Coming on strong: Is Responsive Aggression Regulation Therapy (Re-ART) a promising intervention?

Hoogsteder, L.M.

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Chapter 1

General Introduction

Introduction

Aggression is one of the most frequently occurring behavioral problems in adolescents (Blake & Hamrin, 2007). The term *aggression* is used widely and refers to a range of behaviors of various intensity that can result in both physical and psychological harm to oneself, other(s), or objects in the environment (e.g., provocations, threatening gestures, tantrums, and property destruction). Aggression is associated with violence, extreme negativism, and oppositional and antisocial behavior. Given the high societal costs of violent behavior (Cohen & Piquero, 2009), and the fact that adolescents who commit violent crimes have a greater risk for persistent criminal behavior throughout the rest of their lives (Garrido & Morales, 2007), there is a need for more effective treatment methods for severe aggressive/antisocial adolescents to decrease the risk for recidivism (Loeber, Slot, Van der Laan, & Hoeve, 2008).

Group-oriented cognitive behavioral therapy (CBT) is widely employed in treatment programs for youths with conduct disorder and aggressive behavior. Although meta-analyses demonstrated that CBT-oriented interventions[1] reduce recidivism, there is significant variation between studies (e.g., Hofmann, et al., 2012; Özabaci, 2011; Wormwith et al., 2007) Notably, CBT does not always have a positive effect (e.g., Marlowe, 2006, Ross & Hilborn, 2008). Some researchers have suggested that at least part of the target group may be more responsive to individual treatment than group treatment (DiGiuseppe & Tafrate, 2003; McGuire, 2008). This may be explained by deviancy training: adolescents with severe aggression problems negatively affect one another if treatment is delivered in a group (Dodge, Dishion, & Lansford, 2006; McGloin et al., 2008). Treatment outcome research indicates that a combination of interventions for both parents and youth may be the

[1] CBT can be seen as an umbrella term for therapies that share a theoretical basis in behavioristic learning theory and cognitive psychology, and that use methods of change derived from these theories *(*Alford, B.A., & Beck, 1998*)*.

most effective (e.g., Kazdin & Weisz, 2003; Kawabata et al., 2011). Most importantly, empirical evidence shows that interventions that make use of the risk-need-responsivity-principles (RNR) have a positive impact on reducing severe aggressive behavior (Andrews & Bonta, 2010; Wong, Gordon, & Gu, 2007), especially in high risk youth (Lipsey, 2009). Non-adherence to the RNR principles may even result in detrimental outcomes (Lowenkamp & Latessa, 2005).

The *Risk Principle* informs therapists about who needs treatment and at what level of intensity. High risk offenders should receive intensive treatment, whereas low risk offenders should be given minimal or no care (Andrews & Bonta, 2003). In order to achieve a significant reduction in recidivism, the treatment should last at least 6 months (Bush, 1995). The *Need Principle* refers to the importance of targeting dynamic criminogenic needs, such as antisocial personality, antisocial attitudes, relationship with deviant peers and poor family relationships (Andrews & Bonta 2006). The *Responsivity Principle* can be divided into general responsivity and specific responsivity. General responsivity represents the use of the most effective techniques to change the criminogenic needs. Specific responsivity means that the intervention should be tailored to the motivation, learning style, specific capabilities and limitations of the delinquent, while there should be a match between the client and the therapist (Bonta & Andrews, 2007).

Reviews of treatment for juvenile offenders suggest not enough attention is paid to the RNR-principles. Treatment is commonly one-size-fits-all (DeMatteo, Hunt, Batastini, & LaDuke, 2010). The specific responsivity principle is considered to be an essential part of the RNR-model, but has attracted little attention in research and has hardly affected the deliverance of treatment (Andrews & Bonta, 2010). In addition to the common evidence-based group-interventions for moderate to high risk adolescents, there is a need for largely individualized interventions that meet the RNR-principles and apply specific CBT-elements. It can be assumed that a part of the target groups will be more receptive (more responsive) to individually tailored interventions, because these interventions can more easily meet the RNR-principles, especially the specific responsivity principle (Bonta & Andrews, 2007).

This dissertation focuses on Responsive Aggression Regulation Therapy (Re-ART), which is an innovative behaviorally oriented (in- and outpatient) intervention for adolescents (16-24 years) with severe aggressive behavior problems. Re-ART is largely individualized (Landenberger & Lipsey, 2005) and based on the RNR principles (Andrews & Bonta, 2010). Re-ART uses cognitive-behavioral techniques (e.g., Lipsey, 2009), drama-therapeutic techniques (e.g., skills training, role playing; Sukhodolsky, Kassinove, & Gorman, 2004) and customized mindfulness exercises (in order to practice paying attention and non-judgmental observation; Pellegrino, 2012). To improve responsivity, Re-ART invests in motivating juveniles (Van Yperen, Booy, & Veldt, 2003) and increasing self-efficacy and learnability (Bandura, 1997). The intervention is focused on the adolescent's experience and frame of reference, and consistently monitors the therapeutic alliance. Re-ART is currently offered by a substantial number of forensic out- and inpatient facilities in the Netherlands[2].

The overall aim of this dissertation is to assess whether Re-ART is a promising intervention. A promising intervention is theoretically-based and there are qualitative and/or quantitative data, derived from (quasi-)experimental research, showing positive outcomes for the population of interest, while there is not yet enough research to support effectiveness and generalizability of positive outcomes (Justice & Pullen, 2003).

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[2] Residential: Amstelbaken, Den Hey-Acker, Eikenstein, Hartelborgt, Hunnerberg, Juvaid and Keerpunt. Ambulant: Accare, Bijzonder Jeugdzorg, Combinatie Jeugdzorg, De Waag, Het Dok, Palier, Triversum.

Re-ART: A newly developed intervention for severe aggression problems in juveniles

Features of Re-ART

Re-ART was developed in a secure juvenile justice institution, because practitioners indicated the need for a more responsive and individually oriented cognitive-behavioral treatment for youth with severe aggressive behavior problems. These youths had often been offered one or more aggression regulation training programs, without positive results. Re-ART was developed for boys and girls aged 16 to 24 years[3] with severe (persistent) aggression regulation problems in different settings (e.g., school, at home, sports club) and a moderate to a (very) high recidivism risk. Re-ART is thought to be applicable for juveniles from diverse ethnic groups, as the tailored approach links into the young person's reference framework, and therapists are trained in cultural sensitivity.

Re-ART contains a set of standard and optional modules (depending on the criminogenic problems at the individual level (need-principle). Re-ART offers the following standard treatment modules[4]: Intake and Motivation, Aggression Chain (psycho-education for self-comprehension, relapse-prevention plan), Controlling Skills, Influence of Thinking, and Assertive Behavior. The optional modules consist of Stress Reduction (Relaxation), Impulse Control, Emotion Regulation, Observation and interpretation, and Handling Conflicts. The module Family and/or Partner is optional in residential (inpatient) settings and standard in outpatient settings. The family module is focused on teaching family management skills, limit setting and supervision, problem solving, and improving family relationships and communication patterns. The treatment level can be adjusted to the intelligence, learning style, pace, preferred learning method (using an easy explanation of

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[3] The residential Re-ART version is for 16 to 21 year olds. See for more information about the modules and indication criteria the appendix.

the theory or doing more exercises) and/or needs (optional modules or parallel treatment, like addiction care) of the youths.

The adolescent receives largely individual training combined with a group module. The adolescent participates in the group module every other week, unless there is a contraindication (e.g., severe unadjusted behavior on the part of the juvenile in the group). Individual sessions take place at least once a week (in case of moderate recidivism risk). The group module consists of at least 12 to 14 sessions, while each session lasts one and a half hours. The group module can start as an adolescent begins with the individual module 'Influence of Thinking'. The group module focuses on cognitive distortions that are associated with several themes, such as revenge and insulted family members. Re-ART is based on the assumption that juveniles with multiple static risk factors (e.g., previous violent behavior), cognitive distortions or with comorbid mental disorders need more time to learn specific skills. The duration of the total intervention (individual and group modules) can vary from half a year to about 2 years dependent on the level of risk (risk-principle).

Parents and group workers are directly involved in the treatment process, and are taught skills that help the adolescent (potentially together with other members of the network) to reduce stress and aggression and implement home assignments. Both adolescents as well as parents are offered help to create a supportive network, replacing an antisocial network.

Theoretical frame of Re-ART

Re-ART uses the Transactional Model (Sameroff, 2009) to integrate the theory of Social Information Processing (SIP; Crick & Dodge, 1994; Dodge, 2006) and lack of executive functions (Schoenmaker, Mulder, & Decović, 2013). The transactional model asserts that an individual's development is the sum of ongoing bidirectional influences between the child/adolescent (biological dispositions) and his environment (e.g., sociocultural context, experiences with parents, peers, and school; Sameroff, 2009). Aggression problems are, therefore, thought to originate from a transactional process in which child factors, in particular cognitive distortions, and socialization factors, including attitudes, values, and morals**,** play an important role (Granic & Patterson, 2006).

Reciprocal interactions between child and parent factors have been associated with the development of externalizing problems (Gross, Shaw, & Moilanen, 2008; Zhang, Chen, Zhang, Zhou, & Wu, 2008) and a lack of self-regulation (Brody & Ge, 2001). The development of aggression regulation problems is associated with dysfunctional patterns of SIP (Dodge, 1986; Dodge, Coie, & Lynam, 2006). SIP asserts that antisocial behavior is the product of inadequate or disturbed social information processing. In this process, the child or adolescent receives and reads information from the environment and prepares to respond to social cues in five steps. The five-step model posits that adolescents first encode and then interpret cues. The next steps include the construction of a response, selecting a response, and enacting on that response. Reciprocal effects between the adolescents and their social environment and existing cognitive structures are incorporated into SIP. Each step of the process transacts with the individual's environment (Fontaine, 2006). From a transactional point of view, the displayed reaction or behavior leads to social consequences that inform the future SIP.

Research has demonstrated that aggression is associated with executive dysfunction (e.g., Syngelaki et al., 2009). Executive functions are cognitive processes that are required to organize goal-oriented, efficient, and socially appropriate behavior in new and unfamiliar situations (Huizinga, 2007). Diamond (2013) categorized executive functions as being part of the working memory, cognitive flexibility, and inhibitory control. The last component is, in particular, relevant for youths with aggression problems given that limited self-regulation means that it is difficult to control attention, behavior, and emotions. These youths are less able to make sensible choices because they are negatively influenced by their own impulses, emotions, or external stimuli. These theoretical notions underlying Re-ART explain the origins and development of aggressive and violent behavior. They describe which problems are related to aggressive behavior and need to be treated to realize positive changes. Re-ART offers, for example, different modules to improve executive functions (i.e., Controlling Skills, Impulse Control, and Emotion Regulation). There is also a focus on taking a better perspective during the first stage of encoding, making more rational interpretations and improving problem solving and social skills (SIP).

Highlights of therapeutic approaches and techniques

Re-ART uses therapeutic techniques like validation and several motivational techniques to improve the subjects' beliefs in their own abilities. Validation is the recognition and acceptance of another person's feelings, thoughts, behaviors and experience as valid and understandable. Validation communicates acceptance, and it helps to regulate emotions and build relationships. Validation fosters understanding and effective communication and shows the adolescent that he or she is important. Validation requires empathy and a judgment-free attitude that is held by the therapist, and communicates that the person's response makes sense (Linehan et al., 1999).

Maintaining motivation is also an essential part of Re-ART (Deci & Ryan, 2007). Treatment motivation is viewed as a dynamic concept within Re-ART. Change in treatment motivation is the result of interactions between the young person, therapist, and his or her (immediate) environment, and the manner in which the method is being offered (Rovers, 2010). Re-ART is focused on establishing contact, building a workable treatment relationship, and validation. Treatment motivation is encouraged where youth have a sense that they are being seen and heard (Van der Helm, Wissink, De Jongh, & Stams, 2012). In addition, it is relevant that the youths discover that a change in behavior is beneficial, particularly for themselves. Maintaining motivation is also aimed at emphasizing self-concordant goals (Koestner, 2008). An overview of the benefits and disadvantages is used, which works especially well if there is something that the young person is interested in achieving, which could potentially be thwarted by the negative consequences of aggressive behavior. Improving self-efficacy is another important aim of the program. The concept ’self-efficacy’ (Bandura, 1997) includes a judgment by the person about his/her own skills, opportunities, and capacities and the expectations he/she has of his/her own abilities. The better this judgment is the easier the young person learns and experiences success.

Re-ART is focused on doing structural exercises, such as exercises to differentiate, handle, and diminish negative emotions (by describing and observing the emotions), role playing, skills training, and mindfulness. Various scientific results (e.g., Lipsey, 1995; Rotter & Carr, 2010) showed that learning skills and providing experience-focused assignments lead to positive changes. Role playing provides the opportunity to experiment with new behavior, such as applying (social) skills, trying out solutions and learning perspective-taking. Learning about other people’s perspective is encouraged by allowing the youths to experience what people who are playing a role in a(n) (introduced) problem scenario might be thinking and feeling. In order to reduce inadequate thoughts, the adolescent is encouraged to take the perspective of another person who represents a contrasting (functional) way of thinking.

Re-ART also combines a variety of effective CBT-techniques (e.g., Lindsey, 2009, Rotter & Carr, 2010), such as psycho-education (e.g., insight-offering questions), imitation (demonstrating examples of expected behavior), Rational Emotive Therapy (awareness and changing of dysfunctional thoughts/cognitive restructuring), relaxation, and problem-solving[5]. Also transfer-training (practicing correct behavior in different social contexts) and moral development exercises (e.g., taking perspective, making choices, and thinking about the consequences) are important.

Program integrity

Maintaining program integrity is an important part of Re-ART. Research shows that a lack of positive treatment outcomes can be explained by insufficient treatment integrity (Goense et al., 2014; Helmond, Overbeek, & Brugman 2012). Program integrity (PI) can be defined as the degree to which a program is conducted as originally described (Duerden & Wit, 2012). Essential elements of increasing and maintaining a high level of program integrity are strictly applying the inclusion and exclusion criteria, phasing, duration and intensity, using the treatment method (Dutch Accreditation Panel, 2011). A high level of program integrity (PI) is essential, because it is otherwise impossible to determine whether or not (elements of) programs are successful in changing behavior (Durlak & DuPre, 2008; Mowbray, Holter, Teague, & Bybee, 2003). Furthermore, a higher degree of program integrity (Durlak & DuPre, 2008; Landenberger & Lipsey, 2005) is related to more positive treatment outcomes. Maintaining program integrity – through the use of guidelines - are considered a must (Perepletchikova, Treat, & Kazdin, 2007). Re-ART takes care of program integrity by offering the intervention with concrete treatment and evaluation manuals, specific training and regularly a two-weekly (first year) to monthly (after one year) supervision. Additionally, Re-ART utilises valid and reliable instruments for indexing and evaluating the program.

[5] Problem solving consists of different steps, such as the identification of the problem; generating multiple potential responses (both antisocial and prosocial), evaluating alternative responses; and making plans for the implementation of the response.

Accreditation by the Panel of Behavior Programs

In October 2007 Re-ART Intramural received a five year accreditation of the Accreditation Panel for Behavioral Programs for offenders, the ambulatory version received an accreditation in December 2009. The Accreditation Panel for Behavioral Programs for offenders assesses the quality of behavioral programs for youth and adult offenders (established since August 2005). The members of the Accreditation Panel represent the relevant scientific disciplines, and they work with the greatest possible care and expertise. In an international perspective the Dutch Accreditation Panel is one of the few panels which, in addition to behavioral programs for adults, also assess programs for youths. One of the tasks of the Accreditation Panel is to assess whether the behavioral programs (could) result in reducing re-offending of both adult and youth offenders. The assessment is based on ten internationally accepted quality criteria, which are inspired by the "What works" theory (Dutch Accreditation Panel, 2010). For example, the theoretical framework, participation selection, program integrity, research design, focus on dynamic criminogenic factors, reinforcing protective factors and developing skills, reinforcing and maintaining the motivation for behavioral changes and involvement are all assessed.

The status of 'Accredited' for an ex ante assessment remains valid for a maximum of five years and can be extended by three years under certain conditions. One of the conditions for extension is that it is demonstrated that the treatment targets of the intervention are reached. The accreditation of Re-ART Intramural has been extended in August 2013 by three years.

Overview of this Dissertation

In order to study the degree in which Re-ART is a promising intervention, **chapter 2** describes a meta-analysis to assess whether certain essential Re-ART elements – which are also applied in other interventions – lead to positive changes in different outcome variables. The specific research questions were: a) Are interventions for adolescents with a severe aggression problem that contain individual elements and apply CBT techniques effective? b) Does mindfulness, family intervention and program integrity affect the magnitude of the effect size? Three outcome measures were assessed, namely, externalizing behavior, physical aggression and verbal aggression. **Chapter 3** describes a study about the reliability and validity of a specific questionnaire 'Brief Irrational (dysfunctional) Thoughts Inventory' (BITI), because this questionnaire is relevant for conducting and evaluating Re-ART. The BITI is used to determine the nature and severity of irrational thoughts related to aggressive (externalizing), sub-assertive (internalizing), and distrust-related behavior in adolescents with conduct problems. The research question of this study was: Are the reliability and validity of the BITI sufficient in terms of construct, convergent, concurrent and divergent validity? **Chapter 4** describes a pre-test/post-test quasi-experimental study of the effectiveness of Re-ART Intramural. The sample consisted of violent offenders treated in an incarcerated juvenile justice institution: 63 were in the experimental group (Re-ART) and 28 in the Treatment-As-Usual (TAU) group. The research question of this study was: What is the effectiveness of Re-ART Intramural using a pre-test/ post-test quasi-experimental design with a waiting list comparison group that received Treatment As Usual (TAU)? In **chapter 5** a pilot study examined the level of program integrity of Re-ART Ambulant. The changes in different outcome variables between pre-test and post-test were investigated in combination with the relation between the level of program integrity and these changes. Participants (N = 26) were recruited from three different settings from an ambulant forensic psychiatric institute. The specific research questions were: a) Is the program integrity of Re-ART Ambulant sufficient?, b) Is Re-ART Ambulant associated with positive pre-post-test changes*?* c) What is the relation between the level of program integrity and pre-post-test changes? Finally, in **chapter 6**, the main findings and conclusions of this dissertation are discussed. Implications and recommendations are presented.

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