Evaluation of a Norwegian postgraduate training programme for the implementation of Aggression Replacement Training

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Abstract

In 2002, Rogaland College—an educational institution for the training of social educators, nurses and occupational therapists in Norway—started a postgraduate training programme entitled “Training of Social Competence”. The main subject of the programme was Aggression Replacement Training (Goldstein, Glick, & Gibbs, 1998), and the programme’s most important purposes were to train students in the identification, treatment, and prevention of aggressive and anti-social behaviour, and to teach them skills for the implementation of ART in organizations. Thus, the programme explicitly addressed factors associated with treatment effects, skills required as an ART trainer and programme implementation skills. The present paper reviews relevant research and briefly describes the positive evaluation results of the training programme.

Keywords: Aggression Replacement Training, social competence, social skills, anger control, evaluation, implementation

Introduction

The positive effects of cognitive behavioural and multi-modal programmes for the treatment of antisocial behaviour are well documented (Garrett, 1985; Andrews, Zinger, & Hodge, 1990; Lipsey, 1992; Wilson, Lipsey, & Derzon, 2003). Among such programmes, Aggression Replacement Training (ART; Goldstein, Glick, & Gibbs, 1998) seems to be particularly promising because it focuses on problem behaviours that are associated with outcome efficacy, e.g. lack of self-control (anger control training), limited social skills (social skills training), and antisocial attitudes (moral reasoning) (Andrews, Zinger, & Hodge 1990). A number of outcome studies, especially in the USA (Goldstein, Glick, Carthan, & Blancero, 1994; Nugent & Bruley, 1998; Nugent, Bruley, & Winimaki, 1999; Barnoski & Aos, 2004) confirm that ART is a promising method in that it is...
effective in reducing antisocial and aggressive behaviour. In Norway, ART is approved for prevention and treatment of behaviour problems in schools (Nordahl, Sørlie, Tveit, & Manger, 2003) and homes for youths with behaviour problems (Andreassen, 2003). The Norwegian Ministry of Children and Family Affairs has decided to establish five new institutions, one in each of five regions in the country, for children and adolescents with conduct disorders (Andreassen, 2003). Aggression Replacement Training (ART) will be an important part of the institutional treatment programmes adopted (Andreassen, in press).

In order to be effective, programmes need to ensure sufficient treatment integrity, which means that they are implemented as intended in theory and design (Hollin, 1995). Intervention outcome may not be as intended if a programme is implemented inappropriately (Barnoski & Aos, 2004). Andrews (1995) concluded that treatment integrity is a significant source of variability for intervention outcome, and the quality of the implementation of a programme can well be regarded as important as the programme itself (Lösel, 1995; Vennard, Sugg, & Hedderman, 1997).

The necessity of good programme integrity was the most important reason for Rogaland College, an educational institution for the training of health and social professionals at Nærø in Western Norway, to establish in 2000 a 2-year, part-time postgraduate training programme, entitled “Training of Social Competence” (Gundersen, Moynahan, Kalt, & Goldstein, 2001). The impetus for choosing ART as the method of choice for this programme was Arnold P. Goldstein, who presented ART that year at a national conference at Oslo. We realized that implementation of ART in Norway should be carried out via strict educational programmes for trainers in order to achieve good treatment integrity. Although the method of ART is thoroughly described by Goldstein et al. (1998), qualifications for ART trainers are not specified, and therefore there are no formal obstacles to start with ART after reading the literature. Our second intention was to establish a nationwide programme that not only would educate trainers in ART as a method, but also would teach participants to manage the implementation of ART in organizations.

In this paper, the evaluation of this postgraduate training programme is described. This evaluation had three different aims. The first aim was to evaluate intervention efficacy. As part of the training programme, the students learned to apply ART with children and juveniles with antisocial behaviour. Two groups of youths participated in a semi-randomized ART intervention versus control group design. This constitutes the first study of this kind in Scandinavia. A second aim of the evaluation was to operationalize students’ trainer qualifications. This part of the evaluation focused on whether the students actually led the groups according to the training principles, which they had learned during the educational programme. This evaluation was based among other procedures on an examination of the students’ own experiences. A third aim of the evaluation was to determine the students’ skills as implementers of ART. For this part of the evaluation examination grades, evaluation of student satisfaction, and judgements of students’ colleagues and superiors were included as measures.

The postgraduate training programme

The purpose of the postgraduate training programme ‘Training of Social Competence is to educate students with an extensive repertoire of skills for the identification, treatment
and prevention of antisocial behaviour. Students must have completed an education as a teacher, nurse or social educator. The programme teaches graduate students to adapt the programme to different client populations with different problems. In addition, students are stimulated to develop a more critical attitude towards the content, applicability, and results of various skills training programmes. Finally, as already mentioned, an important aim of the programme was to train the students as programme leaders.

The programme includes four components, and training is distributed over 2 years with eight 1-week concentrated training (gatherings) in student groups. Students achieve 60 ECTS (European Credit Transfer System) credits for course completion. The programme has been accepted by the Ministry of Education and Research as corresponding to 1-year full-time study. Briefly, the course contents are organized as follows:

a. eight weeks of theoretical education combined with skills training;
b. homework assignments that include documentation of practice in leading 24 sessions of ART for colleagues or students;
c. 120 hours of practice, including leading and evaluating 24 hours of ART for clients with antisocial behaviour; and
d. preparation of a scientific article and final examination.

The theoretical education includes theoretical underpinnings of ART and cognitive-behavioural treatment methods of aggressive and anti-social behaviour. Although ART is the treatment method of choice in the programme, other treatment programmes are also discussed, e.g. Webster-Stratton (Webster-Stratton & Herbert, 1996), Parent Management Training (Patterson, Reid, & Dishion, 1992), and Multi-Systemic Therapy (Henggeler, Schoenwald, Bordun, Rowland, & Cunningham, 1998). In addition, recent developments in ART, such as Salmon’s PEACE Curriculum (Salmon, 2004), and Family ART (Calame & Parker, 2003), are also presented.

When implementing a treatment protocol, the level of the staff member’s knowledge and pedagogical skills in performing the programme seems to be critical for outcome success (Andreassen, 2003; Woodward, 1997). Although research about those pedagogical skills is limited (Andrews, 1995), there are a number of factors that are known to influence trainer qualities (e.g. Goldstein et al., 1998), and all are dealt with extensively during the programme (see the Appendix for more details).

Another aim of the training programme is to train students as programme leaders. Successful implementation of the ART programme requires not only that interventions be performed adequately, but also that the implementation of the programme in the organization is conducted as optimally as possible. The function as programme leader is of great importance for treatment integrity (Cooke & Phillip, 2000), and a skilled programme leader is able to neutralize programme reversal and non-compliance (Hollin, 1995). He or she must therefore be familiar with the theoretical framework of the programme (Andreassen, 2003; Vennard et al., 1997), be able to work in a structured manner, and have a long-term perspective on his/her work. Harris and Rice (1997) noted that an important function of the programme leader is to maintain motivation, enthusiasm and responsibility for the programme within the institution (Lipsey, 1995). The competence of programme leaders thus seems to be a key factor to secure treatment integrity.
Evaluation of the postgraduate programme

Effect of ART for Norwegian juveniles with antisocial behaviour

Clients and procedure. Twelve ART groups were carried out by students following completion of the first year of the programme. At this point, the students were well qualified as ART trainers.

The ART groups resulted in outcome data from 65 youth clients. At the beginning of the study, potential participants were screened with a simple checklist (Gundersen, 2003) to differentiate three general levels of antisocial behaviour. Level 1 indicated that problem behaviours occurred less than once a month, level 2 that the frequency of these behaviours was between once a week and once a month, and level 3 that they happened between once a day and once a week. Each group (ART group and control group) had at least one participant at level 3 and just one or none at level 1.

Intervention effects were assessed using a between-groups semi-randomized design. The experimental group received 24 hours ART with at least four sessions from each of the standard components skills training, anger control training, and moral reasoning. On average, ART provided by students in this study had 10.8 sessions of social skills training, 8.4 sessions of anger control training, and 4.8 sessions of moral reasoning. Comparison subjects received standard social and educational services.

Measures. For each juvenile, target behaviours were assessed before and after ART, using multi-informant instruments providing assessments from youths, parents, and teachers. The test battery included Norwegian versions of the Social Skills Rating System (SSRS; Gresham & Elliot, 1990), the Child and Adolescent Disruptive Behaviour Inventory 2.3 (CADBI; Burns, Taylor, & Rusby, 2001a,b), the How I Think questionnaire (HIT; Gibbs, Barriga, & Potter, 2001), and the Achenbach System of Empirically Based Assessment (ASEBA; Achenbach & Rescola, 2001). In addition, a custom-made self-report problem behaviour questionnaire was developed (Gundersen & Svartdal, 2003). For information about the psychometric qualities of the instruments, see Gundersen and Svartdal (in press).

Results. Six of the sub-studies included both ART and control groups, whereas five of the sub-studies included an ART group only. In total, 47 youths received ART and 18 youths were included in the control group. Analyses were performed using ANOVA. Both within- and between-groups comparisons were performed. The effect of ART turned out to be positive. Participants in the ART group indicated significant improvement, both in terms of increased social skills and reduced antisocial behaviour. In contrast, participants in the comparison group did not, in general, indicate improvement. Specifically, participants in the ART group indicated significant changes in the predicted direction on nine out of 10 tests; in contrast, participants in the comparison groups demonstrated significant change in two out of 10 tests (Gundersen & Svartdal, in press).

Effect of the training programme on training skills of trainers

Students. Thirty-one students participated in the first class of the postgraduate training programme. All had at least 3 years of basic formal training as teachers or authorized social educators and were employed full time in schools and institutions. Mean age was 38.1 years. As part of the postgraduate training programme, the students had to plan and
complete a 24-session ART intervention, which is the intervention evaluated above. In addition to an extensive theoretical training, the students had extensive practical training from the outset of the programme, and each student was required to complete 24 training ART sessions with colleagues or youths prior to the main intervention.

**Measures and results.** Trainer qualities were measured by the students themselves and by observers. For practical reasons, assessment was limited to students’ evaluations. An assessment tool was constructed with which the students could rate their own training results with the help of the specified criteria for trainer qualities. The theoretically maximum score to be achieved was 21. Twenty-three students (14 females and nine males) provided data. The overall mean score was 18.8. Thus, students rated their own training very positively in terms of the specific goals that were intended for the training programme. We also assessed whether the students felt competent and secure about their own training skills. Out of 12 student groups, eight reported that they believed they had very good ART trainer skills, three reported that they had good ART skills, and one reported less proficient trainer skills.

**Effect of the postgraduate training programme on implementation skills for trainers**

**Students and procedure.** Evaluation of the students as programme leaders was complicated by the fact that none of the institutions had implemented ART as a standard intervention method. In order to determine if students had sufficient theoretical qualifications for the function of programme leader, students had to sit an individual, written examination and to submit a group manuscript on ART. The manuscript had to focus on practical issues, e.g. implementation problems, ethics, training ART with people with special diagnoses or in different organizations. On a scale from 1 to 6 (reflecting the grades A–F in the Norwegian University and College system; 1 is best), the main grade on the individual examination was 2.2 \((n = 31)\). The corresponding result for the final examination paper (which focused on the complete curriculum for the course, including theory and research methods) was 2.4 \((n = 16)\). Overall, this clearly indicates that a majority of the students had sufficient theoretical qualifications in order to function as programme leaders.

**Measures.** A four-point Likert scale was used to indicate possible changes in programme leader capacities as judged by the student, by colleagues and by superiors. They were asked to rate, before and after the postgraduate training programme, 20 statements on a scale, which ran from “very good” (1) to “very low” (4). The statements addressed three categories: Theoretical framework (six statements), ART (six statements), and effect on organization (eight statements). For example, three statements addressing effect on the organization were as follows: “The postgraduate training programme has contributed to a broader theoretical platform for understanding and treatment of problem behaviour”, “The postgraduate programme has had impact on the institution’s way of treatment”, and “ART seems to have good effect”.

**Results.** The overall results are shown in Figure 1. Most importantly, the results indicate a significant reduction (= improved rating) for all informants and on all three categories from pre- to post \(F(1,27) = 107.17\).

Finally, students’ overall rating of the training programme indicated a high satisfaction with the programme. For example, 82% of the students rated the quality of the programme as “Excellent” or “Very good”. We concluded that our trainer education was successful in
terms of achieving the goals specified above. Our positive results with the evaluation of programme leader capacities were in accordance with the finding that ART interventions were generally successful.

**Conclusion**

ART is a promising multi-modal method for the training of anger control, social skills and moral reasoning, but it is, like all intervention programmes, dependent on treatment integrity. To secure proper implementation of ART, we established a postgraduate training programme, Training of Social Competence, with ART as the main subject. The present article reflects our effort to evaluate this training programme along three different dimensions, namely (1) effect of a 24 hour ART conducted by students, (2) evaluation of students’ trainer competencies, and (3) evaluation of students’ competence as ART programme leaders. Overall, the results were good both in terms of outcome of the student projects, and in terms of evaluation of the training programme by the students themselves, their colleagues, and superiors.

However, we must also point to some limitations of this study. Most importantly, the outcome study of the student projects did not fulfil the criteria for a completely randomized study. Because randomization was based on pre-defined groups rather than on individual participants, practical circumstances (e.g. miscommunication to parents) occasioned that one or two groups that originally were planned as control groups had to be added to the ART group, resulting in fewer participants in the control group and more in the ART group. Clearly, a procedure that performed randomization at the individual level would be preferable. Another shortcoming of this study is that it focuses only on the short-term effects of the intervention.
It would be very interesting to conduct a study that includes a follow-up after 3 months or more. Performing such a study in Norway is, however, complicated by the fact that pupils change schools around the age of 13, making it difficult to track changes due to an ART intervention without having the results confounded by the effects of changing schools.

Improvement in students’ trainer qualities was confirmed by evaluations taken before the programme and after its completion. Interestingly, these evaluations were very similar regardless of informant (student, superior, colleague). It would be preferable, of course, to have more detailed evaluations during the training programme. For the next student group we will improve on this by applying the Performance Evaluation Applications developed by WSIPP (Washington State Institute of Public Policy; Barnoski & Aos, 2004).

Overall, one should be aware that the students participating in this programme all had at least 3 years of college or university education and several years of practice, and that they must be regarded as a highly motivated and competent group. Thus, subject characteristics might be important in translating effective intervention, trainer and programme leader principles into effective results. It will be interesting, therefore, to examine the results of ongoing ART programmes conducted by staff members who have taken a shorter ART trainer education of 8 days. These students will also be less selected in terms of prior education, experience, and motivation.

Since the interventions described in this paper were carried out in organizations with limited knowledge of ART and also partly outside the students’ ordinary working place, it was impossible to measure students’ abilities as programme leaders and thereby secure measurement of all aspects of treatment fidelity in the respective organizations. It is, therefore, a possibility that one might expect even better results if similar interventions were carried out in organizations with an explicit programme for training of staff members in ART.

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Appendix A—About trainer qualities

One of the most important factors in a successful ART programme is the quality of the interaction between trainer and youth. When implementing a protocol of treatment, the level of the staff member’s knowledge and pedagogical skills in performing the programme seems to be critical for outcome success (Andreassen, 2003; Woodward, 1997). There is limited research available to tell us which combinations of skills make a good trainer (Andrews, 1995), but it is likely that a successful trainer style should match the participant or group of participants. The following factors are known to be of importance for trainer quality (e.g. Goldstein et al., 1998):

(a) The trainer should demonstrate authority and consistency (“firm, but fair” attitude). Rules and consequences for breaking them are clearly defined and limits for breaking them are role-played. Trainer adheres to the same rules and acts according to the principles of ART.

(b) Ability of trainer to perceive and reinforce pro-social behaviour in group members. Ability to keep the group’s attention is almost contingent upon the trainer’s recognition of each student continuously and confirms their actions with smiles, nods, thumbs up and verbal statements. This ability is also a positive contribution to students’ self-esteem (Webster-Stratton & Herbert, 1996).

(c) Activity among the youths during the ART session. According to Andrews, Bonta and Hodge (1990), the best modes of training include techniques like modelling, graduated practice, and cognitive restructuring. These are characterized by students’ activity. The trainers’ task is to give brief instructions, demonstrations and evaluations and make the students themselves contribute with their own knowledge, performance and observations. A good goal is to maintain the student’s active lead and participation at 75% of the session and trainer-focused activity at 25% of the session.

(d) Tempo. To ensure optimal rehearsal and feedback and in order to maintain concentration, the trainer should accomplish the sessions in a certain tempo. In this way the trainer can prevent trouble occurring when students get bored. The tempo should nevertheless not be exaggerated, risking that students fail to learn.

(e) Creativity. Even if it is important to create a firm structure in an ART session, in the case where students are familiar with the sequence, the trainer should ensure there is still space left for creative performance. The demonstrations should be exciting, realistic and be illustrating for the theme. It is also important to vary both modelling of skills, presentation of moral dilemmas and concepts in anger control training. The use of dolls, video clips, cartoons, guests (models), hats or other requisites together with arranging ART in natural environments will contribute to maintaining further motivation.

(f) Generalization. A generalization programme should be an integrated part of an ART programme (Goldstein & Martens, 2000). One method of training generalization is by the following four steps (see Gundersen, 1999): (1) Training of new skills with known persons or circumstances according to agreement. For example, you can make an agreement with the student that today I will say something that can make you angry (accuse you of something that is not true) and you should practice anger control. Or you can make other interactions that influence skills or dilemmas. (2) Training of the new skills with unknown
persons or environments according to appointment. That means that you, for example, could say that today you will interact with people you don’t know, and you will have to practice your skills. (3) Training of the new skills with known persons or environments without prior appointment. That means that other staff members will interact in a way that demands certain skills without “warning”. (4) Training of the new skills with unknown persons or environments without prior appointment. This is the last step that implies that the skill is generalized.

(g) **Surprises, rewards, games.** To increase motivation we also strongly recommend that each session should include surprises, rewards or small games. The games in ART are not competitions, but should motivate participants for cooperation. There are many examples of good games in Moser and Dudas (1996) and Goldstein (1999).

(h) **Cooperation between trainer 1 and trainer 2 should be characterized by respect, helpfulness and secure distribution of roles.** Both trainers have important functions: Trainer 1 as the main leader and trainer 2 as the inter-group relationships leader.