



Perceived Stress and Coping Strategies among Adolescent Girls on Pubertal Changes in a Selected Schools, Mangaluru

Sumitha Fernandes¹ Roselin Zacharias¹ Wilma Shalini Noronha² Deepthi Gladsy Dsouza²

¹ Department of Obstetrics and Gynecologic Nursing, Rajiv Gandhi University of Health Sciences, Father Muller College of Nursing, Mangaluru, Karnataka, India

² Department of Child Health Nursing, Department of Obstetrics and Gynaecology Nursing, Father Muller College of Nursing, Mangaluru, Karnataka, India

Address for correspondence Wilma Shalini Noronha, M.Sc., Department of Child Health Nursing, Father Muller College of Nursing, Mangaluru, Karnataka, India (e-mail: sumithaferns@gmail.com).

J Health Allied Sci^{NU}

Abstract

Background Adolescence represents a pivotal stage marked by various physical, psychological-emotional, and social transformations. Among these changes, puberty stands out as a significant characterized by hormonal shifts, physical alterations, and emotional fluctuations.

Objectives The present study was aimed to assess perceived stress and coping strategies and find the relationship among adolescent girls on pubertal changes in a selected school in Mangaluru.

Materials and Methods The study adopted the descriptive survey design among 205 adolescent girls recruited by using convenient sampling technique. Data were collected using self-developed stress rating scale and standardized brief-COPE.

Results The study findings showed that the majority of the adolescent girls attained menarche at the age of 12 to 13 years and 72.7% of the adolescent girls perceived less level of stress, while 98% of the adolescent girls employed ineffective coping strategies on pubertal changes. The study findings also found that there was a moderate positive correlation between perceived stress and coping strategies ($r = 0.480$) among adolescent girls on pubertal changes.

Conclusion The study concluded that adolescent girls have less stress on pubertal changes and employ ineffective coping strategies during pubertal changes.

Keywords

- ▶ adolescent
- ▶ coping
- ▶ perceived
- ▶ pubertal changes
- ▶ strategies
- ▶ stress

Introduction

Growing up involves a period of uncertainty and struggle. Young people frequently find it challenging to completely understand the changes.¹ Adolescence comes from the Latin word *adolescere*, which means to come to maturity. It is a transitional stage that exists between childhood and adulthood. The significant changes that are equally thrilling and frightening occur physically, emotionally, psycho-

logically, and socially during this period of transition.² The number of adolescents worldwide has increased to 1.3 billion, accounting for 16% of the global population. India has the largest adolescent population in the world, 253 million, and every fifth person is between the ages of 10 and 19 years. Adolescents, who are classified by the United Nations as being between the ages of 10 and 19 years go through a period of transition between childhood and adulthood.³

DOI <https://doi.org/10.1055/s-0044-1792152>.
ISSN 2582-4287.

© 2024. The Author(s).

This is an open access article published by Thieme under the terms of the Creative Commons Attribution License, permitting unrestricted use, distribution, and reproduction so long as the original work is properly cited. (<https://creativecommons.org/licenses/by/4.0/>)

Thieme Medical and Scientific Publishers Pvt. Ltd., A-12, 2nd Floor, Sector 2, Noida-201301 UP, India

Puberty is the term used to describe the maturational, hormonal, and development process, which typically starts between the ages of 8 and 14 years.¹ A female's reproductive life reaches a milestone when her period starts. It brings about significant physical and psychological changes, but the most notable developmental milestone is early puberty.⁴ Puberty is associated with an acceleration in the development of undesirable behaviors. During this period, the girls experience higher stress and psychological issues.⁵ Research has shown that 40 to 45% of adolescent girls are mostly affected by psychological stress and emotional changes due to menstrual problems. The physiological process of maturation is still regarded as an unclean state. Girls are excluded from activities of daily life due to these misconceptions, and several traditions and beliefs make the girls vulnerable.⁶

The girls in their adolescence will worry more about their physical changes, which will have psychological effects and they will be more stressed and develop undesirable traits like depression, substance addiction, poor academic performance, and decreased life satisfaction.⁷

The transitional stressors could be more intense for kids who have not mastered good coping mechanisms. Coping mechanisms have an impact on how people manage pressures in their lives, both positively and negatively. Concerning timing and gender, pubertal changes have varying psychological effects on teenagers. Girls who reach puberty sooner may face emotions of poor self-esteem and be too self-conscious about their bodies since they have not had enough time to develop adaptive coping mechanisms.⁵

Adolescent girls who experience puberty sooner than their peers have a higher stress level as they need to adjust to the new physical and mental changes. The use of coping mechanisms can help or hinder healthy adolescent adaptation by acting as mediators of stress. The ability to cope refers to one's ability to deal with and control life stresses.⁵ If parents help their daughters once they reach the period of early development, the distress brought on by early menses can be lessened. Counseling and good parenting can help these "young girls" during this time. Lifestyle modifications like exercise, outdoor activities, and a healthy diet can be helpful.⁸

It is widely acknowledged that adolescence is a time of fast development and transition that can be stressful and challenging and necessitate the use of all available resources. Peer pressure to conform, which frequently involves disrespecting adult authority and even posing major health hazards, is something that adolescents must deal with. Many experience severe anxiety related to their identities. Slowly maturing children require encouragement and reassurance that they are not odd and should simply wait till the appropriate time to develop the traits.² According to research, girls who have positive attitudes and information about puberty are better prepared to maintain and improve their physical health as well as gain more experience navigating the challenges of puberty.⁹ Adolescents may adjust to their surroundings more successfully if they have the coping mechanisms to deal with different pubertal changes.¹

Materials and Method

A descriptive survey design was adopted, and the study setting was higher primary schools in Mangaluru. The sample size was calculated based on assessing the stress and coping strategies regarding pubertal changes among female school children conducted by Khwairakpam and Andrew.² The number of samples was determined using the method $n = Z^2 \alpha p (1-p) / e^2$. Here n represents sample size, Z is the value which corresponds to the desired confidence level, p is the population proportion (usually 0.5), and e is the desired margin of error.

A sample of 205 was drawn with a research power of 74%, 95% confidence level, and an α error of 0.06. Prior to the data collection, ethical permission was obtained from the institutional ethics committee. According to the geographical approximation, three schools were selected. The three schools belonged to the state boards of higher primary English medium, a private-aided category with boys and girls, located in urban Mangaluru. A written permission from the school authority was obtained to conduct the study. A total of 600 girls in the age group of 9 to 13 years were screened to identify the occurrence of menarche. The screening tool consists of six items: age in years, class, division, roll number, and whether they have attained menarche and their age if they have. From the selected three schools, 250 girls attained menarche. So the investigator selected 205 students from classes 5 to 7 who met the inclusion criteria by using a convenient sampling technique. Consent from the participants and parents was taken before the study. Confidentiality was assured to all participants by taking down the roll number.

Baseline proforma consisted of nine items, which included age, type of family, currently staying with, number of siblings, religion, birth order, age of attainment of menarche, prior information on menarche, through whom information was received, and education status of the parents.

The stress rating scale was constructed by the investigator as a 4-point rating scale. The ratings included not at all stressed, less stressed, moderately stressed, and highly stressed. The scale consisted of 30 items encompassing with 5 events or categories: physical, psychological, emotional, social, and academic. A score of 0 to 30 was considered as not at all stressed, 31 to 60 as less stressed, 61 to 90 as moderately stressed, and 90 to 120 as highly stressed. To ensure content validity, it was reviewed by seven experts from the fields of obstetrics and gynecology, pediatrics, mental health nursing, and psychology. The reliability was computed using Spearman's rank correlation and was found to be 0.93. So, the investigator found the tool to be reliable.

Brief-COPE is a standardized and reliable tool used to assess the coping strategies among adolescent girls on pubertal changes.¹⁰ It contains a 28-item self-report questionnaire that includes the emotion of the following: area-focused coping, problem-focused strategies, and dysfunctional strategies. It is designed to measure both effective and ineffective strategies in response to stressful life events. Utilizing a 4-point Likert scale with options including not at all, a little bit, medium amount, and a lot, its reliability was computed by using Cronbach's α , which yielded values ranging from 0.72 to

0.82. A score between 28 and 78 was considered ineffective coping strategies, while a score between 79 and 112 was considered effective coping strategies.

Data were analyzed using SPSS Statistics version 16. To evaluate the data, both inferential “Chi-Squared test and Pearson’s correlation test” and descriptive (frequency, percentage, mean, and standard deviation) statistics were applied. The level of significance was considered at 0.05.

Results

Among 205 adolescent girls, 48.8% ($n = 100$) were aged 11 to 12 years. In terms of family structure, 67.8% ($n = 139$) belonged to nuclear families and 95.1% ($n = 195$) of the respondents resided with family members. Analysis of sibling composition showed that 36.6% ($n = 75$) had brothers, while 53.2% ($n = 109$) belonged to the first birth order. Religion-wise analysis showed that the majority of the adolescent girls ($n = 126$, 61.5%) identified as Hindu. Approximately 76.1% ($n = 156$) attained menarche at the age of 12 to 13 years and 96.6% ($n = 198$) of them received information on menarche, with the majority (91.2%, $n = 187$) having parents as the primary source of information.

Data presented in ►Table 1 illustrate the perceived stress level of adolescent girls regarding pubertal changes. Results indicated that out of 205 adolescent girls who attained menarche, the mean perceived stress level was 53.79 ± 1.31 and the mean percentage was 55.45%, which showed less level of stress. Further analysis revealed that 72.7% (149) of the adolescent girls perceived a low or less level of stress, while 25.9% experienced a moderate level of stress. Additionally, 1% ($n = 2$) of the adolescent girls reported feeling highly stressed and 0.5% ($n = 1$) of them stated they were not stressed at all about pubertal changes.

►Table 2 shows that the perceived stress score was the highest (53.73%) in psychological events (53.73%), followed

by physical events (52.51%), academic events (51.12%), social events (50.07%), and emotional events (48.1%).

The study findings show that out of 205 adolescent girls, 98% ($n = 201$) of the girls were employing ineffective coping strategies to cope PUBERTAL CHANGES, while 2% ($n = 4$) were utilizing effective coping strategies.

The correlation between perceived stress and coping strategies among adolescent girls on pubertal changes is shown in ►Fig. 1. The results indicated an r -value of 0.480, with a p -value of 0.001. These findings suggest a moderate positive correlation between perceived stress and coping strategies among adolescent girls experiencing pubertal changes.

The findings of the study showed that there was no significant association between perceived stress among adolescent girls on pubertal changes and sociodemographic variables, except for age of attainment of menarche ($p = 0.004$) and there was no significant association between coping strategies among adolescent girls on pubertal changes and sociodemographic variables except for age of attainment of menarche ($p = 0.004$).

Discussion

The study revealed that the majority (72.7%) of adolescent girls perceived less level of stress on pubertal changes, while 25.9% perceived a moderate level of stress, 1% perceived high-level stress, and 0.5% were not at all stressed. The findings of the present study are supported by a descriptive, cross-sectional study conducted at AIMS, New Delhi, on puberty, a stressful phase of transition for girls. In the study, the majority of adolescent girls (71.56%) were not stressed due to pubertal events, 24.77% experienced mild stress, and 24.77% experienced moderate stress on pubertal events.⁶

According to the domain, the present study revealed that the highest perceived stress was noted in psychological

Table 1 Perceived stress level of adolescent girls on pubertal changes ($n = 205$)

Level of stress	Grading	Frequency	%	Mean \pm SD	Mean %
Not at all stressed	0–30	1	0.5	53.79 \pm 1.31	55.45
Less stressed	31–60	149	72.7		
Moderately stressed	61–90	53	25.9		
Highly stressed	90–120	2	1.0		

Abbreviation: SD, standard deviation.

Table 2 Domain-wise perceived stress of adolescent girls on pubertal changes ($n = 205$)

Domains	Maximum score	Mean \pm SD	Mean %
Physical event	27	14.18 \pm 3.94	52.51
Psychological event	23	12.36 \pm 3.71	53.73
Emotional event	20	9.62 \pm 3.11	48.1
Social event	27	13.52 \pm 3.99	50.07
Academic event	8	4.09 \pm 1.70	51.12

Abbreviation: SD, standard deviation.

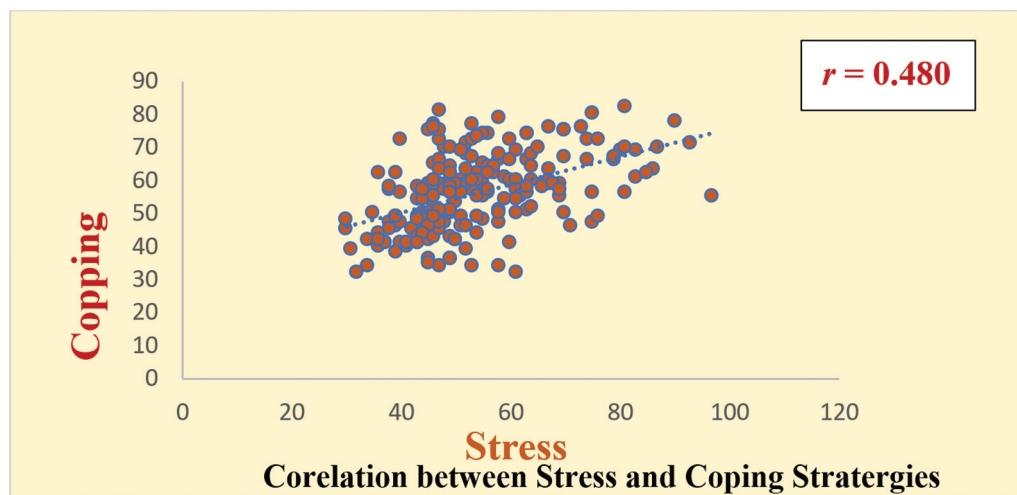


Fig. 1 Scatter diagram showing a correlation between perceived stress and coping strategies of adolescent girls on pubertal changes.

events (53.5%), followed by physical events (52.5%), academic events (52.12%), social events (51.07%), and emotional events (48.1%). A study by Jaspreet et al revealed that out of 60 adolescent girls, 51.6% had a high level of psychosocial stress.⁷ Another similar study by Gadade et al conducted in Pune found that 46.6% of adolescent girls experienced moderate stress physiologically and psychologically, 43.3% had mild stress physiologically and psychologically, and 10.1% of adolescent girls experienced severe stress physiologically and psychologically.¹¹

The findings of the present study showed that the majority (50.2%) of adolescent girls adopted medium coping strategies, and 49.8% adopted little bit coping strategies on pubertal changes. In contrast, a study conducted in the Udupi taluk in Karnataka revealed that the majority of adolescents (52.4%) who attained menarche had adaptive coping patterns and 47.6% had maladaptive coping patterns regarding pubertal changes.⁸

The present study revealed a moderate positive correlation ($r = 0.480$, $p = 0.001$) between perceived stress and coping strategies among adolescents on pubertal changes. The findings were supported by a similar study conducted at Dharan, Nepal, on perceived stress and coping strategies regarding pubertal changes among adolescent girls, which showed that a positive correlation between perceived stress and coping strategies ($r = 0.454$, $p = 0.001$).⁹

Conclusion

The study concluded that adolescent girls have less stress on pubertal changes and employ ineffective coping strategies during pubertal changes. The study findings revealed a moderate positive correlation between perceived stress and coping strategies among adolescent girls experiencing pubertal changes, along with a significant association between stress and coping strategies with selected demographic variables, such as the age of attainment of menarche ($p = 0.004$), which is less than 0.05. The research serves as an eye-opener, highlighting the need for further

investigation into perceived stress and coping strategies among adolescent girls undergoing pubertal changes. A qualitative approach is recommended to understand better the stress and coping mechanisms adopted by adolescent girls during this critical period.

Conflict of Interest

None declared.

References

- 1 Deo Ds, Ch G. Perceptions and practices regarding menstruation: a comparative study in urban and rural adolescent girls. *Indian J Community Med* 2005;30(01):33
- 2 Khwairakpam J, Andrews A. Assessing the stress & coping strategies regarding pubertal changes among female school children in Bangalore. *Int J Health Sci Res* 2019;9(12):143–148
- 3 Jolly KM, Babu M. Coping strategies of preadolescent girls with early puberty. *Int J Curr Res Acad Rev* 2018;6(08):62–66
- 4 Khan A, Goya SR, Bhawar R. Menstrual practice and reproductive problem: a study of adolescent girls in Rajasthan. *J Health Manag* 2005;7(01):91–107
- 5 Sinha K. Now, girls hit puberty at 10 years. *The Times of India*. 2012. Accessed March 30, 2024 at: <https://timesofindia.indiatimes.com/india/Now-girls-hit-puberty-at-10-years/article-show/12873349.cms>
- 6 Rawat R, Sagar R, Deepika M, et al. Puberty: a stressful phase of transition for girls. *IOSR J Nurs Health Sci* 2015;4(05):7–12
- 7 Jaspreet M, Sodhi K, Walia G, et al. A descriptive study to assess perceived psychosocial stress among adolescent girls regarding pubertal changes in selected schools of Doraha, Punjab. *IOSR J Nurs Health Sci* 2017;6:12–14
- 8 Sequeira DF, D'Souza A, Sanatombi Devi E. Anxiety & coping patterns regarding pubertal changes among pre-adolescent girls of Udupi Taluk, Karnataka. *J Health Allied Sci* 2016;6(01):33–38
- 9 Shrestha B, Karna BK, Chaudhary R. Perceived stress and coping strategies regarding pubertal changes among adolescent school girls of Dharan, Nepal. *Cliff* 2018;1:50–55
- 10 Carver CS. You want to measure coping but your protocol's too long: consider the brief COPE. *Int J Behav Med* 1997;4(01):92–100
- 11 Gadade M, Patidar B, Chandane P, et al. A study to assess stress experiences during menstruation among school-going adolescent girls in selected schools of Pune city. *J Recent Sci Res* 2020;8(09): 20088–20090