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Original Article

Determination of Levels of Anxiety and its Association with Demographic Characteristics of Adolescent Girls in Secondary Schools of Lahore

Muhammad Azhar[1*], Muhammad Afzal[2], Zafar Iqbal[3] and Sumaira Riaz[1]

[1]Department of Nursing and Paramedics, Ibadat International University, Islamabad, Pakistan
[2]Lahore School of Nursing, The University of Lahore, Lahore, Pakistan
[3]Faculty of Nursing, Sohail University, Karachi, Pakistan

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ABSTRACT

Adolescence is a transition period between the time of childhood and adulthood as it is usually accompanied by sexual maturation and physical growth as well as psychological and cognitive changes necessary for coping with the tasks of later adult life. **Objective:** To identify levels of anxiety and its association with demographic characteristics of adolescent girls in secondary schools of Lahore **Methods:** Cross-sectional, analytical design was used in this study. The normality assumptions were tested by Kolmogorov-Smirnov[a] and Shapiro-Wilk test. **Results:** Out of 140 participants, 116 participants were having anxiety. Among these participants, 73 (62.9%) were having mild anxiety, 38 (32.7%) were having moderate anxiety, and only 5 (4.31%) were having severe anxiety. Statistical analysis show that the data were not normally distributed as evident from the p-value 0.01 and 0.03 in Kolmogorov-Smirnov[a] and Shapiro-Wilk tests, respectively. Analysis showed that there is a significant difference in anxiety levels in adolescent school girls as evident by p-value is less than 0.05. **Conclusion:** The prevalence of anxiety was 82.85% among adolescents' girls. Majority of the adolescent students were facing mild and mild anxiety and this anxiety remain throughout the adolescent age but reduce with passage of age.

INTRODUCTION

Anxiety is a wide term that refers to a person's predisposition to feel uneasy, tense, or awkward in social interaction with strangers [1]. Due to changes in the body the anxiety increases among adolescent girls due to physical appearance of body which are increased with changes and are gradually reduced after full puberty [2]. However numerous examinations utilize menarche – the beginning of first menstrual cycle as an intermediary for beginning of pubescence in females, and relationship between early menarche and expanded levels of depressive side effects and misery in pre-adulthood are generally announced [3]. Pubertal changes affect the adolescent self-image, mood and interaction with peers and parents. Pubertal changes make them confused, unsafe and egocentric. Mental disorders such as anxiety, depression, eating disorder and fear of thoughts are common during anxiety [4]. Adolescence is regarded as a private affair or a family problem that must be handled. A variety of taboos exist that add to the strain placed on young females. Young girls have no clue how to cope with the issues that arise during this transition period, or where and how to obtain relevant information. Due to cultural norms, they are unable to freely share their difficulties and receive assistance. Only mothers can lead children with limited information, and the mother's own knowledge is also variable, so an illiterate mother can't properly guide

Azhar M et al.,

them [5]. Young girls go through a number of changes before they reach adulthood. During this period, this age group encounters a variety of problems. One highlighted problem of adolescence is anxiety. An abnormal and overwhelming sense of apprehension and fear often marked by physical signs (such as tension, sweating, and increased pulse rate), by doubt concerning the reality and nature of the threat and by self-doubt about one's capacity to cope with it. The emotional state of a student has a significant impact on their overall performance, which has a range of repercussions on both an individual and professional level. Anxiety can present itself physically in a variety of ways. The cardiovascular, respiratory, nervous, and gastrointestinal frameworks are frequently associated with these symptoms [6]. Expanded circulatory strain, fast heart rate with palpitations and tachycardia, sweating, dry mouth, queasiness, discombobulating, hyperventilation, fretfulness, tremors, sleep deprivation, poor fixation, and feelings of shortcoming are the most common physiological manifestations of any circumstance specific uneasiness. Genuine concern is required for students who are experiencing extreme worry or despair. According to research, if they are not treated, they are more likely to perform poorly in school, have less developed social skills, and be powerless when it comes to drug usage. Female sexual orientation is more likely to experience anxiety [7]. Furthermore, a study shows that the onset of puberty and enlargement of breast and genetalia are associated with depression and varied in different gender, early onset of breast development is associated with high degree of depression in girls rather than in boys. Early onset of development of pubic hair unrelated with depression in both boys and girls [8]. Therefore, a relationship is assessed between adolescence and depression, yet numerous things remain ineffectively comprehended. While evaluating pubescence in females, most examinations consolidate pointers of breast and pubic hair improvement which are controlled by various hormonal pathways[9].

METHODS

Cross-sectional, analytical design was used in this study. The setting for this study was two government girls' secondary schools and two private girls' secondary schools of Lahore. The study was conducted in 9 months after the approval of synopsis. Sample size of 140 cases is calculated with expected mean score of anxiety among students i.e., 5.3±3.61[10]. Simple Random sampling technique was used to collect the data. All the student girls studying in 9th and 10th grade in Government & Private Girls High Schools of Lahore, All the student girls age between 14-17 years, Students having menarche experience were included.

Death of family member in last 6 months, suffer mental trauma last 6 months and Students who suffering from mental diseases was excluded from the study were excluded. Permission was taken from the Headmistress of Government & Private Secondary girls School of Lahore. Consent was be signed from each participant. The information of respondent was be kept confidential. The participants were having full authority to withdraw at any time. Data were collected from the participants at breaktime, every 3rd student from the class was selected to collect the data. Both Urdu and English Questionnaires were distributed, every participant was having the option to fill the questionnaire in Urdu or English. 30 Minutes given to fill the Questionnaire. Every questionnaire was consisted of six demographic related questions and 22 Questions were related to Anxiety. The Beck Inventory Anxiety scale shows the intensity of feelings: (0) Never (1) Very Less (2) Sometimes (3) Often, and (4) always in responding to the Beck Inventory scale shows that how they generally feel by rating the frequency of their feeling of anxiety by five-point scale (0) Never, (1) Very Less (2), Sometimes (3), Often, and (4) always. 22 questions were consisted of total 110 scores. The score of anxiety below 30 was termed as no anxiety, score 30-50 was considered as mild anxiety, score from 51-70 was termed as moderate anxiety and score above 70 was considered as severe anxiety. Data were analyzed in SPSS software version 21. Descriptive analysis was performed on continuous variables data whereas frequencies and percentage were used for categorical variables. Furthermore, to check the normality Kolmogorov-Smirnov[a] and Shapiro-Wilk tests were used. Based on that the Mann-Whitney U test was used to check the difference in anxiety among adolescent female students of government and private schools. Whereas, Chi-Square Test was used to identify the associations among levels of Anxiety and demographics characteristics of adolescent school going female students. p-Value of Less than 0.05 were considered statistically significant.

RESULTS

Demographic results were checked by applying the Frequencies and Percentages on SPSS Version 21. Mean age was 15.2 years. Age of the participants 14 years were 50 (35.7%), 15 years were 34 (24.3%), 16 years were 31 (22.1), and 17 years were 25 (17.9%)., In the education of the father were mostly illiterate 55 (39.3%), primary pass was 31 (22.1%), matriculation education were 52 (37.1%), and graduates were only 2 (1.4%). In the education of the mother were mostly were illiterate 84 (60%), primary pass was 25 (17.9%), matriculation education was 27 (19.3%), and graduates were only 4 (2.9%). Occupation of the participants' father's own business were 51(36.4%). labors

Azhar M *et al.,*

were 42 (30%), jobs were 26 (18.6%), and 21 (15%) were surprisingly unemployed, Occupation of the participants' mother, majority of mothers were housewife 123 (87.9%), labors were 8 (5.7%), jobs were 6 (4.3%), own business were only 3 (2.1%), Number of family members between 6–8 were 63 (45%), 9–11 were 44 (31.42), 3–5 were 24 (17.1%), and 12–14 were 9 (6.4%) as shown in Table 1.

Table 1: Demographic characteristics of participants

	Categories	Frequencies (%)
Age of the Participants	14 Years	50(37.5)
	15 Years	34(24.3)
	16 Years	31(22.1)
	17 Years	25(17.9)
	Total	140(100)
Education of the Father	Illiterate	55(39.3)
	Primary	31(22.1)
	Matric	52(37.1)
	Graduation	2(1.4)
	Total	140(100)
Education of the Mother	Illiterate	84(60)
	Primary	25(17.9)
	Matric	27(19.3)
	Graduation	4(2.9)
	Total	140(100)
Occupation of Father	Unemployed	21(15)
	Labor	42(30)
	Job	26(18.6)
	Own Business	51(36.4)
	Total	140(100)
Occupation of Mother	Housewife	123(87.9)
	Labor	8(5.7)
	Job	6(4.3)
	Own Business	3(2.1)
	Total	140(100)
No. of Family Members	3–5	24(24)
	6–8	64(45.7)
	9–11	43(30.7)
	12–14	9(6.4)
	Total	140(100)

The prevalence of anxiety was 82.9% (116) in the studied sample whereas 24 (17.1%) were having no anxiety. Out of 116 participants, 73 (62.9%) were having mild anxiety, 38 (32.7%) were having moderate anxiety, and interestingly only 5 (4.31%) were having severe anxiety as shown in above table. The normality assumptions were tested by Kolmogorov-Smirnov[a] and Shapiro-Wilk test. The analysis show that the data were not normally distributed as evident by the p-value 0.01 and 0.03 in Kolmogorov-Smirnov[a] and Shapiro-Wilk tests, respectively (Table 2).

Table 2: Prevalence of Anxiety and levels of Anxiety

Level of Anxiety among Adolescent Girls		Prevalence
Anxiety Level	f (%)	
No Anxiety	24 (17.1%)	116/140X100= 82.85%
Mild Anxiety	73 (52.1%)	
Moderate Anxiety	38 (27.1%)	
Severe Anxiety	5 (3.6%)	
Total	140 (100%)	

Table 3 shows difference in anxiety among government and private adolescent girls. Mean rank of Public schools was 79.39 and mean rank of private schools was 61.61.

Table 3: Difference in Anxiety among Government and Private Adolescent Girls

	Group Public Private	N	Mean Rank
Anxiety Scores	Public Schools	70	79.39
	Private Schools	70	61.61
	p-Value		.010

p-Value is calculated by *Mann Witney U Test*

Chi-Square Test was applied, *p*-value was 0.52, and hence, results were not statistically significant according to the age of the participants. Adolescent girls having age 14 years were 50 (37.5%), out of these, anxiety was present in 42 participants. Moderate anxiety was present in 25 (59.5%), mild anxiety in 15 (35.7%) and severe anxiety in only 2 (4.76%). Girls with age 15 years were 34 (24.3%), out of these, 27 were having anxiety. Moderate anxiety was observed in 14/27 (51.9%), mild in 12/27 (44.44%) and severe in only 1 (3.7%). Among 16 years old girls 31 (22.9%), 24 were having anxiety. Out of 24 participants, 15 (62.5%), were having mild anxiety, 7 (29.1%) were having moderate anxiety and only 2 (8.33%) were having severe anxiety. 25 (17.1%) girls were 17 years old girls, out of 23 Adolescent girls were having anxiety. Out of 23 participants, 21 (91.3%), were having mild anxiety, 2 (8.7%) were having moderate anxiety.

Table 4: Level of Anxiety according to Age

Level of Anxiety According to Age					
Age	No Anxiety	Mild Anxiety	Moderate Anxiety	Severe Anxiety	Total f (%)
14 Years	8	25	15	2	50 (37.5%)
15 Years	7	12	14	1	34 (24.3%)
16 Years	7	15	7	2	31 (22.1%)
17 Years	2	21	2	0	25 (17.9%)
Total	24 (17.2%)	73 (52.2%)	38 (27.1%)	5 (3.5%)	140 (100%)

DISCUSSION

In this research out of 140 participants, most of the participants (73, 52.2%) had mild anxiety, 38 (27.1%) were facing moderate anxiety and 24 (17.2%) had no anxiety. A similar study was conducted at high schools in Qasim regions of Saudi Arabia in 2018 in which it was found that out of 1245 participants, 36% were not facing anxiety, 34.1% were having mild anxiety, 29.5% moderate anxiety and 9.8% were facing severe anxiety [11]. A Study was conducted in Rawalpindi, Pakistan in which 21.4%

adolescents were having the anxiety. This study also revealed that anxiety and well-being were significantly associated with the adolescent's age. Lower level of education, deprived socioeconomic status are also associated with higher level of anxiety in Pakistani adolescents [12]. According to the age of the participants, the mild level of anxiety remained throughout the adolescent age, 25 (17.9%) participants of 14 years, 12 (35.2%) of 15 years, 15 (48.4%) of 16 years and 21 (84%) of 17 years age. Moderate level of anxiety reduced with the passage of age. A study was conducted in Rawalpindi in 2019 and observed anxiety throughout the adolescent age 11-18 years [12]. One more study was conducted in Italy, 75% adolescents were facing anxiety [13]. It shows that most of the girls face mild and moderate level of anxiety throughout the age of adolescent. Participants in a prior study varied in age from 15 to 18 years old and had a mean age of 16.39±14.339 years. A prior research found that the majority of higher secondary school pupils (52%) were between the ages of 15 and 18 years [14]. According to the current findings, out of 24 (17.1%) individuals, 73 (52.1%) had mild anxiety, 38 (27.1%) had moderate anxiety, and 5 (3.5%) had severe anxiety. A prior research found similar results, with 30.4% of participants reporting moderate anxiety, 20.7% reporting moderate to severe anxiety and 21% reporting severe anxiety [15]. Another research published in China had similar findings, revealing that 63.8% of teenagers go through puberty without receiving any psychological support [16]. In a previous study with 400 post-menarche females between the ages of 14 and 20 years, anxiety scores were found higher in females with dysmenorrhea. It is thought that dysmenorrhea disrupts healthy physical and mental development in adolescence by impairing the quality of life with increased days of absence from school [17]. The results of a previous study revealed that the frequency and percentage distribution of level of anxiety among the school going adolescents. In school going adolescents, majority of them had moderate level of anxiety 22 (73.3%), 6 (20%) had mild level of anxiety and few school going adolescents had severe level of anxiety 2 (6.7%) [18]. Teenagers' levels of depression and anxiety can be influenced by a variety of risk and protective factors (individual, familial, and social) within an ecological framework [19, 20].

CONCLUSIONS

The prevalence of anxiety was 82.85% among adolescents' girls. Majority of the adolescent students were facing mild and mild anxiety and this anxiety remain throughout the adolescent age but reduce with passage of age.

Authors Contribution

Conceptualization: MA, MA

Methodology: ZI, MA

Formal analysis: SR

Writing-review and editing: MA, SR

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

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