

EFFECTIVENESS OF STRUCTURED INTERVENTION MODULE ON AGGRESSION AMONG ADOLESCENTS OF NEPAL**^{1,*}Moushami Giree and ²Dr.Dorwin Das**¹Ph.D Scholar, Psychiatric Nursing, Mansarovar Global University, Bhopal (M. P) India²Head of Department Medical Surgical Nursing, Bombay Hospital College of Nursing, Indore, India**Received 24th January 2024; Accepted 27th February 2024; Published online 29th March 2024**

Abstract

Aggression in adolescents is a complex issue involving verbal hostility and physical brutality. It can be harmful for both the perpetrator and victim, and can ruin an adolescent's future. Adolescents often struggle with adjustment to changes in their physical and mental well-being, which can be influenced by factors like substance abuse, sexual experimentation, and strained relationships. Gaming addiction has also been linked to the development of aggressive behaviors among adolescents. This study aimed to assess effectiveness of structured intervention module on aggression among adolescents. A true experimental study was conducted among 348 adolescents each from control, and experimental group. The questionnaire was developed by using Aggression Scale. Data were coded, entered and analysed with the help of Software Statistical Package for Social Sciences (SPSS) version 21. Data analysis were done by using descriptive (mean, frequency, percentage and standard deviation) and inferential (paired t-test) statistics to find out the relationship. The control group consisted of 56.3% male participants aged 16-17 years, while the experimental group had 79.9% male participants aged 18-19 years. The majority of participants belonged to the Janajati ethnic group, with 44.4% belonging to this group and 37.1% belonging to the experimental group. After the intervention, there was a significant decrease in the level of aggression among the experimental group, dropping from 69.0% to 56% at the end of the 3-week post-intervention period and further reducing to 38.5% at the end of the 6-week post-intervention period. During the post-test at 3 week, there was a significant difference in mean scores for aggression between the control group (37.8±14.7) and experimental group (22.0±18.0) and similarly at 6 weeks post-test between control group (37.7±14.6) and experimental group (11.1±0.7) with a p-value of less than 0.0001. The study showed that structured intervention module was effective in reducing aggression among adolescents in experimental group. Conducting similar school based educational interventions among adolescents can help to prevent and reduce aggression.

Keywords: Adolescents, Aggression, Control, Experimental, Nepal, Nursing Students.

INTRODUCTION

Aggression in adolescents is a complex and multifaceted phenomenon that encompasses a range of behaviours, from verbal hostility to physical brutality. These days, it's not unusual to see adolescents engaging in violent behavior on a regular basis.¹ Aggressive behavior can occasionally be harmful for both the perpetrator and the victim. An impulsive display of anger can occasionally ruin an adolescent's future.²

Adolescents frequently struggle to adjust to the significant changes in their physical and mental well-being.³ A number of factors contribute to psychological issues during this time, including substance abuse, sexual experimentation, strained relationships with parents, instructors, peers, and seniors. All of these are frequently connected, either directly or indirectly, to psychological illness and violence. Besides, gaming addiction has been influencing factor for development of aggressive behaviors among adolescents at present context.⁴ As per American Psychological Association (APA), violent video game are predictive factor for aggressive behavior.⁵ Playing video games has been found to increase aggressive behaviors among adolescents as supported by study.⁶ In Spain, 57.6% adolescents showed verbal aggression,⁷ 39.2% experienced medium levels of physical aggression in China⁸, and 46.4% experienced physical aggression in India.⁹ Aggression was prevalent among 10.3% adolescents in Nepal.¹⁰ Different steps has been taken globally to reduce aggression among adolescents.

A school based program showed significant effect on reducing aggression.¹¹ Similarly, another study showed that after intervention, experimental group showed theory based educational intervention was effective on improvement of aggressive behavior.¹² However, limited interventional studies are conducted in Nepal to reduce aggression among adolescents. Thus, to fulfil this gap present study aimed to conduct intervention on aggression and analyses its effectiveness in Nepal.

MATERIALS AND METHODS

A true experimental research design was adopted for this study and conducted among adolescents from two higher secondary schools of Kathmandu. One school was considered as control group and other as experimental group. Sample of 348 in each group was selected by using stratified proportionate random sampling technique. Based on the nature of this study, tools such as self-administrative questionnaire was used to gather necessary data from the participants. The questionnaire was developed by using aggression scale developed by Orpinas and Fankowski.¹³ There were 11 item aggression scale developed by Pamela Orpinas and Ralph Frankowski to measure aggressive behaviour among adolescent. The total score ranged from (0-66). Each item were scored as below: never -0, 1 time-1, 2 times-2, 3 times-3, 4 times-4, 5 times -5, and 6 times or more. A self-administered questionnaire related to socio demographic variable, family characteristics, school characteristics and gaming variable was prepared. A pretesting of aggression was measured by using aggression scale. A

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structured interventional module was prepared and content validity of structured interventional module was ascertained in consultation with the guide and expertise from the field of psychiatric nursing, psychiatrist and statisticians. Further consent was taken from participants regarding willingness to participate in the study. Then the structured intervention module was rendered in a controlled classroom session. Multiple post-tests was done, one in three and another in six weeks after the intervention, using the same tool used for the pre-test to explore the effect of educational intervention. The collected data were checked for completeness and then entered in the Statistical Package for Social sciences (SPSS) version 21 computer software for further analysis. Descriptive statistics such as frequencies, percentage, mean median, standard deviation were used to describe the data. Inferential statistics Paired t-test and Independent t-test was used to assess effectiveness of structured intervention module before and after intervention.

RESULTS

Table 1 presents the demographic characteristics of the participants. The mean age of the participants was 17.3 years in the control group and 18.3 years in the experimental group. The majority of the participants (56.3%) in the control group were aged between 16-17 years, whereas the majority (79.9%) in the experimental group were aged between 18-19 years. In terms of gender distribution, more male participants (52.6%) were present in the control group than female participants (47.4%), while in the experimental group, male participants (55.7%) were also higher than female participants (44.3%). Regarding ethnicity, the majority of the participants in both control and experimental groups belonged to the Janjati ethnic group. The majority of the participants in both control and experimental groups were from nuclear families, with 62.1% and 60.6% respectively.

Table 1. Socio-demographic Characteristics n= 348

Characteristics	Category	Control		Intervention	
Age (in years)	16-17	196	56.3	70	20.1
	18-19	152	43.7	278	79.9
	Mean age \pm SD	17.3 \pm 1.2			18.3 \pm 1.2
Sex	Male	183	52.6	194	55.7
	Female	165	47.4	154	44.3
Ethnicity	Brahmin/Chhetri	124	35.6	129	37.1
	Janajati	155	44.5	136	39.1
	Madhesi	19	5.5	24	6.9
	Dalit	15	4.3	29	8.3
	Muslim	3	0.9	8	2.3
	Others	32	9.2	22	6.3
Family Type	Nuclear	216	62.1	211	60.6
	Joint	120	34.5	117	33.6
	Extended	12	3.4	20	5.7
Education Status of Father	Illiterate	20	5.7	17	4.9
	Can read and write only	52	14.9	34	9.8
	Primary level	90	25.9	93	26.7
	Secondary level	102	29.3	110	31.6
	Higher Secondary level	60	17.2	64	18.4
Education Status of Mother	Graduate and above	24	6.9	30	8.6
	Illiterate	59	17	47	13.5
	Can read and write only	55	15.8	63	18.1
	Primary level	75	21.66	87	25
	Secondary level	107	30.7	108	31
Occupation of Father	Higher Secondary level	37	10.6	33	9.5
	Graduate and above	15	4.3	10	2.9
	Self Employed	120	34.5	141	40.5
	Government Employee	45	12.9	40	11.5
	Agriculture	83	23.9	77	22.1
Occupation of Mother	Others	100	28.7	90	25.9
	Self Employed	212	60.9	189	54.3
	Government Employee	46	13.2	44	12.6
	Agriculture	17	4.9	16	4.6
Current Guardian/Parents	Others	49	14.1	45	12.9
	Both Parents	190	54.6	229	65.8
	Father only	15	4.3	4	1.1
	Mother Only	18	5.2	15	4.3
	Family Members	72	20.7	60	17.2
	Relatives	41	11.8	32	9.2
Faculty Stream	Others(Hostel Warden, Alone, Boss at workplace)	12	3.4	8	2.3
	Science	72	20.7	94	27
	Management	242	69.5	179	54.4
	Humanities	18	5.2	51	14.7
	Law	16	4.6	24	6.9
Grade	11	210	60.3	245	70.4
	12	138	39.7	103	29.6

Table 2. Level of aggression and their pre/post-test status in control and experimental group

							n=348
Level of Aggression	Pre-Control	Post-Control at 3 weeks	Post-Control at 6 weeks	Pre-Experimental	Post-Experimental at 3 weeks	Post-Experimental at 6 weeks	
None	116(33.3%)	121(34.7%)	136(39.12%)	108(31.0%)	153(43.9%)	214(61.5%)	
Yes	232(66.7%)	227(65.2%)	212(60.9%)	240(69.0%)	195(56.0%)	134(38.5%)	

Table 3. Paired Samples test of Pre and Post-test among control and experimental group regarding level of aggression

					n=348
Level of Aggression	Pre-test	Post-test at 3 Weeks	Post Test at 6 Weeks	Paired T-Test	P-Value
Control	36.6±14.6	37.8±14.7	37.7±14.6		0.000
Experimental	34.6±0.7	22.0±18.0	11.1±0.7		0.000

Table 4. Mean comparison of Pre and Post-test among control and experimental group regarding level of aggression

				n=348
Level of Aggression	Control	Experimental	P-Value	
Pre-test	36.6±14.6	34.6±0.7	0.072	
Post-test at 3 weeks	37.8±14.7	22.0±18.0	0.000	
Post-test at 6 weeks	37.7±14.6	11.1±0.7	0.000	

In terms of the level of education of the father, the majority of the participants in both groups had fathers who completed their secondary education (29.3% and 31.6% respectively). Similarly, in terms of the level of education of the mother majority had completed their secondary level of education (30.7% and 31%). In terms of occupation, the majority of the fathers in both control and experimental groups were self-employed (34.5% and 40.5%) while the majority of the mothers in both groups were homemakers (60.9% and 54.3%). Finally, the majority of the participants in both control and experimental groups had both parents as their current guardians/parents (54.6% and 65.8%). Considering the educational background, majority of the participants were from management stream (69.5% and 54.4%) in both control and experimental group. Similarly, Most of the students were from grade 11 in both group.

Table 2 presents the prevalence of aggression levels among the study participants in both the control and experimental groups before and after the intervention. During the pre-test, the control group had an aggression rate of 66.7%, while the experimental group had a rate of 69.0%. After the intervention, there was a significant decrease in the level of aggression among the experimental group, dropping from 69.0% to 56% at the end of the 3-week post-intervention period and further reducing to 38.5% at the end of the 6-week post-intervention period. On the other hand, the control group had a slight decrease in aggression rate, going from 66.7% to 65.2% at the end of 3 weeks post-test, and 60.9% at the end of 6 weeks post-test.

Paired Sample Test

Table 3 displays the paired sample test results for pre and post-tests at 3 and 6 week period among the control and experimental groups regarding the level of aggression. There was a significant mean difference in both groups during pre and post-tests ($p < 0.0001$).

Independent Samples Test

Table 4 presents a comparison of the mean scores of pre and post-tests between the control and experimental groups in terms of aggression level.

The results indicate that there were no significant differences in mean scores for aggression between the control and experimental group during pre-test. However, during the post-test at 3 week, there was a significant difference in mean scores for aggression between the control group (37.8±14.7) and experimental group (22.0±18.0) and similarly at 6 weeks post-test between control group (37.7±14.6) and experimental group (11.1±0.7) with a p-value of less than 0.0001.

DISCUSSION

In present study, the mean age was 17.3 with 1.2 standard deviation where (52.6% and 55.7%) were male in control and intervention group. Similarly there were 47.4% females, in control and 44.3% in intervention group. About 39.7% from control group and 29.6% from intervention group were studying in twelve standard. In study by Joshi et al.¹⁴ out of 417 students, the mean age was 17 (± 1.411) years, 278 (66.7%) were male and 150 (36.0%) were studying in twelve standard. During the pre-test, the proportion of aggression was 66.7% in the control group and 69.0% in the experimental group. Study by Joshi et al.¹⁴ showed that 57.79% of the participants were aggressive. In present study, after the intervention, there was a significant decrease in the level of aggression among the experimental group, reducing from 69.0% to 38.5%. In contrast, the proportion of aggression in the control group dropped from 66.7% to 60.9%. Similarly, in another study by Kumar et al.¹⁵ more than half (50.5%) of the participants were found to be aggressive. Shukla¹⁶ showed that most of the adolescents belong to average and low aggression category on aggression scale. In study by Gholamian et al.¹⁷ the intervention group showed significant differences in knowledge, attitude, subjective norms, perceived behavioural control, and enabling factors compared to the control group, and a significant decrease in internet usage was observed post-test, indicating a significant impact on the participants.¹⁷ Study have shown that there is a significant positive correlation between exposure to violent video games and adolescent aggression.¹⁸ The mean scores for video game addiction were not significantly different among the control group. However, there was a significant difference in mean scores comparison between pre and post-tests for the experimental group, with a p-value of less than 0.0001. Prior to the intervention, the means

of knowledge, attitude, subjective norms, enabling variables, and perceived behavioural control did not differ substantially between the two groups, according to an independent t-test ($P > 0.05$). Nevertheless, following the implementation of the educational intervention, the intervention group's mean scores for the aforementioned constructs significantly increased in comparison to the control group ($P < 0.001$).¹⁷ The results by Bonnier et al.¹⁹ demonstrated a significant increase in internet gaming disorder (IGD) prevalence between baseline and follow-up in the control group, a significant decrease in IGD rates among adolescents in the prevention intervention group between post-intervention and follow-up, and significant effects of the prevention intervention on Internet and gaming use.

This study found that there were no significant mean differences among control and experimental group during pre-test ($P > 0.05$) in video game addiction. However, during post-tests, the study found that there was a significant difference in the mean scores between the control group (3.7 ± 0.6) and the experimental group (1.9 ± 0.7). The difference was found to be statistically significant ($p < 0.0001$). Similarly, another pre-experimental study conducted in India showed that internet addiction and internet gaming disorder scores showed a similar degree of severity reductions on the intervention respectively at the end of week 8. In addition, the participants showed significant improvements in the quality of life inclusive of physical and psychological health post the completion of intervention program.²⁰ Another quasi-experimental study also showed that PIPATIC program was effective in reducing the level of Internet Gaming Addiction.²¹ Present study showed that the mean scores for video game addiction were not significantly different among the control group. However, there was a significant difference in mean scores comparison between pre and post-tests for the experimental group, with a p-value of less than 0.0001. Hazar and Hazar²² discovered that the total addiction scores and the sub-dimensions showed a significant difference between the pre- and post-tests, with the post-test scores being lower than the pre-test levels. It was demonstrated that the control group's post-test addiction scores were considerably greater than its pre-test values. Examining the post-test addiction scores of the experimental and control groups, it was discovered that the experimental group's level of addiction had dramatically decreased in comparison to the control group.

Conclusion

This study indicated that structured intervention module was effective in reducing aggression among adolescents. The experimental group demonstrated significant reduction in aggression at 3 weeks, and 6 weeks respectively. The results indicate that there were no significant differences in mean scores for aggression between the control and experimental group during pre-test. However, during the post-test at 3 week, and 6 week there was a significant difference in mean scores for aggression between the control group and experimental group. Conducting similar school based educational interventions among adolescents can help to prevent and reduce aggression.

REFERENCES

- Muarifah A, Mashar R, Hashim IHM, Rofiah NH, Oktaviani F. Aggression in Adolescents: The Role of Mother-Child Attachment and Self-Esteem. *Behavioral sciences* (Basel, Switzerland). 2022 May;12(5).
- Verma R, Kumar G, Yadav RK, Chayal V, Kalhan M, Bhalla K, et al. Association of psychosocial factors with aggression among school going rural adolescents in Haryana. *Journal of family medicine and primary care*. 2021 Oct;10(10):3720–4.
- Rahman MA, Kundu S, Christopher E, Ahinkorah BO, Okyere J, Uddin R, et al. Emerging burdens of adolescent psychosocial health problems: a population-based study of 202 040 adolescents from 68 countries. *BJPsych open*. 2023 Oct;9(6):e188.
- Li S, Wu Z, Zhang Y, Xu M, Wang X, Ma X. Internet gaming disorder and aggression: A meta-analysis of teenagers and young adults. *Frontiers in Public Health*. 2023;11(April):1–11.
- Calvert SL, Appelbaum M, Dodge KA, Graham S, Nagayama Hall GC, Hamby S, et al. The American Psychological Association Task Force assessment of violent video games: Science in the service of public interest. *The American psychologist*. 2017;72(2):126–43.
- Aleissa MA, Alenezi S, Saleheen HN, Bin Talib SR, Khan AH, Altassan SA, et al. The Association between Video Game Type and Aggressive Behaviors in Saudi Youth: A Pilot Study. *Behavioral sciences* (Basel, Switzerland). 2022 Aug;12(8).
- Rubio-Garay F, Carrasco MA, Amor PJ. Aggression, anger and hostility: Evaluation of moral disengagement as a mediational process. *Scandinavian Journal of Psychology*. 2016 Apr;57(2):129–35.
- Rai TS. Higher self-control predicts engagement in undesirable moralistic aggression. *Personality and Individual Differences* [Internet]. 2019;149:152–6. Available from: <https://www.sciencedirect.com/science/article/pii/S0191886919303423>
- Sharma D, Sangwan S. Impact of family environment on adolescents aggression. *Advance Research Journal of Social Science*. 2016;7(2):225–9.
- Sharma B, Rai MK, Sharma A, Karki S. Emotional and Behavioral Problems among Adolescents in Pokhara City in Nepal. *Journal of Nepal Health Research Council*. 2019 Jan;16(41):419–24.
- Shen L, Jiangi S, Tan S. The Effectiveness of School-Based Programs on Aggressive Behaviors among Children and Adolescents: A Systematic Review and Meta-Analysis. *Research on Social Work Practice*, [Internet]. 2024;0(0). Available from: <https://doi.org/10.1177/10497315241227147>
- Kaveh MH, Ghaysari E, Ghahremani L, Zare E, Ghaem H. The Effect of a Theory-Based Educational Intervention on Reducing Aggressive Behavior among Male Students: A Randomized Controlled Trial Study. *BioMed research international*. 2022;2022:6308929.
- Orpinas P, Frankowski R. The aggression scale: A self-report measure of aggressive behavior for young adolescents. *Journal of Early Adolescence*. 2001;21(1):50–67.
- Joshi A, Sharma K, Sigdel D, Thapa T, Mehta R. Internet Gaming Disorder and Aggression among Students on School Closure during COVID-19 Pandemic. *Journal of Nepal Health Research Council*. 2022 Jun;20(1):41–6.
- Kumar M, Kapoor R, Hiremath RN, Nimonkar R, Goswami A. Study of aggression and its factors among school going adolescents of Delhi, India. *Journal of family medicine and primary care*. 2023 Dec;12(12):3180–5.

16. Shukla KN. Aggression Among Rural Adolescents: A Study. 2022;(1):166–70.
17. Gholamian B, Shahnazi H, Hassanzadeh A. The effect of educational intervention based on BASNEF model for reducing internet addiction among female students: a quasi-experimental study. *Italian Journal of Pediatrics* [Internet]. 2019;45(1):164. Available from: <https://doi.org/10.1186/s13052-019-0761-4>
18. Shao R, Wang Y. The Relation of Violent Video Games to Adolescent Aggression: An Examination of Moderated Mediation Effect. *Frontiers in Psychology* [Internet]. 2019;10. Available from: <https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2019.00384>
19. Bonnaire C, Serehen Z, Phan O. Effects of a prevention intervention concerning screens, and video games in middle-school students: Influences on beliefs and use. *Journal of behavioral addictions*. 2019 Sep;8(3):537–53.
20. Sharma MK, Anand N, Tadpatrikar A, Marimuthu P, Narayanan G. Effectiveness of multimodal psychotherapeutic intervention for internet gaming disorder. *Psychiatry research*. 2022 Aug;314:114633.
21. Numanovich AI, Abbasxonovich MA. The Analysis Of Lands In Security Zones Of High-Voltage Power Lines (Power Line) On The Example Of The Fergana Region PhD of Fergana polytechnic institute, Uzbekistan PhD applicant of Fergana polytechnic institute, Uzbekistan. *EPRA International Journal of Multidisciplinary Research (IJMR)-Peer Reviewed Journal [Internet]*. 2020;(2):198–210. Available from: <https://doi.org/10.36713/epra2013>
22. Hazar Z, Hazar M. Effect of Games Including Physical Activity on Digital Game Addiction of 11-14 Age Group Middle-School Students. *Journal of Education and Training Studies*. 2018;6(11):243.
