



Effectiveness of anger Management training program in Managing Aggressive behavior of Adults with Mental retardation

Saini Neetu¹ and Najjar Sajad Ahmad²

¹Rehabilitation Psychologist, Disha School of Special Education and Rehabilitation Centre Meerut-250001, UP INDIA

²Human Factors and Applied Cognition Lab. Indian Institute of Technology Indore-452017, MP INDIA

Available online at: www.isca.in, www.isca.me

Received 15th June 2014, revised 23rd July 2014, accepted 13th August 2014

Abstract

This study aims to determine the efficiency of anger management training program in managing aggressive behavior of adults with mental retardation. The study, in total, included 10 adults, 5 of which were diagnosed with mild mental retardation (N=5) and the other 5 were diagnosed with moderate mental retardation (N=5), all the 10 participants were exhibiting aggressive behaviors. The age of the participants ranged from 18-40 years and it was divided into two groups (18 years 1 month-30 years, N=5; 30 years 1 month to 40 years, N=5). The pattern of "before and after without control group design" was followed in the present study. Binet-Kamat test of Intelligence was used to assess the intelligence level, VSMS was used to assess the adaptive behaviours of the participants and Behavioral Assessment scale for Adults with Mental Retardation (BASAL-MR) Part -B was used to assess Aggressive behaviours. Intervention of anger management training program, on individual basis, was given in 12 sessions. Post-test scores were obtained by using BASAL-MR PART-B after giving the intervention. Results suggested that anger management training program is effective in reducing aggressive behaviours in adults with mental retardation. Results are also discussed with respect to participant's age and level of retardation.

Keywords: Anger management training program, mental retardation and aggressive behaviour.

Introduction

Mental retardation is the most distressing and serious handicap in itself, however, the problem is compounded significantly when complicated by emotional and behavioral problems. The problem is even more doubled when the problem behaviour is severe and destructive like aggression and causes harm to other people. The World Health Organization of the United Nations Organization (UNO) in the International Statistical Classification of Disease and Related Health Problems (ICD-10) defines Mental Retardation as, "a condition of arrested or incomplete development of the mind, which is especially characterized by impairment of skills manifested during the developmental period, skills which contribute to the overall level of intelligence, i.e. cognitive, language, motor, and social abilities"¹.

Classification of mental retardation as per ICD-10: Mild

Mental Retardation: People with mild mental retardation have approximately an I.Q range of 50 - 69 (they can have a mental age of 9-12 years during their adulthood). In their classes in schools they will be considered as backward, slow learners and underachievers as compared to their counterparts. As adults, though not all, many adults will work independently and maintain great social relationship in the society.

Moderate Mental Retardation: Such people have an approximate I.Q range of 35 - 49 (as adults their maximum mental age ranges from 6-9 years). During their childhood, they

are proven to have marked developmental delays but they could manage independence in communication, academics and self-care. Mild degree of support will be required by this category as adults in order to function in the community.

Severe Mental Retardation: They need support throughout their lifespan and have an approximate I.Q range of 20 - 34 (during their adulthood period mental age ranges from 3 to fewer than 6 years).

Profound Mental Retardation: Their I.Q is below 20 (they achieve a maximum mental age of 3 years as adults, if somehow they lived upto that period of life, otherwise their lifespan is very short). Their communication, mobility and self-continece is severely affected.

Individuals with mental retardation have a notable deficiency in adaptive behaviour². American Psychological Association in their publication manual DSM-IV-TR defines 'Adaptive Behaviour' as, effectiveness in meeting the standards expected for his or her age by his or her cultural group. There are ten main areas of adaptive behaviour, which includes: Social skills, Self-care and home living, Self-direction, Communication, Functional academic skills, Work, Leisure, Health issues, Use of community resources and Safety³. In India, the survey of the National Sample Survey Organization (NSSO) in the 58th Round has shown that 94 per 1,000,00 are affected by this condition and it is found more in males as compared to females⁴. People with mental retardation manifest many

emotional and behavioural problems like self-injurious behaviours, hyperactive behaviours, aggression etc. In the present study the focus is on aggressive/anger behaviours only. Aggressive behavior is defined as a persistent pattern of behavior that causes or threatens harm to other people, violates the basic rights of others, violates age appropriate societal norms and rules, and causes impairments in social and academic functioning⁵. It is a general consensus that 75% of the population with mental retardation show aggressive behaviour in one form or the other. Aggression can be verbal, physical, or sexual which includes threatening behavior or verbal hostility that may provoke confrontations; resistiveness, striking out, biting, property destruction; elopement and direct physical attacks on others respectively.

Although different methods have been attempted in the treatment of aggressive behaviours- the use of tranquilising drugs, various forms of supportive psychotherapy, the only procedures which have produced consistently favourable outcomes are behavioural management of aggression. Behavioural management of aggression involves a series of stages like risk assessment, control of precipitants, early intervention, acute management and after-event evaluation. Both rehabilitation staff and family have to be very much trained in order to handle the aggressive behavior of the mentally retarded persons with minimum harm to persons and property. Appropriate training strategies can be recommended by the behavioural interventionists to assist a mentally retarded person with intellectual disability to gain better coping skills for dealing with his aggressive behaviour. Sometimes physical restraints are also needed to control an aggressive behavior. Use of physical restraints are only recommended, if the behavioural and pharmacological interventions have already exhausted.

Now-a-days emphasis is more on behaviour intervention which include different anger management techniques. Anger management lays down the strategies that reduces the emotional feelings and anger is expressed with least possible destruction to self, to others, as well as to the surroundings⁶. It incorporates psychological therapies and exercises that minimizes the degrees and effects of anger. This involves understanding one's anger patterns and dealing with them effectively.

There are various approaches to angry feelings. The three main approaches are expressing, suppressing, and calming. The assertive expression of anger (not aggressive expression) is considered to be the healthiest way for expressing anger. Unexpressed anger has devastating effects on the personal health of the individual. It can lead to pathological expressions of anger, such as passive-aggressive behavior. Finally, calming down inside means not just controlling outward behavior, but also controlling internal responses, taking steps to lower heart rate, calm oneself down, and let the feelings subside.

According to Norman Schultz anger response is determined by four factors⁶ : i. An external event, ii. A cognitive appraisal of

that event, iii. A physiological response to the event (muscle tension, increased heart rate), iv. A behavioral response (shouting, loss of temper, aggression) to these internal processes.

Non-pharmacological interventions are effective in managing aggressive behaviour⁷. Verbal and physical aggression reduced with mindfulness training which is a technique in cognitive-behavioural intervention⁸. Hassiotis and Hall conducted a research study to determine the efficacy of behavioral and cognitive behavioral interventions for outwardly-directed aggressive behavior for people with learning disabilities. Results indicated that interventions based on cognitive-behavioral methods like modified relaxation, assertiveness training, and anger management appear to reduce the aggression of intellectually disabled people⁹. Navaco used cognitive behavioral treatment along with his management package program for persons with intellectual disabilities. Results show that the intensity of anger was significantly reduced, as was reported by participants¹⁰. Intellectually disabled people with serious problem behaviours are suitable candidates for cognitive-behavioural interventions¹¹.

Willner, Jones, Tams, and Green in their study assigned fourteen clients with learning disabilities at random to two groups- a treatment group and a waiting-list control group. It was found that treatment group participants improved, on both self- and carer-ratings, relative to their own pre-treatment scores, and to the post-treatment scores of the control group¹². Two components of the cognitively based anger control intervention, i.e., relaxation and self-monitoring, can be successful in their own right, where relaxation helps in reducing anger and self-monitoring helps in reducing other challenging behaviours¹³. Cognitive-behavioral anger management is effective in adults with mild intellectual disabilities in a group format and improvements have been recorded on self-report measures of anger as well as in emotional and behavioural adjustment¹⁴. Cognitive-behavioural training program has been found effective in reducing aggressive behaviour and increasing self-control¹⁵. In their study Benson, et al. on the basis of components analysis of a cognitive-behavioral anger management program found that anger management training with mentally retarded adults may be effective¹⁶.

From the above review of literature it is evident that cognitive-behavioural training program is effective in reducing aggressive behaviour among persons with mental retardation, but there are very few studies which have studied the effectiveness of Novaco's Anger Management package in managing aggressive behaviour among persons with mental retardation¹⁷. So in the present study an attempt has been made for studying the effectiveness of Novaco's Anger Management package in managing aggressive behaviour among persons with mental retardation in Indian context.

Methodology

Participants: The study included 10 adults with mild and moderate mental retardation having aggressive behavior, aged 18 - 30 years (18 yrs 1 month-30 yrs, N=5; 30 yrs 1 month – 40 years, N=5). Five of the participants were with Mild Mental Retardation and the other five with Moderate Mental Retardation. All the participants had aggressive behaviour with/without other problem behaviours. None of the participants were having any other associated condition like epilepsy, hearing impairment, visual impairment. All the participants were staying with their parents and were attending centre based services at NIMH.

Research Design: The present study follows a “before and after without control group design”.

Tools used: All participants were administered Binet-Kamat Test of Intelligence standardized by V. V. Kamat¹⁸ and Vineland Social Maturity Scale- Indian adaptation by A.J. Malin¹⁹ to determine the level of general intelligence and adaptive behaviours respectively. Behavioral Assessment scale for Adults with Mental Retardation (BASAL-MR) Part –B developed by Dr. Reeta Peshawaria and Dr. D. K. Menon in the year 2000 at National Institute for the Mentally Handicapped, Secunderabad²⁰ was used to elicit information on the current level of problem behaviors of the participants. It is suitable for adults with mental retardation aged 18 years and above. The BASAL-MR, Part-B consists of 109 items grouped under the following twelve domains: i. Physical harm towards others, ii. Damage property, iii. Misbehaves with others, iv. Temper Tantrums, v. Self-injurious behaviors, vi. Repetitive behaviours, vii. Odd Behaviors, viii. Inappropriate social behaviors, ix. Inappropriate sexual behaviors, x. Rebellious Behaviors. xi. Hyperactive Behaviors, xii. Fears

Response measures: Written consent was taken from the clients/guardians and they were explained about the procedure of the intervention. Initially participants were assessed by using BKT and VSMS. Depending on the score obtained on these tests, diagnosis of mental retardation was made as per ICD-10. To evaluate the effectiveness of anger management training program in managing the aggressive behavior in adults with mental retardation, the participants were identified by researcher’s observation and instructor’s report (instructors of the Department of Adult Independent Living of NIMH), which then was confirmed by using BASAL-MR PART-B, and which formed the pretest scores. Then 12 intervention sessions of anger management training were given on individual basis and the duration of each session was one hour. After that BASAL-MR PART-B was used to get the post test scores.

Intervention package program: In this intervention package program adults with mental retardation are taught to inhibit or control the aggressive behavior through self- instructions. The theoretical framework in this package consists of Novaco’s

cognitive behavioural conceptualization of anger¹⁷, which has since then been used by various researchers and practitioners.

This package program was given in 12 intervention sessions. The duration of each session was one hour and during this one hour the participants were given ten minutes break. For the successful implementation of the intervention program, the following factors were considered: i. regular and intensive intervention sessions. ii. constant involvement of the subjects in the program. iii. a provision of 5 minutes session on regular basis to answer the queries of the subjects regarding the aggressive behaviour and the given package program.

Intervention Package program sessions: Introduction Session: In the first session of the training program the therapist and the clients introduced themselves to each other in a one to one setting i.e., the therapist and one client. Then the therapist explained the goal of the training program, the rules of participating and training procedure to the clients in a one to one setting. Then the clients were given the A-B-C (Antecedent-Behaviour-Consequence) spread sheet to identify the triggers of the aggressive behaviors. The therapist then asked the client to review the goals and procedures of the training program.

Cues and anger reducers Session: In the second session the client was asked to review the steps of the first session, he was helped to recall by giving clues if he had some difficulty in recalling the steps. Then the identification of the cues related to aggressive behavior was discussed with the client. After the identification of the cues the anger reducing techniques (reducers) were discussed with the client. The following techniques were used, i. Deep breathing, ii. Backward counting, iii. Pleasant imagery.

In deep breathing the client was asked to take a deep breath for five times when he identifies the cue of the aggressive behavior. In backward counting the adults with mild mental retardation were asked to count backwards from 20 to 1, and the adults with moderate mental retardation were asked to count backwards from 10 to 1 (because they can’t count backward from 20). In pleasant imagery the clients were told to close the eyes and imagine the pleasant scene that the client has ever witnessed. At last the therapist role played all the three reducers in front of the client and therapist asked the client to review the steps involved in the second session.

Triggers Session: In third session the clients were asked to review the steps involved in the first and second session. Then they were asked to identify the triggers of aggressive behavior (what makes you angry?). The therapist then role played all the steps explained to the clients till now i.e., identification of cues, applying reducers and identification of triggers. Then the clients were asked to review all the steps before ending the third session.

Reminders Session: In the fourth session the clients were asked to review the steps involved in the first, second and third session. After identifying the triggers explained to them in third session, they were explained how to use reminders like calm down and relaxation. The therapist then role played all the steps explained to the clients till now i.e., identification of cues, applying reducers, identification of triggers and use of reminders. Then the clients were asked to review all the steps before ending the fourth session.

Self evaluation Session: In the fifth session the clients were asked to review the steps involved in the first, second, third and fourth sessions. The clients were explained how to reward themselves when they successfully identify the cues, triggers, use of reminders and reducers. They were asked to give self-reward like self-patting, self-praising (good, well done). The therapist then role played all the steps explained to the clients till now, i.e., identification of cues, applying reducers, identification of triggers, use of reminders and use of self-evaluation. Then the clients were asked to review all the steps before ending the fifth session.

Thinking ahead Session: In the sixth session the clients were asked to review the steps involved in the first, second, third, fourth and fifth sessions. The clients were explained about the short and long term consequences of managing the aggressive behavior successfully like their interpersonal relations will be good and long lasting, their work behavior will be improved etc. They were also explained about negative consequences of aggressive behavior. Finally the clients were told to review the whole training program before ending the sixth session.

Rehearsal of full sequence Session: In these sessions the clients with the help of therapist rehearsed the training program. The therapist also introduced new skill behaviors in place of aggressive behaviors to the clients.

12 intervention sessions of anger management training lasting for one month ten days were given on individual basis and the duration of each session was one hour with ten minutes break. The gap between the two intervention sessions was two to three days. In the present study, all the 10 participants were given behavioural counseling in each session to implement the anger

management training program successfully. At the end of 12 interventions sessions, BASAL-MR PART-B was used to get the post-test scores. The study also compared the effectiveness of anger management training program in managing the aggressive behaviour among adults with mental retardation with respect to age and level of retardation.

Data analysis: The data was analyzed by using the 17.0 version of SPSS. Statistical techniques used to analyze the data were: percentages, mean, standard deviation, Wilcoxon test, and Mann-Whitney U test. The actual frequencies of aggressive behaviour were transformed into percentages for comparing the pre-test scores and post-test scores of the group as a whole. Wilcoxon test was used to analyze the significant difference between the pre-test and post-test scores. Mann-Whitney U test for two independent samples was also used for analyzing the significant difference between the pre-test and post-test scores with respect to age and level of retardation.

Results and Discussion

Results: As indicated in (table 1), pre-intervention mean is 100 and SD is 0.00 and the post-intervention mean is 57.336 and SD is 5.817 which shows significant change in behavior after intervention (W= 0.005 at 0.05 l.s.).

Table 2 shows that the mean rank reduction for the age group (18 years 1 month- 30 years) is 4.00 and the mean rank reduction for the age group (30 years 1 month – 40 years) is 7.00. Though apparently it is evident from the table that the participants within the age group of (30 years 1 month – 40 years) have benefitted more from the intervention as compared to the participants within the age group of (18 years 1 month- 30 years), but the difference is not statistically significant.

As indicated in (table 3), the mean rank reduction for mild mental retardation group is 5.60 and the mean rank reduction for the moderate mental retardation group is 5.40. Though apparently it is evident from (table 3) that the participants with mild mental retardation have benefitted more from the intervention as compared to the participants with moderate mental retardation, but the difference is not statistically significant.

Table-1
Showing pre and post intervention scores

	N	Mean	Std. Deviation	Wilcoxon W Asymp. Sig. (2-tailed)
Pre	10	100.000	0000	0.005*
Post	10	57.336	5.8177	

*P< 0.05

Table-2
Showing reduction scores with respect to the age of the participants:

Age	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Exact Sig. [2*(1-tailed Sig.)]
(18 y1 m- 30 y)	5	4.00	20.00	5.000	0.117
(30y 1m and 40 Years)	5	7.00	35.00		

P > 0.05, ns

Table-3
Showing reduction scores with respect to the level of retardation of the participants:

Level of Retardation	N	Mean Rank	sum of ranks	Mann Whitney U	Exact Sig. [2*(1-tailed Sig.)]
Mild M.R	5	5.60	28.00	12.00	1.000
Moderate M.R	5	5.40	27.00		

P > 0.05, ns

Discussion: Although different methods have been attempted in the treatment of aggressive behaviours, the only procedures which have produced consistently favourable outcomes are behavioural management of aggression. The major finding of the present study is that anger management training program is effective in managing aggressive behavior in adults with mental retardation. The above mentioned research finding is in line with the findings reported by Benson et al.,¹⁶ who concluded that there were reductions in aggressive responding of intellectually disabled adults through the implementation of anger management training program. Cognitive-behavior anger management techniques have been found effective in managing aggressive behavior among adults with mental retardation by previous researches as well^{21, 10}. It was evident from the post-test scores of BASAL-MR (Part-B), that there were reductions not only in the frequency of aggressive behaviors but other behavioral problems (for e.g., rebellious behaviors, damages property, and self- injurious behaviors) also. This finding of the present study is also in line with previous research finding by Golden, and Consorte who used cognitive-behavior therapy techniques to train mildly intellectually disabled individuals to control their anger. They noted reductions in their anger outbursts, moreover, anxiety and stress related symptoms were also reduced²².

Another important observation of the present study is that most of the participants (8 out of 10 participants) were having deficits in social skills and were having less interaction with their co-workers and staff of the training centre. Similar finding is reported by Duncan, Matson, Bamburg, Cherry and Buckley who investigated the correlation of SIB and aggression with social skills among persons affected by severe and profound mental retardation. They found that such mentally retarded persons who displayed maladaptive behaviours have a restricted range of social/adaptive behaviours as compared to controls²³.

Another finding of the study reveals that there is a difference in the effectiveness of anger management training program in managing aggressive behaviors in adults with mild and moderate mental retardation with respect to the participant's age. Though the difference is not statistically significant, the findings indicate a trend that higher the age more effective is the anger management training program in managing aggressive behaviors among adults with mental retardation. In addition to the effect of anger management training program, the difference may be attributed to the therapeutic services which the participants were receiving from the Department of Adult Independent Living (DAIL) and General Services of NIMH, the participants falling in higher age

group have been receiving therapeutic services since a longer time as compared to the participants falling in lower age group.

Other finding of the present study reveals a difference, though not statistically significant, in the effectiveness of anger management training program in managing aggressive behaviors in adults with mental retardation with respect to level of retardation. The participants with mild mental retardation are more benefited by anger management training program in managing aggressive behavior as compared to adults with moderate mental retardation. It may be so, because participants with mild mental retardation are having less intellectual deterioration as compared to the participants with moderate mental retardation and comparatively they understand the instructions easily and they also know how to identify and use the cues, reducers and reminders for managing aggressive behaviors.

Conclusion

In conclusion, this research study has revealed that the anger management training program is effective in managing aggressive behaviours in adults with mental retardation in general and it is more effective in mild level of retardation as compared to moderate level of retardation. Research findings of this study also suggest that this anger management training programme is more effective in higher age groups (i.e., 30 years 1 month – 40 years) as compared to lower age groups (i.e., 18 yrs 1 month - 30 yrs.). Future researches on effectiveness of anger management training program in adults with mental retardation can be conducted on larger samples with a control group and over an extended number of sessions to keep maintenance in reductions of the frequency of aggressive behaviours. The major drawback of the study can be that the participants were receiving therapeutic services from the Department of Adult Independent Living (DAIL) and General Services of NIMH, which may confound the actual results of the study. Such drawback of the present study can be overcome in future researches and to study the effectiveness of anger management training program properly a control group may be taken, which was not taken in the present study.

References

1. World Health Organisation. International statistical classification of diseases and related health problems, 10th rev., 1, France, Geneva (1992)

2. Sattler J.M., Assessment of children: Behavioural and clinical applications. (4th ed.), San Diego, CA: Jerome M. Sattler, Inc. (2002)
3. American Psychological Association. Diagnostic and statistical manual of mental disorders, 4th ed. TR Washington, DC: (2000)
4. NSSO, Disabled Persons in India, NSS 58th Round (July-December-2002), Report No. 485, Ministry of Statistics and Programme Implementation, Govt. of India, New Delhi, (2003)
5. Fraser M.W., Nash J.K., Galinsky M.J. and Darwin K.E., Making choices: Social problem-solving skills for children, Wash-ington, DC: NASW Press, (2001)
6. Norman Schultz Updated by Heidi Burgess <http://www.crinfo.org/coreknowledge/anger-management> by May (2013)
7. Landreville P., Bedard A., Verreault R., Desrosiers J., Champoux N., Monette J. and Voyer P., Non-pharmacological interventions for aggressive behavior in older adults living in long-term care facilities, *International Psychogeriatrics*, **18(01)**, 47-73 (2006)
8. Singh N.N., Lancioni G.E., Winton A.S.W., Wahler R.G., Singh J. and Sage M., Mindful caregiving increases happiness among individuals with profound multiple disabilities. *Research in Developmental Disabilities*, **25**, 207-218 (2004)
9. Hassiotis A. and Hall I., Behavioural and cognitive-behavioural interventions for outwardly-directed aggressive behaviour in people with learning disabilities, *Cochrane Database Syst Rev.*, **18(4)**, CD003406 (2004)
10. Taylor J. L., Novaco R.W., Gillmer B. and Thorne I., Cognitive-behavioral treatment of anger intensity in offenders with intellectual disabilities. *Journal of applied Research in Intellectual Disabilities*. **15**, 151-165, (2002)
11. Gardener W.I., Cole C.L., Berry D.L. and Nowinski J.M., Reduction of disruptive behaviors in mentally retarded adults. A self-management approach, *Journal of Behaviour Modification*, **7(1)**, 76-96 (1983)
12. Willner P. Jones J., Tames R. and Green G., A Randomized Controlled Trial of the Efficacy of a Cognitive-Behavioural Anger Management Group for Clients with Learning Disabilities, *Journal of Applied Research in Intellectual Disabilities*, **15(3)**, 224-235 (2002)
13. Whittaker S., Anger control for people with learning disabilities; a critical review, *Behavioral and cognitive psychotherapy*, **29**, 277-293 (2001)
14. King N., Lancaster N., Wynne G., Nettleton N. and Davis R., Cognitive-behavioural Anger management training for adults with mild intellectual disability, *Scandinavian Journal of Behavior Therapy*, **28**, 19-22, (1999)
15. Etscheidt S., Reducing aggressive behavior and improving self-control: A cognitive-behavioral training program for behaviorally disordered adolescents, *Behavioral Disorders*. **16(2)**, 107-115 (1991)
16. Benson B.A., Rice C.J. and Miranti S.V., Effect of anger management training with mentally retarded adults in group treatment. *Journal of Consulting and Clinical psychology*. **54**, 728-729, (1986)
17. Novaco R.W., Anger control: The development and evaluation of an experimental treatment, D.C. Health, Lexington M.A. (1975)
18. Kamat V.V., Measuring Intelligence of Indian Children, (4th ed.), Bombay, Oxford University Press, (1967)
19. Malin A.J., Vineland Social Maturity Scale and Manual, Indian Adaptation. Nagpur: SWAYAMSIDDHA-Prakashana, Saraswathipuram, Mysore, Karnataka, India, (1992)
20. Peshawaria R. and Menon D.K., Behavioral Assessment scale for Adults Mental Retardation (BASAL-MR) Part -B, NIMH, Secunderabad, India (2000)
21. Moore E., Adams R., Elsworth J. and Lweis J., An anger management group for people with a learning disability, *British journal of Learning Disability*, **5**, 53-57, (1997)
22. Golden W.L. and Consorte J., Training mildly retarded individuals to control their anger through the use of cognitive-behavior therapy techniques, *Journal of Contemporary Psychotherapy*, **13**, 182-187 (1982)
23. Duncan D., Matson J.L., Bamburg J.W., Cherry K.E. and Buckley T., The relationship of self-injurious behavior and aggression to social skills in persons with severe and profound learning disability. *Research in developmental disabilities*, **20**, 441-448, (1999)