The Prevalence and Patterns of Aggression in School Adolescents in a Rural Area of Moga District of Punjab, India

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DOI: https://doi.org/10.24321/2349.2880.201805

Introduction: Aggression among youth is a major concern now-a-days as it is known to be linked with violent and criminal activities in later life. There is a high prevalence of aggression reported among adolescents in the country. However, few studies are available based in rural parts of our country.

Objective: To find the prevalence and patterns of aggression among adolescents from rural areas.

Methods: A cross-sectional study was conducted among 300 students of 9th and 10th classes in three schools of Moga district of Punjab. Aggression was assessed using the Buss and Perry aggression questionnaire.

Results: The prevalence of overall aggression came out to be 61.7% and nearly all forms of aggression had an equal prevalence, with physical aggression being the most common form. The overall prevalence of aggression was found to be significantly associated with younger age (<15 years), belonging to a nuclear family and the working status of mothers.

Conclusion: Aggression among school adolescents is high and needs immediate attention of school and health authorities.

Keywords: Adolescents, Aggression, Physical aggression, Youth, Rural, Violence

Introduction
Aggression is a behavior aimed at causing physical or psychological pain to any living being. Social learning through interactions in early childhood has been seen as a building block for levels of aggression, which plays a crucial role in the development of peer relationships in middle childhood. Overall, an interplay of biological, social, and environmental factors can be considered as contributor to the development of aggression.

Adolescents are often not able to cope with the drastic changes that take place in their physical and psychological health. Psychological problems in this period occur due to disturbed relationships with parents, teachers, seniors and peers, scholastic backwardness compared to high expectation, sexual experimentation, and substance abuse. All these are often directly or indirectly associated with aggression as well as psychological morbidity. Gender is a factor that plays a role in both human and animal aggression. Males are historically believed to be generally more physically aggressive than females from an early age.

The increasing crime rates and violent activities of youth in India have made the researchers focus on aggression among youth. However, there is a paucity of studies that have

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How to cite this article: Garg I, Sethi S, Kishore J. The Prevalence and Patterns of Aggression in School Adolescents in a Rural Area of Moga District of Punjab, India. Ind J Youth Adol Health 2018; 5(1): 43-46.
been conducted regarding aggression among adolescents in rural India. The current study sought to contribute to the data on aggression among adolescents, with the aim of determining the prevalence and patterns of aggression in school-going children in a rural area of Punjab, using the Buss-Perry Aggression Scale.

**Methods**

A cross-sectional study was conducted involving 300 students of 9th and 10th classes in three schools of Moga district of Punjab using a pre-designed, structured, and self-administered questionnaire. Convenient sampling was done because of limitation of study duration and resources.

The sample size was calculated using the formula, \( N = \frac{Z_{\alpha}^2pq}{L^2} \) where \( N \) is sample size, \( Z_{\alpha} = 1.96 \) is the value of the standard normal variate corresponding to level of significance (alpha) 5%, \( p \) is total prevalence of aggression (17.7%) taken from a previous study, \( q = (1-p) \), \( L \) is allowable error (5%). Adding a 10% non-response rate, the minimum sample size was found to be 256.

The questionnaire included variables pertaining to socio-demographic history like age, gender, religion, type of family, caste, working status of mother and monthly income (per capita), and also the Buss and Perry aggression questionnaire was used to collect the information. The questionnaire was translated into Hindi, back translated to English by an independent person, and then matched with the original questionnaire to ensure validity of the translation.

The data obtained was compiled in Microsoft Excel and data analysis was done by SPSS v16. Chi-square test was used to find the association between aggression and independent variables such as socio-demographic characteristics, and a \( p \) value <0.05 was considered significant.

Institutional Ethical Committee of Vardhman Mahavir Medical College & Safdarjung Hospital, New Delhi, approved the study. Consent was obtained from the principals of the concerned schools, and assent was taken from the participants. Participants were assured of the confidentiality and were free to decline from participation in the study at any point of time.

**Results**

The age of the adolescents ranged from 13 to 19 years (mean 15.11±0.93 years). An almost equal distribution of male and female participation was found. Majority of the participants belonged to nuclear families (181, 60.3%), and were of Sikh religion (262, 87.3%). Majority of the students’ fathers were working (281, 92.5%) whereas almost three-fourths of the students’ mothers were not working (227, 75.6%) (Table 1).

| Socio-demographic Characteristic | Number (percentage) |
|----------------------------------|---------------------|
| **Gender**                       |                     |
| Male                             | 152 (50.7%)         |
| Female                           | 148 (49.3%)         |
| **Family Type**                  |                     |
| Nuclear                          | 181 (60.3%)         |
| Joint                            | 119 (39.7%)         |
| **Religion**                     |                     |
| Sikh                             | 262 (87.3%)         |
| Hindu                            | 35 (11.7%)          |
| Other*                           | 3 (1.0%)            |
| **Father (n=295)**               |                     |
| Working                          | 281 (95.25%)        |
| Non-working                      | 14 (4.75%)          |
| **Mother (N=300)**               |                     |
| Working                          | 73 (24.33%)         |
| Non-working                      | 227 (75.67%)        |

*Others include Muslims and Jains. **Five participants’ fathers were deceased.

The total score for aggression on the Buss and Perry Aggression Questionnaire (maximum score=145), ranged from 44 to 121, with a mean of 83.77 (SD±11.59). Using the mean score as cut-off, total aggression was found in majority (185, 61.7%) of the participants, and nearly all forms of aggression had an equal prevalence, with physical aggression being the most common form. A significantly higher proportion of females was found to be aggressive (\( p \)-value 0.001), angry (\( p \)-value <0.001) and hostile (\( p \)-value 0.004). In males, verbal aggression was
found to be maximum at 48.7%, whereas in females, anger component of aggression was maximum at 62.2% (Fig. 1). The overall prevalence of aggression was found to be significantly associated with younger age (<15 years), belonging to a nuclear family and the working status of the mother (Table 2).

The study also showed higher levels of overall aggression in females as compared to males. Though the higher levels of verbal aggression, anger, and hostility in females have also been reported in previous studies, the higher levels of aggression was 61.7%, which is consistent with the study conducted by Dutt et al. in 2013.\(^6\) By the Buss and Perry Aggression Questionnaire, the mean value came out to be 83.77 (±11.59), which is similar to the findings of the study by Sharma et al in 2014.\(^6\)

**Table 2. Distribution of Study Participants according to Determinants of Aggression (N=300)**

| Aggression Status          | Total          | p-value |
|----------------------------|----------------|---------|
|                            | Aggressive     | Non-aggressive |
| Age                        |                |          |
| <15 years                  | 48 (60.8%)     | 31 (39.2%) | 79 (100%) |
| >=15 years                 | 84 (38%)       | 137 (62%) | 221 (100%) |
| Religion                   |                |          |
| Sikh                       | 167 (63.7%)    | 95 (36.3%) | 262 (100%) |
| Non-Sikh                   | 18 (47.4%)     | 20 (52.6%) | 38 (100%)  |
| Family Type                |                |          |
| Nuclear                    | 120 (66.3%)    | 61 (33.7%) | 181 (100%) |
| Joint                      | 65 (54.6%)     | 54 (45.4%) | 119 (100%) |
| Working Status of Father (N=295) |          |          |
| Working                    | 171 (60.9%)    | 110 (39.1%) | 281 (100%) |
| Non-working                | 10 (71.4%)     | 4 (28.6%) | 14 (100%) |
| Working Status of Mother   |                |          |
| Working                    | 53 (72.6%)     | 20 (27.4%) | 73 (100%) |
| Non-working                | 132 (58.1%)    | 95 (41.9%) | 227 (100%) |

**Discussion**

The present study has highlighted the presence of aggression in adolescents in the rural areas of Moga district of Punjab. The study has revealed that the overall prevalence of
physical and overall aggression in females require further exploratory studies for the possible reasons of the same.\textsuperscript{8,10} Punjab state of India has adverse sex ratio at birth and at age 5 years. Male preference and gender biases in the society could be another reason for aggression among sensitive girls. Aggression could be repercussion of suppression of girls. Such conditions create various psychosocial pressures among girls.\textsuperscript{11} In another study, conducted in Delhi on aggression among school adolescents, it was found that males were more victim of offline and online bullying but gender difference of perpetrators was not much.\textsuperscript{12}

It was also revealed in the present study that adolescents, whose mothers were working, had a significantly higher prevalence of total aggression than those whose mothers were housewives. The adolescents, whose mothers are working, usually feel lonelier in the daytime and there is more scope to be engaged in anti-social activities. They often feel neglected and that enough care is not being taken of them. According to the negative effect theory of aggression, there is more chance of these adolescents to be aggressive. Similar findings were reported by Datta et al.\textsuperscript{1}

It was also seen that adolescents belonging to nuclear families had a higher score than those belonging to joint families. This again can be explained by the tendency to be alone at times and more scope for engaging in anti-social activities. According to the negative theory of aggression, once again, there is more chance of these adolescents to be aggressive. Similar findings have not been reported in any previous studies.

Our study had the limitation of duration, and drawing a convenient sample from three schools in the Moga district of Punjab, hence our findings may not be generalizable to adolescents across the country; however, the use of a standard validated questionnaire and adequate sample size strengthens the internal validity of our study.

In conclusion, aggression is highly prevalent among the school-going adolescents of rural areas of Moga, Punjab. Interventions aimed at adolescent children from nuclear families and with working mothers, are the need of the hour to reduce the same. Also, the higher levels of aggression in females need to be looked into to find the causes with more studies.

**Conflict of Interest:** None

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Date of Submission: 2018-02-28
Date of Acceptance: 2018-03-01