

## Original Research Article

# Correlates of psychological well-being of school going teenager girls in Chandigarh, India

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## ABSTRACT

**Background:** Adolescence is a period characterized by significant challenges to mental health as they may experience a multitude of unfamiliar changes in their lives, accompanied by stress and anxiety. Hence, this life stage demands additional care and attention to foster a healthy transition into adulthood. Objective of the study is to find the correlates of psychological well-being of school going adolescent girls of Chandigarh.

**Methods:** cross-sectional study, conducted among 168, school going adolescent girls within the age group of 13 to 19 years. Descriptive and analytical statistics were utilized were used to find the correlation between DAS with other variables.

**Results:** Out of 168 (N) participants, 49.5% had depressive symptoms, 58.9% participants suffered from anxiety and 28.6% suffered from stress. 22.6% suffered from severe and 1.2% had extremely severe anxiety issues. Chi-square analysis revealed that relationship with family, occupation of parents and ages of respondents have strong significant correlation with DAS (Depression, Anxiety and Stress). High anxiety levels were seen in 13-15 years of age group. Age and academic pressure came out be a significant risk factor for DAS among girls. The Logistic regression analysis shows that the demographic characters do not have a significant influence on the mental health of adolescents.

**Conclusions:** Study suggests need of open-healthy communication, a balanced lifestyle, positive peer relationships, strong family support, and self-care as key measures for fostering good psychological well-being of school going teenager girls. Investigations can be done to find the risk factors affecting at emotional level.

**Keywords:** Academic pressure, Adolescent health, DASS-21, Emotional well-being, Mental health

## INTRODUCTION

Psychosocial health issues in teenagers and young adults are often overlooked but constitute a significant public health concern. According to the United Nations, adolescence spans from ages 10 to 19, representing a crucial life stage shaping long-term well-being.<sup>1</sup> Adolescents grapple with meeting parental and societal expectations, navigating peer pressure, and transitioning from childhood to adulthood. These challenges may lead to feelings of inadequacy, social isolation, self-harm tendencies, difficulties in forming relationships, and an

elevated risk of mental health issues. The cumulative effects may drive teens toward harmful lifestyle choices, such as alcohol and substance abuse. Therefore, prioritizing the mental well-being of teenagers is vital for the nation's overall health and future.

As per the World Health Organization's November 2021 global data, mental disorders affect approximately one in seven individuals aged 10-19, contributing to 13% of the overall burden of disease within this age bracket. Notably, depression, anxiety, and behavioral disorders are significant contributors to illness and disability among adolescents. Alarming, suicide stands as the fourth

leading cause of mortality in the 15-29 age groups.<sup>2</sup> Similarly, UNICEF's May-2023 data reveals that anxiety and depression disorders constitute approximately 40% of mental health issues among adolescents aged 10-19. These are followed by conduct disorders at 20.1% and attention-deficit hyperactivity disorder at 19.5%.<sup>3</sup>

The adolescent well-being framework (AWF) is a joint initiative by the World Health Organization (WHO), the partnership for maternal, newborn, and child health (PMNCH), and the United Nations H6+ Technical Working Group on Adolescent Health and Well-Being. It outlines adolescent well-being as having the essential support, confidence, and resources to thrive in environments marked by secure and healthy relationships, enabling them to realize their full potential and rights".<sup>4</sup>

A broad spectrum of psychosocial health issues including academic pressure, emotional and behavioral problems, and health-risk behaviors are available.<sup>5-7</sup>

A study in Chandigarh revealed that 60% of health complaints in adolescents were psychological.<sup>8</sup> among school-going adolescents, the prevalence of Depression, Anxiety, and Stress (DAS) was 65.53%, 80.85%, and 47.02%, respectively. Additionally, both depression and anxiety were observed in 57.65% of cases.<sup>9</sup> Study conducted among adolescent girls in western villages of Punjab reported that family environment has a major impact on the mental wellbeing of girls.<sup>10</sup> An overall prevalence of psycho-social problems was found to be 17.9% among rural and urban male adolescents.<sup>11</sup> In a study conducted in Chandigarh and Himachal Pradesh, feeling of nervousness reported by 181 (73.3%) adolescent students followed by feeling of despair felt by 173 (70.0%) students were two major psychological problems reported by students.<sup>12</sup> Similarly study done in India, on medical student showed that half of the respondents were affected by depression (51.3%) anxiety (66.9%) and stress (53%) The females had higher prevalence as compared to males.<sup>13</sup>

Differences in thinking patterns and psychological development between males and females may lead to variations in the prevalence and expression of anxiety and depression. Studies indicate that girls, by the age of 13-15 years, experience depressive symptoms twice as often as boys.<sup>14</sup> In a 2020 analysis of sub-threshold depression among adolescent boys and girls in Chile, it was discovered that females exhibited a higher prevalence of both sub-threshold depressive episodes (SDE) and major depressive episodes (MDE).<sup>15</sup> Study in Chandigarh in 2022 among school going adolescents in rural area also depicted that female and younger adolescents had significantly higher SMQ (Short Mood and Feelings Questionnaire) scores than male and older adolescents.<sup>16</sup>

The COVID-19 pandemic, in addition to daily challenges, has led to unprecedented circumstances such as extended confinement and lifestyle changes for people of all ages.

Adolescents, in particular, have experienced increased stress, anxiety, depression, sleep disorders, irritability, substance abuse, and behavioral changes due to lockdown measures. This study seeks to explore the prevalence and determinants of psychological well-being in adolescent girls, focusing specifically on issues like depression, anxiety, and stress. The aim is to understand how socio-economic conditions and other factors influence the psychological well-being of teenage girls.

## METHODS

### *Study area and study period*

The study took place in both government and private schools in Chandigarh, India, which serves as the joint capital for Punjab and Haryana. Chandigarh is a Union Territory with 115 government schools and 79 private schools. Approval for data collection was granted by the Department of Education, Chandigarh Administration. The study was conducted between February 2023 and July 2023.

### *Sample design*

A cross-sectional study utilized a stratified multistage random sampling technique. In the first stage the sample was divided into four strata i.e. classes IX, X, XI, and XII from the two approved schools. In the second step/level the sample from these strata were selected randomly

### *Study population*

The study was carried out within the age group of 13 to 19 years, focusing on adolescent girls who are currently attending school.

### *Inclusion criteria*

School going adolescent girls within the age group of 13-19 years were included.

### *Exclusion criteria*

The girls above or below the specified age group, married girls (as they may have certain other issues) and the incomplete questionnaires were excluded.

### *Sample size and sample design*

Sample size was calculated by using the following formula with approximation for large population:

$$n_{opt} = \frac{Z^2(1-\alpha/2) P(1-P)}{e^2}$$

Where, P = Anticipated population proportion, 1 -  $\alpha$  = Confidence Coefficient,  $\hat{I}$  = Relative precision, and Z (.) is the value of standard normal variate.

On the basis of 60% of the prevalence of health issues as psychological and behavioral in nature among the adolescents of Chandigarh as the most important outcome parameter reported in existing literature<sup>8</sup> and assuming 90% confidence coefficient and 10% relative precision, sample size comes out to be 168 teenage girls aged 13-19 years.

**Study tool and procedure:** A self-administered pre validated questionnaire, which comprised self-structured questions, Depression Anxiety and Stress Scale-21 (DASS-21) and socio-demographic Performa, was used to gather the data.

### **DASS-21**

Created by Lovibond, S.H. and Lovibond, P.F. in 1995, DASS-21 is a concise version of the DASS-42 questionnaire. It assesses an individual's levels of Depression, Anxiety, and Stress by presenting dimensional situations from day-to-day life. The questionnaire consists of three main categories: Depression, Anxiety, and Stress, each further divided into five sub-dimensional categories (mild, moderate, severe, and extremely severe).<sup>17</sup>

#### ***Each of the three DASS-21 scales comprises 7 items***

**Depression:** dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest/involvement, anhedonia, and inertia (Items 3, 5, 10, 13, 16, 17, 21).

**Anxiety:** autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect (Items 2, 4, 7, 9, 15, 19, 20).

**Stress:** levels of chronic nonspecific arousal, difficulty relaxing, nervous arousal, and being easily upset/agitated, irritable/over-reactive, and impatient (Items 1, 6, 8, 11, 12, 14, 18).

#### ***Ethical approval***

The study strictly adhered to the ethical guidelines of ICMR (2016). Formal permission was obtained from the Department of Education, Chandigarh, and school principals prior to data collection. Informed consent was secured from the students, and the confidentiality of study subjects was rigorously upheld.

#### ***Statistical analysis***

Descriptive and analytical statistics were employed, expressing categorical variables as proportions and percentages. The Chi-square test determined associations between Depression, Anxiety, and Stress and various factors. Logistic Regression analysis identified potential risk factors for DAS. Statistical analysis was conducted using the Statistical Package for the Social Sciences (SPSS) version 26.

## **RESULTS**

The study included 168 adolescent girls aged 13 to 19 attending school. Among them, 42.3% were aged 13 to 15, and 57.7% were aged 16 to 19, with a mean age of  $15.08 \pm 1.68$ . Regarding family structure, 70.8% lived in nuclear families, 14.9% in joint families, and 14.3% in extended families. In terms of education, 44.1% were in class 9<sup>th</sup> and 10<sup>th</sup>, while 55.9% were in class 11<sup>th</sup> and 12<sup>th</sup>. The majority (95.2%) lived with their families, 3.6% in hostels, and 1.2% as paying guests in Chandigarh. Notably, 61.3% came from lower socio-economic backgrounds with a monthly family income of Rs. 30,000 or less.

Of the total participants (n=111), 66.1% resided in urban areas, while 33.9% lived in rural areas. When examining the educational backgrounds of participating girls' parents, mothers tended to have higher levels of illiteracy than fathers. The highest educational attainment for both parents was completing high school (up to the 10<sup>th</sup> standard), with fathers at 34% (n=58) surpassing mothers at 28% (n=47). Parents' occupations significantly impact children's development. Among fathers, 27.4% were in service roles, 26.2% as laborers, 19.6% in diverse jobs, 14.3% as skilled workers, and 12.5% as business owners. In contrast, the majority of mothers (89.9%) were homemakers, with only 10.1% employed. The majority of the participants received education in English (92.9%, n=156), with a smaller group studying in Hindi medium (7.1%, n=12).

The DASS-21 analysis reveals a substantial percentage of adolescent girls experiencing depression, with 49.5% (n=83) falling into this category. Among them, 2.4% (n=4) reported severe depression, 29.8% (n=50) experienced moderate depression, and 17.3% (n=29) had mild depression. Anxiety levels were even more prevalent, affecting approximately 58.9% (n=99) of the participants. Among those with anxiety, 1.2% (n=2) reported extremely severe anxiety, 22.6% (n=38) had severe anxiety, 26.2% (n=44) had moderate anxiety, and 8.9% (n=15) experienced mild anxiety. In terms of stress, 28.6% (n=48) scored in the stress range, with 20.8% (n=35) indicating mild stress and 7.7% (n=13) indicating moderate stress levels. This highlights a concerning prevalence of significant anxiety and depression among the majority of participants.

Table 1 illustrates the correlation of DAS with various factors with a level of significance ( $\alpha$ ) at 0.05, it was seen that age of the respondents had strong significant correlation with depression, anxiety and stress with p-value  $<0.05$ . High level of depression 70% (n=50), anxiety 76% (n=54) and stress 43% (n=31) was seen between the age group 13 to 15 years. Significant correlation was also seen between the depression level and the locality (urban and rural) where the participants were living ( $p = 0.02 < \alpha = 0.05$ ), high level of depression was seen in the participants living in urban area (46) of

the city as compared to the rural area (37). Also, strong correlation was seen between the familial relationships with the DAS level. Similarly, strong significant relation was seen between the occupation of father and stress level

of respondents with  $p=0.01 < \alpha=0.05$  and depression level had significant relation with occupation mother ( $p=0 < \alpha=0.05$ ).

**Table 1: Association of demographic characteristics with depression, anxiety and stress.**

Total participants (n=168)	Normal	Mild	Moderate	Severe	Extremely severe	Chi- square	P value
	N (%)	N (%)	N (%)	N (%)	N (%)		
Depression							
Age in years							
13-15	21 (29.6)	13 (18.8)	35 (49.3)	2 (2.8)	0	26.67	0
16-19	64 (66.0)	16 (16.5)	15 (15.5)	2 (2.1)	0		
Type of family							
Joint	12 (48)	6 (24)	7 (28)	0	0	7.59	0.26
Nuclear	64 (53.8)	20 (16.8)	31(26.1)	4 (3.4)	0		
Extended	9 (37.5)	3 (12.5)	12 (50)	0	0		
Socio-economic status							
Low income	50 (48.5)	16 (15.5)	34 (33.0)	3 (2.9)	0	8.207	0.513
Lower middle inc.	15 (46.9)	9 (28.1)	8 (25.0)	0	0		
Middle income inc.	7 (50.0)	2 (14.3)	5 (35.7)	0	0		
Upper middle inc.	13 (68.4)	2 (10.5)	3 (15.8)	1 (5.3)	0		
Locality							
Urban	65 (58.6)	17(15.3)	26 (23.4)	3 (2.7)	0	9.3	0.02
Rural	20 (35.1)	12(21.1)	24 (42.1)	1 (1.8)	0		
Medium of education							
Hindi	3 (25.0)	2 (16.70)	7 (58.30)	0	0	5.52	0.13
English	82 (52.6)	27 (17.3)	43 (27.6)	4 (27.6)	0		
Overall	85 (50.5)	29 (17.2)	50 (29.7)	4 (0.02)	0		
Anxiety							
Age in years							
13-15	17 (23.9)	5 (7)	25 (35.2)	22 (31)	2 (2.8)	19.6	0
16-19	52 (53.6)	10 (10.3)	19 (19.6)	16 (16.5)	0		
Type of family							
Joint	10 (40)	4 (6)	6 (24)	4 (16)	1 (4)	5.28	0.72
Nuclear	50 (42)	10 (8.4)	31 (26.1)	27 (22.7)	1 (0.8)		
Extended	9 (37.5)	1 (0)	7 (29.2)	7 (29.2)	0		
Socio-economic status							
Low income	41(39.8)	10 (9.7)	25 (24.3)	25 (24.3)	2 (1.9)	6.2	0.9
Lower middle inc.	12 (37.5)	2 (6.3)	10 (31.3)	8 (25)	0		
Middle income	6 (42.9)	1 (7.1)	3 (21.4)	4 (28.6)	0		
Upper middle inc.	10 (52.6)	2 (10.5)	6 (31.6)	1 (5.3)	0		
Locality							
Urban	50 (45.0)	10 (9)	27 (24.3)	24 (21.6)	0	5.73	0.22
Rural	19 (33.3)	5 (8.8)	17 (29.8)	14 (24.6)	2 (3.50)		
Medium of education							
Hindi	2 (16.7)	2 (16.7)	3 (25.0)	4 (33.3)	1 (8.30)	8.94	0.06
English	67 (42.9)	13 (8.3)	41(26.3)	34 (21.8)	1 (0.60)		
Overall	69 (41)	15 (0.08)	44 (26.1)	38 (22.6)	2 (0.01)		
Stress							
Age in years							
13-15	40 (56.3)	26 (36.6)	5 (7)	0	0	18.7	0
16-19	80 (82.5)	9 (9.3)	8 (8.2)	0	0		

Continued.

Total participants (n=168)	Normal	Mild	Moderate	Severe	Extremely severe	Chi- square	P value
	N (%)	N (%)	N (%)	N (%)	N (%)		
Type of family							
Joint	19 (76)	5 (20)	1 (4)	0	0	0.91	0.9
Nuclear	85 (71.4)	24 (20.2)	10 (8.4)	0	0		
Extended	16 (66.7)	6 (25)	2 (8.3)	0	0		
Socio-economic status							
Low income	71 (68.9)	24 (23.3)	8 (7.8)	0	0	4.47	0.61
Lower Middle inc.	22 (68.8)	8 (25.0)	2 (6.3)	0	0		
Middle income	11 (78.6)	1 (7.1)	2 (14.3)	0	0		
Upper Middle	16 (84.2)	2 (10.5)	1 (5.3)	0	0		
Locality							
Urban	83 (74.8)	18 (16.2)	10 (9)	0	0	4.54	0.1
Rural	37 (64.9)	17 (29.8)	3 (5.3)	0	0		
Medium of education							
Hindi	6 (50)	5 (41.7)	1 (8.3)	0	0	3.52	0.17
English	114 (73.1)	30 (19.2)	12 (7.7)	0	0		
Overall	120 (71.4)	35 (20.8)	13 (0.07)	0	0		

Table 2: Binomial logistic analysis of risk factors of depression among adolescent girls.

Depression							
Risk category	Number	%	Regression coefficient	Odds ratio	95% C.I. for EXP (B)		P value
					Upper limit	Lower limit	
Age (years)							
13-14	71	42.3		1			
15 and above	97	57.7	-0.055	0.947	3.415	0.262	0.93
Type of family							
Joint	25	14.9		1			
Other	143	85.1	-0.07	0.933	2.483	0.35	0.88
Socio-economic status (SES)							
Low	65	38.7		1			
other	103	61.3	-0.748	0.474	1.149	0.195	0.098
Background (Current living area)							
Rural	57	33.9		1			
Urban	111	66.1	-0.563	0.569	1.341	0.242	0.198
Medium of education							
Hindi	12	7.1		1			
Other	156	92.9	-0.429	0.651	2.918	0.145	0.575
Living place							
Not living with family	8	4.8		1			
living with family	160	95.2	-0.684	0.504	2.848	0.089	0.438
Education							
9th and 10th	74	44		1			
Higher classes	94	56	-1.743	0.175	0.637	0.48	0.008
Stream of education							
Other streams	157	93.5		1			
Medical and non-medical	11	6.5	-0.834	0.434	2.383	0.079	0.337

While these factors do play a role in the mental well-being of teenagers, they do not exhibit a substantial

association with the DAS. At the  $\alpha = 0.05$ , significance level with one way ANOVA shows that there is strong



evidence to the conclusion that there are statistically significant differences in the means of Depression, Anxiety, and Stress Scores as categorized by the age groups of the respondents.

The Table 2 illustrates that the age, type of family, type of school, locality, SES, medium of education, stream of education and the condition where the participants were living with or without family were not the significant risk factors for depression, however the academic pressure came out to be a significant risk factor ( $p=0.008<\alpha=0.05$ ).

Similar, results were seen in risk factor analysis for anxiety where education level came out to be a comparatively risk significant factor compared to other factors (as illustrated Table 3). The girls studying in high schools i.e. in 11<sup>th</sup> and 12<sup>th</sup> standard were facing more anxiety issues than the girls who were in 9<sup>th</sup> and 10<sup>th</sup> standard. As depicted earlier that demographics are not playing a crucial role in stress, depression and anxiety, the major reason here could be the academic pressure or the anxiousness about the boards and stepping into the college.

**Table 3: Binomial logistic analysis of risk factors of anxiety among adolescent girls.**

Anxiety							
Risk category	Number	%	Regression coefficient	Odds ratio	95% C.I. for EXP (B)		P value
					Upper limit	Lower limit	
<b>Age (years)</b>							
13-14	71	42.3		1			
15 and above	97	57.7	-0.323	0.724	2.534	0.207	0.613
<b>Type of family</b>							
Joint	25	14.9		1			
Other	143	85.1	0.019	1.019	2.674	0.388	0.97
<b>Socio-economic status</b>							
Low	65	38.7		1			
other	103	61.3	-0.575	0.563	1.322	0.24	0.187
<b>Background (current living area)</b>							
Rural	57	33.9		1			
Urban	111	66.1	-0.013	0.987	2.323	0.419	0.975
<b>Medium of education</b>							
Hindi	12	7.1		1			
Other	156	92.9	-0.576	0.562	2.959	0.107	0.496
<b>Living place</b>							
Not living with family	8	4.8		1			
living with family	160	95.2	0.602	1.825	9.953	0.335	0.487
<b>Education (class/standard in which the respondents were studying)</b>							
9th and 10th	74	44		1			
Higher classes	94	56	-1.178	0.308	1.088	0.087	0.067
<b>Stream of education</b>							
Other streams	157	93.5		1			
Medical and non-medical	11	6.5	0.229	1.257	5.675	0.278	0.766

Table 4 indicates that, unlike depression and anxiety, none of the factors listed were found to be statistically significant for stress among adolescent girls ( $p>0.05$ ). Therefore, the logistic regression analysis suggests that demographic factors do not exert a significant impact on the mental health of teenage girls. On the contrary, potential influencers on the psychological well-being of teenage girls may be related to behaviors or emotions, such as issues within family relationships, romantic relationships, and experiences of body image criticism or shaming as these days the influence of peer and social

media has a huge impact on children specially adolescents.

## DISCUSSION

The study was conducted on 168 school going teenage girls within the age group of 13 to 19 years shows that 49.4% ( $n=83$ ) of the girls were under depressive state, 58.9% ( $n=99$ ) had anxiety issues and 28.6% ( $n=48$ ) had stress issues as per DASS-21. The correction analysis (Chi-square test) for the DAS showed that age of the respondents, locality of living (Urban and rural) and

medium of education had strong significant correlation with the DAS, whereas the logistic regression analysis of demographics of respondents for the potential risk factor

of DAS shows that academic pressure is the only significant risk factor for DAS in the teenage girls among the other demographic factors.

**Table 4: Binomial logistic analysis of risk factors of stress among adolescent girls.**

Stress							
Risk category	Number	%	Regression coefficient	Odds ratio	95% C.I. for EXP (B)		P value
					Upper limit	Lower limit	
<b>Age (years)</b>							
13-14	71	42.3		1			
15 and above	97	57.7	-0.61	0.544	1.94	0.152	0.348
<b>Type of family</b>							
Joint	25	14.9		1			
Other	143	85.1	0.447	1.563	4.694	0.521	0.426
<b>Socio-economic status</b>							
Low	65	38.7		1			
Other	103	61.3	-0.49	0.612	1.54	0.243	0.297
<b>Background (current living area)</b>							
Rural	57	33.9		1			
Urban	111	66.1	0.044	1.045	2.51	0.435	0.922
<b>Medium of education</b>							
Hindi	12	7.1		1			
Other	156	92.9	-0.286	0.751	2.674	0.211	0.659
<b>Living place</b>							
Not living with family	8	4.8		1			
living with family	160	95.2	-0.019	0.981	11.388	0.085	0.988
<b>Education</b>							
9th and 10th	74	44		1			
Higher classes	94	56	-0.706	0.494	1.809	0.315	0.287
<b>Stream of education</b>							
other streams	157	93.5		1			
Medical and non-medical	11	6.5	-19.751	0	0	0	0.999

Results of our study differ from results of an earlier study among school going adolescents which had reported the prevalence of DAS as 65.53%, 80.85%, and 47.02% respectively.<sup>9</sup> Variation in results might be attributed to time gaps as well as the study population as the current study focused the female population.

Results of our study are in agreement with results of an earlier study.<sup>18</sup> Present study reports a slightly higher percentage 49.4% (n=83) of depression. They reported 29.2% with moderate depressive levels, closely matching the present study's result of 29.8% (n=50) with moderate depression. The former study found that 29.7% had mild depression, whereas the current study suggests that 17.3% (n=29) of teenagers experienced such a condition.<sup>18</sup>

In a study conducted in Punjab to evaluate the mental health of adolescent girls in context with their relationship with their family stated that parental support and familial relationship had a significant impact on the mental health of the adolescent girls.<sup>10</sup> Similar results

were seen in the present study where depression (P=0.003), anxiety (P=0.01) and stress (P=0.05) all had a strong significantly associated with the relationship of the respondents with their family.

Earlier studies in on adolescents have reported that mother's education and occupation have a significant correlation with the child's perception of life and on their mental health, the current study also depicts a strong significant correlation between the occupation of the mother and the depression (P<0.05) level in teenage girls.<sup>19</sup> Father's occupation also had a strong correlation with the stress of the respondents which has not been mentioned in earlier studies.

A 2020 systematic review revealed that disadvantaged economic conditions and female gender are predictive factors linked to a greater vulnerability to adverse mental health symptoms in adolescents.<sup>20</sup> On the contrary; the present study demonstrates that socioeconomic status alone cannot serve as a sole determinant for assessing

mental health status. This is evidenced by the chi-square analysis conducted on socioeconomic status and the Depressive Anxiety Stress (DAS) scale, which reveals an insignificant relationship between the two.

The type of family structure (nuclear, joint, or extended) plays a pivotal role in shaping a child's mental well-being. Modernization has led to nuclear families becoming the norm, and when both parents work and have limited time for their children, it becomes a significant concern with a substantial impact on adolescents' mental health. This is supported by the statistics in the study that DAS level was higher in nuclear families than in joint and extended family children.

A study conducted in 2021 revealed a connection between pubertal development and heightened levels of depression and psychosocial stress among adolescents.<sup>21</sup> Research indicates that the mean age of menarche and puberty onset in Indian girls is  $13.51 \pm 1.0422$ . Consequently, a correlation can be inferred between age and psychological distress among adolescent girls. The present study indicates that girls aged 13 to 15 exhibited higher DAS scores compared to those aged 16 to 19. These findings support the assertion that puberty may indeed influence psychological distress in adolescent girls.

The logistic regression analysis depicted that in teenage girls' academic pressure is a significant risk factor for depression and anxiety. Other demographic factors do not have much influence on the mental health of the teenagers; however, the other emotional factors like parental relation and family environment could have some influence on their mental well-being.

This study has certain limitations that should be acknowledged. One constraint is the restricted sample size of 168 school students, attributed to time constraints, which may limit the generalizability of the findings to the broader population. Additionally, it is crucial to recognize that the study exclusively concentrated on the teenage female population, and as such, the results may not be extrapolated to the male population within a similar age group. Despite these limitations, the study's strength lies in providing robust evidence concerning the factors strongly associated with the mental health of teenage girls. It also sheds light on potential influencing factors as well as the risk factors for psychological well-being of teenage girls. These insights offer valuable considerations for possible adjustments to these factors, aiming to promote the mental well-being of teenage girls.

## CONCLUSION

Recognizing the significance of psychological well-being alongside physical health is crucial, particularly in countries like India where mental health often lacks emphasis. Many individuals experience stress and anxiety at various points in their lives, but when these challenges

persist, they require attention. Focusing on the future of adolescents, this study highlights concerning levels of depression, anxiety, and stress among teenage girls in the examined population. This underscores the importance for parents and society to address these issues. The study recommends implementing measures such as open and healthy communication, maintaining a balanced lifestyle, fostering positive peer relationships, providing strong family support, and promoting self-care to enhance the psychological well-being of school-going teenage girls. Factors such as age and locality where the participants were living were identified as significant influencers of teenage girls' psychological well-being. Academic pressure emerged as a prominent risk factor for depression among them. Thus, to a conclusion, effective communication between parents and child and a supportive academic environment at school are the keys factors in managing anxiety levels among teenage girls. The study also provides a pathway for future research that should explore emotional factors as potential contributors to depression, anxiety, and stress among teenagers as the demographic factors did not have much influence.

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