

Original Article

## Aggression among adolescents – A cross-sectional study

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### ABSTRACT

**Background:** Adolescence age group between 10 and 19 years is a transitional phase of growth and development between childhood and adulthood. There are about 1.2 billion adolescents in the world, around 243 million of them live in India – contributing to one-fourth of the total population in India (UNICEF – India). Taking into consideration, the increasing acts of violence among adolescent people, this study was initiated to study the prevalence of aggression among adolescents and to find out the associated risk factors.

**Settings and Design:** It was a community-based study conducted in the senior secondary schools of urban and rural field practice area of AIMSR.

**Materials and Methods:** Pre-tested, validated questionnaire and Buss and Perry Aggression score were used to assess the levels of aggression in the participants. Sample size of 250 was taken for each group, i.e., a total of 500.

**Results and Conclusion:** In our study, the total prevalence of aggression was found to be 51.9% with higher scores in urban population, males having more of physical aggression and females having hostility – associated significantly with the age distribution, residency type, etc. Interventions are needed to reduce the levels of aggression among adolescents and provide them a good future.

**Keywords:** Adolescent aggression, Prevalence, Associated risk factors, Urban and rural

### INTRODUCTION

Adolescence is a transitional phase of growth and development between childhood and adulthood. It is the age group between 10 and 19 years and is the time to develop knowledge and skills, to learn to manage emotions and acquire attributes and abilities that will be important for enjoying the adolescent years and adult roles. There are about 1.2 billion adolescents in the world, around 243 million of them live in India – contributing to one-fourth of the total population in India.<sup>[1,2]</sup>

Aggression has been defined as a behavior whose primary or sole purpose or function is to injure another person or organism, whether physically or psychologically.<sup>[3]</sup> Aggression can be expressed directly (physical aggression) or indirectly (spreading rumors or psychological insult).<sup>[4]</sup>

With the changing era of time and modernization of society, there is a considerable increase in the incidents of aggression/violence among youth and adolescents, which are more commonly seen in boys as compared to girls; as this phase of life is the most important part for the development of the personality. However, our young generation is wasting their golden period in the aggressive activities, violence, and getting involved into the crimes. Moreover, the aggression and irritation of this age are overlooked and never given adequate attention, leaving

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them more frustrated. Physical and psychological changes taking place in this age group are drastic in nature and are not easy to cope up with. Disturbed relationships with parents, teachers, seniors and peers, academic backwardness compared to high expectation, curiosity to explore sexual practices, and substance abuse are the main triggering factors for the psychological discord in youth. The above-mentioned factors directly or indirectly lead to emotional crisis – not only in the form of aggression but also as psychological morbidity.<sup>[5]</sup>

Deteriorating social and moral values in the budding society builders have led the researchers to focus on aggression among youth not only in India but also worldwide. There is a need for the proper assessment of youth for aggression and development of prevention and intervention modules for youth in Indian context. Taking into consideration, the increasing acts of violence among adolescent people and not given proper attention to this matter, also to find out the associated risk factors for the aggressive behavior in the youth, this study has been planned.

### Objectives

The objectives of this study were as follows:

1. To study the prevalence of aggression among adolescents
2. To find out the associated risk factors.

## MATERIALS AND METHODS

### Setting

It was a community-based study conducted in the senior secondary schools of urban and rural field practice area of AIMSRS. Data were collected in the month of May 2019, by visiting the respective schools on working days. The study population was school-going adolescents, of which students from class 9<sup>th</sup> to 12<sup>th</sup> were included in the study. The study was initiated after it had been approved by the Research Committee of AIMSRS and Ethics Committee of Adesh University and continued until desired sample size was obtained.

### Sample size

According to a study named the prevalence of aggression among school-going adolescents in India: A review study by Kumar *et al.*,<sup>[6]</sup> the prevalence of aggression among adolescents was around 17.7% overall. Using formula  $Z^2p(1-p)/d^2$  [ $Z = \text{constant} - 1.96$ ,  $p = 17.7\%$  and  $d = 0.05$ ], our sample size for this study came out as 224. Adding 10% for incomplete pro forma and rounding off the value, our sample size was 250 for each group. As we have compared the urban and rural population, so a minimum of 500 sample size was decided for the study.

### Inclusion criteria

The following criteria were included in the study:

1. Willing to participate
2. Are in the adolescent age group.

### Exclusion criteria

The following criteria were excluded from the study:

1. Absent from the school for three consecutive visits
2. Incomplete form submitted by the participants.

### Method

Questionnaire was translated into local language, given to the students and filled forms were collected by the investigator. Buss and Perry Aggression score<sup>[7]</sup> was used to assess the levels of aggression in the participants. Verbal informed consent was taken from every subject. Demographic variables were assessed in terms of frequency and percentages. Variables in the Buss and Perry Aggression scale and their association with different risk factors were assessed using unpaired t-test, one-way ANOVA test. The data were handled and managed by the investigator herself, using Microsoft Excel spreadsheet (2016 Version).

### Level of significance

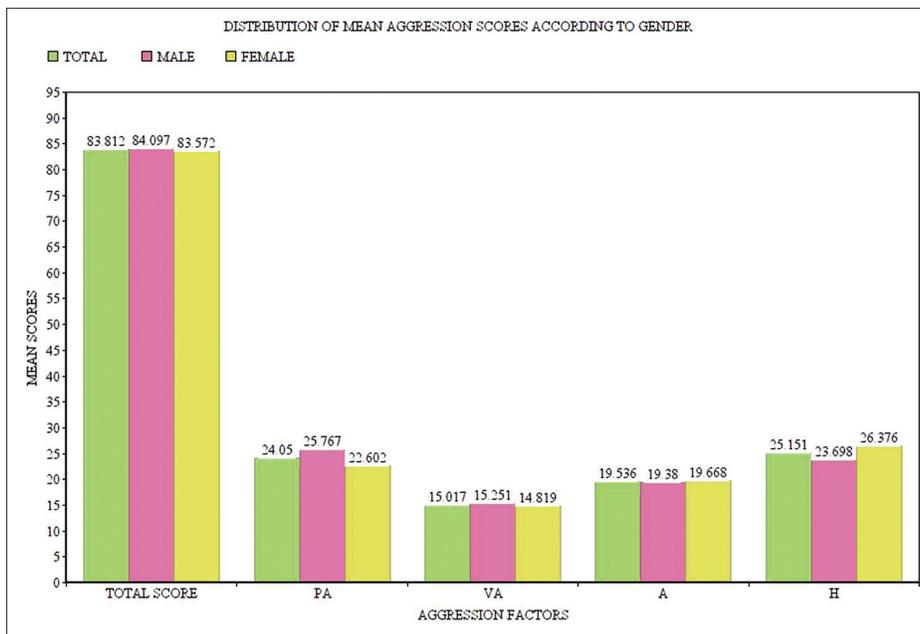
Level of significance was calculated at 95% confidence interval.

## RESULTS

In our study, Buss and Perry Aggression Questionnaire's (maximum score = 145) total aggression score came out to be 83.81 (SD  $\pm$  18.11), ranging from 40 to 131. Using the mean score as cutoff, total aggression was found in majority (51.9%) of the participants. In similar way, taking mean score as the cutoff value, the prevalence for the components of aggression was found to be – physical aggression – mean score 24.05  $\pm$  6.89 (prevalence = 47.91%), verbal aggression – mean score 15.01  $\pm$  4.31 (prevalence = 53.66%), anger – mean score 19.53  $\pm$  5.86 (prevalence = 54.38%), and hostility – mean score 25.15  $\pm$  6.64 (prevalence = 54.67%) [Graph 1].

In our study, a total of 695 participants were evaluated for the aggression levels. Out of these, more than half belonged to urban area (53.8%). Females (54.2%) outnumbered the males (45.8%), most of them belonged to the age category of 15–17 years (51.8%). Sikh religion (71.1%) was most commonly followed by our study population.

Most of the parents were illiterate (father – 25.9% and mothers – 36.1%). Farming (39.3%) followed by labor (32.2%) was the most prevalent occupation pursued by the fathers of the participants, whereas mothers were mostly housewives (88.3%). Maximum of the children were staying



**Graph 1:** Distribution of mean aggression scores according to the gender of participants.

with both parents (91.8%). Residency in nuclear family was more common (51.9%) and most of the participants had two siblings (34.0%).

Maximum number of students was from class 9<sup>th</sup> (36.3%). Most of the students scored marks between 71 and 80% (24.3%) in the last examination [Table 1].

Out of 695 participants – females (377) were more than males (318), especially in the age group of 15–17 years [Table 2]. More number of males participated in the study from rural area, whereas opposite was seen in urban [Table 3].

Total aggression score was not significantly associated with gender distribution. However, physical aggression was highly significant in males as compared to the females. Hostility factor had higher significant association with the female gender [Table 2].

Association of aggression factors was not significant with the type of family of the participants.

Total aggression score was significant higher in urban population as compared to the rural. Verbal aggression and hostility factor were higher in urban population [Table 3].

The total aggression score was not associated with the age distribution. In this study, only the age group of 12–14 years had a significant association with the hostility factor [Table 4].

**DISCUSSION**

According to the present study, significant presence of aggression in adolescents was found in the field practice

**Table 1:** Demographic distribution.

Variable	Group	Frequency (n=695)	Percentage
Place	Urban	374	53.8
	Rural	321	46.2
Gender	Male	318	45.8
	Female	377	54.2
Religion	Sikh	494	71.7
	Hindu	193	27.7
	Muslim	8	1.2
	Others	0	0
Age categories	12–14 years	297	42.7
	15–17 years	360	51.8
	18–20 years	38	5.5
Class	9	252	36.3
	10	204	29.4
	11	101	14.5
	12	138	19.8
Qualification of father	Illiterate	180	25.9
	Up to primary	154	22.2
	Up to middle	176	25.3
	Up to secondary	128	18.4
	Higher secondary	47	6.8
	Graduate	10	1.4
Qualification of mother	Postgraduate	0	0
	Illiterate	251	36.1
	Up to primary	167	24.0
	Up to middle	157	22.6
	Up to secondary	90	12.9
	Higher secondary	24	3.5
	Graduate	4	0.6
Postgraduate	2	0.3	

(Contd...)

**Table 1: (Continued)**

Variable	Group	Frequency (n=695)	Percentage
Occupation of father	Farmer	273	39.3
	Laborer	224	22.2
	Shopkeeper	57	8.2
	Govt. employee	34	4.9
	Self-employed	83	11.9
	Unemployed	4	0.6
	Died/not available	20	2.9
Occupation of mother	Housewife	614	88.3
	Working	78	11.2
	Died/not available	3	0.5
Staying with	Both parents	638	91.8
	Single parent	21	3.0
	Grandparents	33	4.7
	Relatives	3	0.4
Family type	Nuclear	361	51.9
	Joint	334	48.1
Number of siblings	0	39	5.6
	1	225	32.4
	2	236	34.0
	3	111	16.0
	4	51	7.3
	5 or more than 5	33	4.7
Scores in the last examination	<50%	93	13.4
	51–60%	139	20.0
	61–70%	160	23.0
	71–80%	169	24.3
	81–90%	103	14.8
	91–100%	31	4.5

**Table 2: Association of aggression score with gender.**

Variable	Gender	Mean±2SD	t	P-value
PA	Male	25.767±6.999	6.145	0.000000001*
	Female	22.602±6.476		
VA	Male	15.251±4.460	1.307	0.192
	Female	14.819±4.187		
A	Male	19.380±5.840	-0.645	0.519
	Female	19.668±5.897		
H	Male	23.698±6.101	-5.450	0.00000007*
	Female	26.376±6.849		
Total	Male	84.097±17.882	0.381	0.703
	Female	83.572±18.335		

area of AIMSRS, Bathinda. In our study, the mean of total aggression score came out to be  $83.81 \pm 18.11$  with the prevalence of aggression of about 51.9%. The mean score was very much similar to the score found in the study conducted by Garg *et al.*, in 2018, having mean score of 83.77 (SD  $\pm 11.59$ ) but with high prevalence of aggression, i.e., of 61.7%.<sup>[8]</sup> This score of our study was also consistent with a mean score of  $80.24 \pm 19.5$  in a study conducted by Sharma *et al.*, in 2014.<sup>[9]</sup>

**Table 3: Association of aggression score with place.**

Variable	Place	Mean±2SD	t	P-value
PA	Urban	24.697±6.609	2.666	0.08
	Rural	23.296±7.157		
VA	Urban	15.403±4.303	2.557	0.01*
	Rural	14.567±4.298		
A	Urban	19.770±5.935	1.134	0.257
	Rural	19.264±5.788		
H	Urban	26.005±6.741	3.703	0.00022*
	Rural	24.155±6.407		
Total	Urban	85.984±18.080	3.439	0.001*
	Rural	81.283±17.859		

**Table 4: Association of aggression score with age category.**

Variable	Age category	Mean±2SD	F	P-value
PA	12–14 years	24.40±6.80	0.717	0.48
	15–17 years	23.81±6.96		
	18–20 years	23.50±6.98		
	Total	24.05±6.98		
VA	12–14 years	14.609±4.33	2.324	0.09
	15–17 years	15.316±4.27		
	18–20 years	15.36±4.27		
	Total	15.01±4.31		
A	12–14 years	19.60±5.74	1.740	0.17
	15–17 years	19.66±5.95		
	18–20 years	17.81±5.85		
	Total	19.53±5.86		
H	12–14 years	25.42±6.73	2.887	0.05*
	15–17 years	25.18±6.67		
	18–20 years	22.68±5.15		
	Total	25.15±6.64		
Total	12–14 years	84.04±18.27	1.211	0.29
	15–17 years	84.09±18.14		
	18–20 years	79.36±16.47		
	Total	83.11±18.11		

It was also seen in a study by Sharma *et al.* that the prevalence of aggression was higher among younger adolescents.<sup>[9]</sup> Contradictory findings were given by Datta *et al.* in their report, which says that total aggression was higher among older adolescents, which also states that specifically for physical aggression younger adolescents scored higher while other types of aggression were found to be higher among older age groups.<sup>[5]</sup> In our study, hostility was found to be significantly higher in the age group of 12–14 years, rest no other component of aggression was significantly associated with the age group.

In our study, no association was found between the aggression scores and the type of family the participants were residing in. Similar results regarding in this context were seen in a study conducted by Ng Sameeta, in 2018.<sup>[10]</sup>

In our study, significant association was found between the total aggression, verbal aggression, and hostility in urban

youth as compared to youths residing in the rural area. This was in contrast to the study conducted by Ng Sameeta, in 2018 – which states that total aggression did not vary with the residency, verbal aggression was more involved among youth resided in rural area than the youth resided in urban area.<sup>[10]</sup> Aggression among urban populations could have scored high due to the factors that parents were working, loneliness, more addiction of Internet and social media, and less of interactions with parents and friends – all leading to sense of frustrations and more of aggressive and violent activities.

Forms of aggression varied with the gender of participants in our study. Males demonstrated more levels of physical aggression as compared to females who showed the repressed form of aggression, i.e., more of hostility. This was in contrast to the study conducted by Garg *et al.* which attributed higher levels of aggression in females as compared to the males.<sup>[8]</sup> Although the higher levels of verbal aggression, anger, and hostility in females had also been reported in the previous studies, the higher levels of physical and overall aggression in females require further exploratory studies for the possible reasons of the same.<sup>[11-13]</sup> Trends of low sex ratio at birth and at age of 5 are prevalent in Punjab state of India. Gender discrimination and desire for the male child could be a possible causative factor for aggression among young sensitive girls. Moreover, the voice of females being suppressed since ages and their basic needs being unfulfilled, as a result leaving them vexed. This continuous cultural suppression of females reflects as some or the other forms of aggression.

## CONCLUSION

In our study, high prevalence of aggression (51.9%) was found in school-going adolescents – with males having more of physical aggression and females having hostility. Interventions aimed at the urban children, early aged adolescents, and nurturing family environment are the need of the hour to save our youths from ill experiences in life. Increasing levels of aggression in females also need to be checked. Motivational counseling and health awareness need to be provided to the adolescents to solve their problems at the earliest possible.

## Recommendations

The interventions might include – deep breathing exercises, time-outs, drinking a glass of water, interactive sessions with parents, teachers and counselors, coping up with the stress related to relationships and academic performance, regular exercises in terms of team sports, meditation, and yoga. The parents can also be sensitized to the needs of budding

youth – to provide a conducive environment for the proper behavioral development.

## Limitations

It has a limitation that the respondents' response may have varied according to their present state of mind at that time.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms.

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Nil.

## Conflicts of interest

There are no conflicts of interest.

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