–7) for preparedness.

Table 5 shows that all boys (30, 100%) had inadequate knowledge regarding puberty, with none demonstrating moderately adequate or adequate knowledge. Table 6 indicates that 20 (66.6%) boys had moderate preparedness, 10 (33.3%) had high preparedness, and none had low preparedness. As shown in Table 7, the mean scores for knowledge and preparedness were 4.93 ± 1.93 and 6.07 ± 1.28, respectively, with median scores of 5 and 6. The mean percentages were 24.67% (range: 2–8) for knowledge and 60.67% (range: 4–8) for preparedness.

Table 8 shows that the correlation between knowledge and preparedness regarding puberty among girls was r = 0.413, indicating a moderate positive relationship, and supporting the research hypothesis (RH1). In contrast, Table 9 shows that the correlation among boys was r = –0.318, indicating a weak negative relationship between knowledge and preparedness.

The chi-square analysis revealed that among girls, type of family was significantly associated with knowledge about puberty, while other demographic variables showed no significant association. Mother's occupation and prior formal education about puberty were significantly associated with girls' level of preparedness, whereas the remaining variables were not significant. Among boys, none of the demographic variables were significantly associated with knowledge about puberty. However, age, parental education, parental occupation, type of family, and prior formal education about puberty were significantly associated with their level of preparedness. Therefore, RH2 was retained.

DISCUSSION

The present study examined knowledge and preparedness regarding puberty among school-aged girls and boys aged 8–12 years, along with correlations between these factors and associations with selected demographic variables. Among girls, 90% had inadequate knowledge, 10% had moderately adequate knowledge, and none had adequate knowledge. Preparedness levels were moderate in 76.6%, low in 16.6%, and high in 6.6% (mean knowledge = 6.03 ± 2.34; preparedness = 4.93 ± 1.05). Among boys, all participants demonstrated inadequate knowledge, while 66.6% had moderate preparedness and 33.3% high preparedness (mean knowledge = 4.93 ± 1.93; preparedness = 6.07 ± 1.28). Correlation analysis revealed a moderately positive relationship between knowledge and preparedness in girls (r = 0.413) but a weak negative correlation in boys (r = –0.318), suggesting that higher self-reported preparedness does not necessarily reflect accurate knowledge.

Regarding demographic factors, girls' knowledge was significantly associated with type of family ($\chi^2 = 5.76$, $p = 0.0164$), and preparedness with mother's occupation ($\chi^2 = 15.87$, $p = 0.014$) and prior formal education ($\chi^2 = 8.77$, $p = 0.0125$). Boys' preparedness was significantly associated with age, parental education and occupation, family type, and prior formal education ($p < 0.0001$). These findings underscore the influence of socio-demographic factors and highlight the need for gender-sensitive, family-centered puberty education to promote accurate knowledge, emotional resilience, and confidence among adolescents.

Table 1: Demographic variables among girls and boys of 8-12 years school aged students. N=60

Demographic Variables	Girls		Boys	
	F	%	F	%
AGE				
8-9 Years	1	3.3	2	6.66
8-10 Years	16	53.3	20	66.6
10-11 Years	10	33.3	7	23.3
11-12 Years	3	10	1	3.33
GENDER				
Male	-	-	30	100
Female	30	100	-	-
EDUCATION OF FATHER				
Undergraduate and above	4	13.3	4	13.3
Secondary school	14	46.6	12	40
Primary school	10	33.3	8	26.6
No formal education	2	6.66	6	20
EDUCATION OF MOTHER				
Undergraduate and above	8	26.6	4	13.3
Secondary school	15	50	6	20
Primary school	7	23.3	12	40
No formal education	-	-	8	26.6
OCCUPATION OF FATHER				
Self employed	23	76.6	18	60
Government employee	1	3.33	5	16.6
Private employee	2	6.66	7	23.3
Home maker	4	13.3	-	-
OCCUPATION OF MOTHER				
Self employed	9	30	11	36.6
Government employee	4	13.3	3	10
Private employee	3	10	6	20
Home maker	14	46.6	10	33.3
TYPE OF FAMILY				
Nuclear	19	63.3	22	73.3
Joint	11	36.6	8	26.6
HAVE YOU RECEIVED ANY FORMAL EDUCATION ABOUT PUBERTY?				
Yes	13	43.3	19	63.3
No	17	56.6	11	36.6

Table 2: Comparison of Knowledge and Preparedness Levels. N=60

Parameter	Category	Girls n (%)	Boys n (%)
Level of Knowledge	Inadequate (0–8)	27 (90.0)	30 (100)
	Moderately adequate (9–14)	3 (10.0)	0 (0)
	Adequate (15–20)	0 (0)	0 (0)
Level of Preparedness	Low (0–3)	5 (16.6)	0 (0)
	Moderate (4–6)	23 (76.6)	20 (66.6)
	High (7–10)	2 (6.6)	10 (33.3)
Knowledge Score	Mean ± SD	6.03 ± 2.34	4.93 ± 1.93
	Median	6	5
	Min–Max	3–14	2–8
	Mean %	30.17	24.67
Preparedness Score	Mean ± SD	4.93 ± 1.05	6.07 ± 1.28
	Median	5	6
	Min–Max	3–7	4–8
	Mean %	49.33	60.67

Table 3: Correlation of knowledge and preparedness. N= 60

Group	Level of Knowledge vs. Level of Preparedness (r)
Girls	0.413
Boys	–0.318

CONCLUSION

The study highlights significant gaps in knowledge and varying levels of preparedness regarding puberty among boys and girls aged 8–12 years, with girls showing slightly better awareness and boys demonstrating higher preparedness. Key socio-demographic factors, including type of family, parental education, and prior formal education, were significantly associated with knowledge and preparedness. These findings underscore the need for structured, age-appropriate, and gender-sensitive puberty education in schools, coupled with parental involvement, to promote a confident and informed transition into adolescence.

RECOMMENDATION

Based on the study findings, school health programs should provide structured, age-appropriate, and gender-sensitive education on puberty for both boys and girls. Health professionals, especially school nurses, should be trained to deliver effective puberty education. Future research should involve larger, more diverse samples and explore adolescents' attitudes, practices, and experiences regarding puberty. Longitudinal and mixed-method studies are recommended to assess the long-term impact of puberty education on adolescent well-being and preparedness.

REFERENCES

1. Msovela, J., Shija, A. E., Ntuyeko, H., Imeda, C., Mugula, A., Mgina, E., & Egidio, A. A. (2025). Puberty and menstruation knowledge, information sources, and needs among secondary school adolescent girls and boys in Kibaha, Tanzania. PLOS Global Public Health, 3(3), e0004176. https://doi.org/10.1371/journal.pgph.0004176
2. Nazarpour, S., Arabi, Z., Simbar, M., Keshavarz, Z., & Baghestani, A. R. (2020). A comparison between skills-based education and lecture-based education on female adolescents' knowledge, attitude and practice about health in puberty: A randomized trial study. Advances in Nursing and Midwifery, 29(3), 15–23. https://doi.org/10.29252/anm-29565
3. Bustamante, L. M., & Provázková Stolinská, D. (2019). Cognitive and informative level of knowledge about puberty among primary school pupils in selected countries. The European Proceedings of Social & Behavioural Sciences. https://doi.org/10.15405/epiceepsy.20111.26
4. Bunoti, S. N., Tumwesigye, N. M., & Atuyambe, L. (2022). Awareness of pubertal body changes among primary school children aged 10–14 years in Eastern Uganda: Challenges and opportunities. Reproductive Health, 19, 180. https://doi.org/10.1186/s12978-022-01466-y
5. Coast, E., Lattof, S. R., & Strong, J. (2019). Puberty and menstruation knowledge among young adolescents in low- and middle-income countries: A scoping review. International Journal of Public Health, 64, 293–304. https://doi.org/10.1007/s00038-019-01209-0
6. Dolan, C. S., Ryus, C., et al. (2014). A blind spot in girls' education: Menarche and its webs of exclusion in Ghana. Reproductive Health, 11(1), 24. https://www.gage.odi.org/wp-content/uploads/2018/12/Menstruation-RER-WEB.pdf
7. Rembeck, G. I., & Gunnarsson, R. K. (2004). Improving pre- and post-menarcheal 12-year-old girls' attitudes via puberty preparedness programs. Journal of Family and Reproductive Health, 10, 122–128.
8. Future Academy. (2019). Description of knowledge about puberty among primary school pupils in Czech Republic, Spain and China. The European Proceedings of Social & Behavioural Sciences, 44, 458–467. https://doi.org/10.15405/epiceepsy.20111.26
9. Zeidner, M., & [Colleague]. (2025). Puberty through their lens: Insights from youth around the world. SCIE Publishing. https://www.sciepublish.com/article/pii/519
10. BMC Public Health. (2024). Impacts of a puberty and period education intervention among girls aged 9–12. BMC Public Health. https://doi.org/10.1186/s12889-024-21167-4
11. Journal of Adolescent Health. (2021). Early puberty is associated with higher academic achievement in boys and girls. Journal of Adolescent Health. https://www.jahonline.org/article/S1054-139X(21)00068-9/fulltext
12. Journal of Education and Health Promotion. (2019). Knowledge, attitudes, and coping strategies toward puberty among adolescent girls. Journal of Education and Health Promotion, 8, Article 176. https://journals.lww.com/jehp/fulltext/2019/08000/knowledge%2C_attitudes%2C_and_coping_strategies.176.aspx
13. Mendle, J., Harden, K. P., Brooks-Gunn, J., & Graber, J. A. (2014). Individual differences in boys' and girls' timing and tempo of puberty. Developmental Psychology, 50(12), 2715–2726. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3928626/
14. Kågesten, A. E., Pinandari, A. W., Page, A., et al. (2021). Sexual wellbeing in early adolescence: A cross-sectional assessment among girls and boys in urban Indonesia. Reproductive Health, 18, 153. https://doi.org/10.1186/s12978-021-01199-4.
15. Ziapour, A., NeJhaddadgar, N., Mardi, A., Tavafian, S. S., & Sharma, M. (2019). Educational needs assessment among 10–14-year-old girls about puberty adolescent health of Ardebil. Archives of Public Health, 77, 38. https://doi.org/10.1186/s13690-019-0388-3.
16. Hagikhani Golchin, N. A., Hamzehgardeshi, Z., & Fakhri, M. (2012). The experience of puberty in Iranian adolescent girls: A qualitative content analysis. BMC Public Health, 12, 698.
17. BMC Public Health. (2020). The effect of teaching puberty health concepts based on the Health Belief Model for improving perceived body image of female adolescents. BMC Public Health, 20, 1482. https://doi.org/10.1186/s12889-020-08482-2.
18. Discover Social Science and Health. (2024). Knowledge on adolescent and reproductive health among secondary school students in Khulna City, Bangladesh. Discover Social Science and Health.https://doi.org/10.1007/s44155-024-00117-w.
19. Medical ADR Publications. (2023). Exploring knowledge and perceptions of school adolescents regarding pubertal changes and reproductive health. Indian Journal of Youth and Adolescent Health.

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