Criminal substance abusing adolescents and systemic treatment

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COMMON ELEMENTS OF EVIDENCE-BASED SYSTEMIC TREATMENTS FOR ADOLESCENTS WITH DISRUPTIVE BEHAVIOUR PROBLEMS

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Submitted

ABSTRACT

Introduction

A growing number of evidence-based family treatments for adolescents with disruptive behaviour problems exist. However, it is not clear to what extent these treatments have unique and common elements. The identification of common elements included in the different treatments would be beneficial for the further understanding and development of family-based treatments, training of therapists and research. Therefore, the aim of this study is to identify common elements of evidence-based family treatments for adolescents with disruptive behaviour.

Method

All articles available between 1968 and 2017 on family-based interventions for adolescents with disruptive behaviour problems were analysed to select evidence-based treatments. Five were identified: Multi Systemic Therapy (MST), Functional Family Therapy (FFT), Multidimensional Family Therapy (MDFT), Multidimensional Treatment Foster Care (MTFC) and Brief Strategic Family Therapy (BSFT). Original authors were contacted to participate in the study by providing treatment materials. All treatment materials were coded to identify the core intervention elements by a team of researchers and clinicians after which comparisons were made to determine the common elements across treatment programmes. The validity of these elements was confirmed through a survey of national and international experts using a modified Delphi technique.

Results

Between the five studied treatments a large number of commonalities were found. Six treatment mechanisms (e.g. *engagement*, *alliance*, and *interactional focus*), four treatment parameters (*caseload, duration, educational level therapists, and therapy dosage*) and 16 treatment techniques (e.g. *conflict management and communication skills*) were identified.

Conclusions

Several common elements of family-based interventions were identified, revealing a strong overlap between the interventions. Further, investigation of these common mechanisms and techniques could potentially build a strong universal systemic treatment for a broad spectrum of adolescents with problem behaviours.

INTRODUCTION

Numerous protocolised family treatments for adolescents with disruptive behaviour problems and substance abuse (conduct disorder, oppositional defiant disorder, delinquency, and drug abuse) have been developed and proven to be effective (Carr, 2009; Van der Pol, Hoeve, et al., 2017; Van der Stouwe et al., 2014; Woolfenden, Williams, & Peat, 2001). This leaves families, therapists and policy makers with the question which of the available treatments to choose (Hawley & Weisz, 2002). Matching a specific adolescent with the best available treatment becomes even more challenging if the adolescent population is highly diverse due to diagnostic comorbidity and complex family contextual profiles (Andrews et al., 1990; Jensen & Weisz, 2002; Vermeiren, 2003; Vermeiren, Jespers, & Moffitt, 2006). Over the last years, some local reports on differences between the interventions have been published in different countries (Baglivio, Jackowski, Greenwald, & Wolff, 2014; Berg-le Clercq, Zoon, & Kalsbeek, 2012). Whereas most of the research to date tests the efficacy or effectiveness of different specific treatment models against each other or against control conditions, much could be learned from research examining the similarities in treatment approaches.

Debates have been going on favouring one intervention over the other, thereby creating disparity instead of a joint effort to develop more high-quality family interventions for those in need. In itself it is preferable if clients and therapists have different interventions to choose from, to match the treatment to the client's specific needs, learning style and motivation (Andrews et al., 2006, 2011; Bonta & Andrews, 2007). However, as family interventions all portray themselves to have a multi-systemic approach, it is also likely that many treatment elements being used have a common base (Tuerk, McCart, & Henggeler, 2012). Identifying the common elements that constitute this base would further explicate the structure of family interventions and clarify the key mechanisms and therapeutic techniques through which family treatments work. This could improve the therapeutic working environment and stimulate the integration and cooperation of the research field. As a result, it could lead to collaboration on implementation of high quality family treatment approaches and improve general training of professionals, especially in societies where fewer resources are available.

And last, it could advance joint learning and understanding as different interventions may have used different operationalisations of common elements providing more options for tailoring to the specific client.

Family treatments emerged in the 1950s, within a variety of settings in the United States and the United Kingdom (Carr, 2012; T. Sexton et al., 2011). The founding principle that united the pioneers of family treatments was that human problems are basically interpersonal. Thus, to resolve psychological disorders, an intervention which directly addressed relationships between people was required. This view, driven by research which pointed out the role of family factors in the aetiology of psychiatric disorders and the ineffectiveness of individual treatments, contravened the prevailing therapeutic attitude that all psychological problems are manifestations of essentially individual disorders. During the 1970s and 1980s, multiple therapists like Uri Bronfenbrenner, Jay Haley, and Salvador Minuchin boosted the popularity and the implementation of family treatment approaches worldwide (Bronfenbrenner, 1979; Haley, 1973; Minuchin, 1974). From the 1990s onwards, family treatments have been further professionalised. Manuals describing more refined systemic theories, which incorporated strongholds of psychoanalytic, client centred, and cognitive behavioural techniques, were developed and subsequently studied (e.g., Henggeler et al., 2009; Liddle, 2015a; T.L. Sexton, 2000).

The next logical step would be to analyse the commonalties and underlying mechanisms of family therapies using an evidence-based identification model (Chorpita, Daleiden, & Weisz, 2005; Garland et al., 2008). This approach postulates that there are common elements across multiple (family) treatment protocols for similar disorders (Chorpita, Becker, Daleiden, & Hamilton, 2007; Garland et al., 2008). They state that most therapists do not fully embrace the use of specific treatment manuals and many regard manuals as too mechanistic and rigid (Addis & Krasnow, 2000). Furthermore, a common element approach is considered to be more flexible and easier to implement in the sturdy existing service context. Therefore, the aim of the present study is to identify the common elements: *treatment mechanisms, treatment parameters, and treatment techniques*, used in family therapies for adolescents with disruptive behaviour problems and substance use problems (conduct disorder, oppositional defiant disorder, and substance use disorders).

METHOD

To identify the common elements for evidence based family treatment for adolescents with disruptive behaviour problems, we used a methodology developed by Garland et al. (2008). This procedure is an open-ended methodology to identify common elements for individual treatments for children with disruptive behaviour and an adaptation of the Delphi Technique. The Delphi Technique is a well-established iterative group judgment procedure, aiming to identify the quality of care indicators (Hsu & Sandford, 2007). This methodology combines an expert opinion survey and interviews to reach clinical consensus. In the present study, the review process consisted of three phases: literature search, analysing treatment materials, interviewing experts.

Literature search to select evidence-based family therapies for adolescents with problem behaviour

A literature search was conducted in PsycINFO, PubMed, Embase and Web of Science, with the purpose to find articles about family therapy for adolescents with disruptive behaviour problems. The criteria were: 1. The treatment had to be primarily family oriented, 2. The age of the treated population had to be between 12 and 18 (adolescents), 3. The treated population had to be diagnosed with at least one externalising disorder (defined here to include conduct disorder (CD), and/or oppositional defiant disorder (ODD), and/or substance use disorder).

The literature search yielded 2361 articles published between 1968 and 2017. After removing duplications, a selection of relevant articles, by the third and first author, was made based on the information found in the abstract, resulting in 117 articles (see figure 1, flowchart of literature search). After analysing the relevant articles, we selected the family treatments that showed at least probable efficacy as defined by the American Psychological Association's criteria (Fidler, 2010). The final selection consisted of five evidence-based family treatments: Multi Systemic Therapy (MST), Functional Family Therapy (FFT), Multidimensional Family Therapy (MDFT), Brief Strategic Family Therapy (BSFT) and Multidimensional Treatment Foster Care (MTFC).

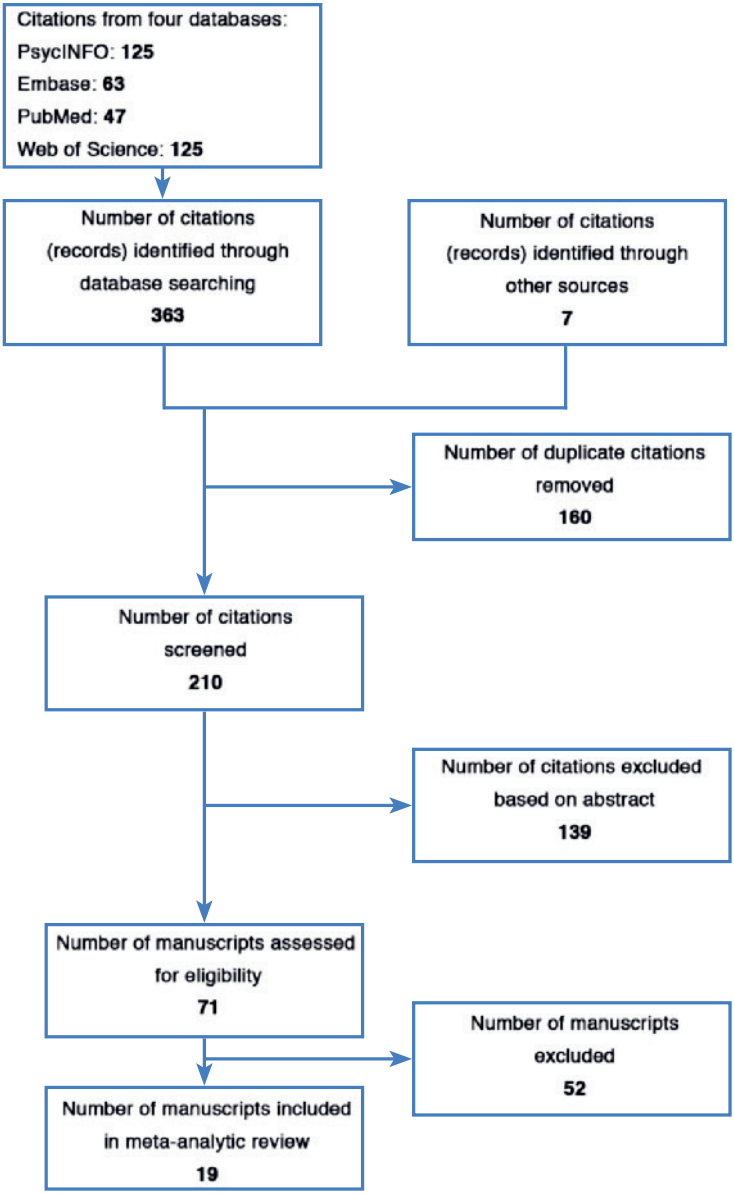

Figure 1. Flowchart of literature search for articles for evidence-based family therapies.

Analysing treatment materials and extracting the core treatment interventions/elements

We collected family treatment materials of the five selected family treatments by contacting the original authors and studying relevant articles identified in the literature search. Treatment manuals for two of the five treatments (MTFC, BSFT) were not available. For these treatments the available books, and relevant articles were analysed. The materials for each treatment were examined by at least four team members. The research team consisted of 12 experienced researchers and/or clinicians; six had a PhD in psychology or medicine. The purpose of the independent review process was to exclude biased observations and to identify the elements for each family treatment as presented in the treatment materials.

The treatment elements can be described in various ways: very specific, broken down in different steps or more general. For example, positive reinforcement consists of engaging positive physical, verbal and material rewards, relabelling, strategic attention and shaping. For the purpose of clarity in this study the general definitions of treatment elements were used. To be considered as a valid treatment element, the element had to be described in the treatment material and there had to be explicit details about how to use this specific treatment element (for example duration, frequency and manner). Each individual coder created a preliminary list of treatment elements based on their analysis of the treatment materials. The next step was to reach consensus about the intervention elements for each treatment. The research teams assigned to each treatment, had a face-to-face meeting for reaching consensus on the treatment elements for each treatment. Finally, each group presented the results to the full group for feedback, discussion and consensus on the treatment elements for all treatments. Whenever there was a disagreement, the materials where studied again until consensus was reached by all the research members. Following the review and consensus process of the five family treatments, all the treatment elements where tallied and compared. Finally, after this process, a treatment element was considered to be common if it was identified in at least three of the five family treatments. The common elements were classified into three categories.

1. Treatment Mechanisms:
The process through which therapy unfolds und produces change.
2. Treatment Parameters:
A characteristic component which is critical in defining the structure of a treatment.
3. Treatment Techniques:
A specific intervention designed to address dysfunctional feelings, behaviours and cognitions.

Interviewing experts of treatment to achieve expert-opinion consensus

Consistent with the method of Garland et al, we interviewed the developers of the different treatments to obtain consensual validity of the selected treatment elements. We sent our initial list with the treatment elements, with brief working definitions to the developers and primary authors of the reviewed family treatments. We asked the experts of each family therapy if they considered the identified common elements as a common treatment element for evidence-based practice for family therapy for adolescents with disruptive problem behaviour. Furthermore, we invited them to add, if necessary, any missing common treatment element(s) to the list. All of the experts responded. We considered a treatment element as common if a majority of the 5 experts rated the treatment element as a common element. All of our listed treatment elements were endorsed by at least a majority of the experts. As none of the experts noted an additional common treatment element, the preliminary list of treatment elements did not differ from the final list of common treatment elements for family therapy for adolescents with disruptive problem behaviour.

RESULTS

Analysing the five evidence-based treatments for adolescents with disruptive behaviour problems yielded several elements common across the systemic treatment protocols. The final set of common elements is listed in the tables. Table 1 presents the common mechanisms, the number of family therapies in which the mechanism was found, and the definition

of the mechanisms. The common mechanisms which were found in all family therapies are: *engagement*, *alliance*, and *interactional focus*. The complete list of mechanisms is shown in table 1. Table 2 presents the common parameters across all five interventions. The range and/or the average number or a description are given for *caseload, duration, educational level therapists, and therapy dosage*. In table 3 the common techniques are listed, displaying the treatment technique, the number of family therapies in which the technique was identified, the definition of the treatment techniques, and treatment setting(s) for which the techniques are applicable (family, parents, adolescent). The common techniques which were identified in all family therapies are: *conflict management* and *communication skills.* For the complete list of treatment techniques see table 3.

Table 1. Mechanisms for evidence-based family therapy for adolescents with disruptive behaviour.

Treatment mechanism (n of therapies)	**Definition**
Engagement (5, in 5 of the 5 manuals/treatment materials this technique was found)	Motivate all the key-players, get everyone involved to start the process of change. Matching, facilitating and availability are essential. Most important in the first phase of treatment.
Alliance (5)	Create an atmosphere of positive bonds between therapist and client/family members ([foster]parents/siblings) to build rapport/affective bonds for consensual goal setting and establishing a foundation for positive change.
Interactional focus (5)	Family/parent interactions viewed as being stable (not productive) patterns that need to change, i.e., need to shift power balance, improve communication. Family members viewed as resource for change.

Treatment mechanism (n of therapies)	Definition
Developmental process (4)	Interventions are individualised and foster developmental process. Consider the therapeutic process as phasic (motivation phase, change phase, and generalisation phase), continuity is stressed.
Relational assessments/ evaluations (4)	Always assess and evaluate the current situation to be able to act swiftly and to choose the most effective intervention(s)/ techniques. Important in all phases of treatment.
Here and now focus (3)	It is important to emphasise the here and now focus within the communication of the family and for resolving problems/crises.

Table 2. Parameters for evidence-based family therapy for adolescents with disruptive problem behaviour.

Treatment parameter	N (range), Description
Average caseload	9 (4-16)
Average duration (months)	4.2 (3-9)
Educational level therapists	Minimal Master
Therapy dosage (sessions per week)	1-3

Table 3. Techniques for evidence-based family therapy for adolescents with disruptive behaviour.

Treatment technique	Definition	family	parents	adolescent
Conflict management (5, in 5 of the 5 manuals this technique was found)	Identifying and handling conflict in a sensible, fair, and efficient manner.	x	x	x
Communication skills (5)	Improving the way family members talk/ interact with each other and listen to each other. Help the family to work towards a more positive flow of conversations.	x	x	x
Reinforcement (4)	Rewarding positive behaviour with labelled praise, physical, verbal, or material reinforcement, shaping, behaviour reward systems, and/or strategic attention.	x	x	x
Assigning and reviewing homework (4)	Assigning and/or reviewing tasks to complete between sessions, including setting up behaviour charts for implementing at home and practicing skills.	x	x	x
Problem-solving (4)	Method to generate alternative solutions, evaluate options, consider consequences of each option, and provide self-rewards.	x	x	x
Psycho-education (4)	Teaching through didactic instruction or explanation, video or biblio-instruction about topics such as psychopathology, nature of child/family's problems, treatment principles, and child development.	x	x	x

Treatment technique	Definition	family	parents	adolescent
Anticipating/training for setbacks (4)	Predicting future setbacks, relapse prevention.	x	x	x
Divert and interrupt (4)	A negative or blaming interaction between family members is interrupted, followed by diverting the negative speech-act to a more positive one.	x	x	
Reframing (4)	A change of the conceptual and/or setting or viewpoint in relation to which a situation is experienced. To place it in another frame, thereby changing its entire meaning.	x	x	x
Reviewing goals and progress (4)	Reviewing previous work/themes and progress toward meeting established goals.	x	x	x
Special time (4)	Create special quality time with the adolescents.	x	x	x
Limit-setting (3)	Setting limits, activating response cost, giving rewards for positive behaviour, ignoring negative behaviour, giving time-out, delivering commands, punishment.		x	
Enactment (3)	Situations in which a therapist directs family members to talk or interact together about feelings and emotions, in order to observe and modify problematic transactions.	x	x	

Treatment technique	Definition	family	parents	adolescent
Working with boundaries (3)	Therapist shifts the alliances that exist in the family. This means restoring the balance of power to the parents or parent figures so that they can effectively exercise their leadership.	x	x	x
Monitoring (3)	Parental awareness of the adolescent's activities, and communication to the adolescent that the parent is concerned about, and aware of, the adolescent's activity.	x	x	
Reconnecting (3)	In a difficult and negative situation, the therapist can reconnect to positive feelings and emotions by talking about how the relationship was in the past. (Looking at pictures of adolescent when he/she was a baby-toddler).	x	x	

DISCUSSION

We identified common mechanisms, parameters and techniques by analysing the manuals and materials of five evidence-based family treatments for adolescents with disruptive behaviour and substance use problems, using the method as described by Garland et al. (2008). As expected, considerable overlap between the five family-based treatments was found. The listed common elements generate insight of the working elements of family therapies and give an indication of the importance the treatment developers attach to them. For example, the treatment mechanisms: *engagement, alliance, interactional focus,* and the treatment techniques: *conflict management, and communication skills* were identified in all five studied treatments. These elements could possibly have a big impact on positive treatment outcome and are considered important to be further investigated.

Given the substantial overlap, it is of interest to consider the potential implications of these findings. Although many evidence-based family therapies are available, our understanding of the mechanisms of change or precisely how (family) treatments work is still limited. Understanding treatment mechanisms, and knowledge of the most potent treatment techniques is essential to derive and refine treatment strategies, to directly target the mechanisms, remove irrelevant strategies, and develop novel approaches that are more direct, precise and effective (Kazdin, 2007). For family treatments, the present findings suggest potentially important elements to drive further research as well as novel treatment approaches. Furthermore, knowledge of treatment mechanisms and identifying potent treatment techniques may support enhanced precision in matching family treatments to the needs of adolescents and their families to improve treatment impact. Finally, the findings could be used to create, brief, flexible, efficacious treatment modules, which could, after adaptation to cultural contexts, be implemented in low-income and middle-income countries (Holmes et al., 2018). Thus, identifying common elements seems promising and can be an overarching method for the numerous evidence-based treatments developed for specific subgroups.

However, this study has some limitations. For example, sequencing therapeutic techniques, understanding the context of interventions, developing a strategic plan, delivering the exact dosage and/or intensity of a therapeutic technique are all essential parts of effective treatment. The approach of identifying evidence based common elements does not address all of these important issues (Garland et al., 2008). Furthermore, a relative narrow conceptualisation of common factors was studied (Lambert, 1992) as the broad conceptualisation which integrates characteristics of client, therapist, relationship, and expectancy was not studied, due to a lack of information concerning these variables (Hubble, Duncan, & Miller, 1999; Sprenkle, Davis, & Lebow, 2009). For example, it is thought that the alliance between therapist and patient, is crucial for therapeutic outcome (Del Re, Flückiger, Horvath, Symonds, & Wampold, 2012; Lamers & Vermeiren, 2015; Norcross & Wampold, 2011; Van Yperen, Van der Steege, Addink, & Boendermaker, 2010) and although alliance is mentioned in all studied treatments, we could not identify precisely the process of alliance and were therefore not able to deliver a refined description of alliance. Finally, the specific contribution of any one identified common element (e.g. therapeutic technique like *reframing*) or combination of elements is unknown. In addition, some important common elements could have been missed by using the described method of identifying common elements.

The disentanglement of family treatments to identify common elements has numerous implications for research and practice as well. For research, if more studies similar to the present one are conducted, the most potent techniques or combination of techniques could be identified and a useful benchmark could be created for future research. Furthermore, because of the big overlap of evidence-based family treatments research could focus on the identification of the dissimilarities between treatments, to be able to find the most appropriate treatment for a specific subgroup of adolescents. A prerequisite for practical implications for evidence-based family treatments is first to address the heterogeneity of symptoms and high rates of comorbidity within the group of adolescents with disruptive behaviour disorder. Hence, the identified common elements could be used to develop a brief, flexible, modular, efficacious, systemic

treatment training or treatment, (Holmes et al., 2018). This training on how to deliver common elements of evidence-based treatments will need to include significant attention to how and when such elements are likely to be effective for specific clients and families (Garland et al., 2008). The implementation of this universal training and/or treatment could improve the quality of care. Moreover, a universal training/treatment could decrease the resistance of clinicians concerning the implementation of evidence-based practices (Perkins et al., 2007; Weersing & Weisz, 2002). Furthermore it could enhance the basic competencies of clinicians and increase the use of common elements in daily practice (Davis, Thomson, Oxman, & Haynes, 1992). A final practical implication for the identified common elements could be the further improvement and innovation of the existing evidence-based family treatments.

The present findings reveal the substantial communality of evidence-based family treatments for adolescents and help us to understand the layered complex framework of them. Thus, implementing a treatment approach based on the evidence based common elements of family treatments could accommodate further innovative improvements in training clinicians, supervision, and overall quality of care for this challenging group of adolescents.