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Clinical Perspectives

A successful cognitive-behavioural intervention that failed: a case study of adolescent conduct disorder at a school for the disadvantaged

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Conduct Disorder (CD) is a widespread problem in southern Africa. The aim of the study was to design, implement and evaluate a multi-modal cognitive-behavioural intervention based on treatments developed overseas, in order to investigate whether this approach can be transported to a South African school for deprived children. The target adolescent had a history of severely disruptive behaviour and was facing expulsion from a shelter for homeless children and his school. A thorough assessment served as the basis for a case formulation and treatment plan. Intervention included 23 individual sessions focussing on bereavement and the learning of self-control skills and prosocial behaviours, as well as contingency management training for school and shelter staff. Progress was tracked with a behaviour checklist completed daily by the teacher and regular interviews with school and shelter staff. After four months, the disruptive behaviour was eliminated. However, he was involved in stealing with some other learners and expelled anyway. Nevertheless the case study provides evidence for the transportability of the cognitive-behavioural approach to this kind of setting and documents the way in which a comprehensive intervention can be tailored to the needs of a child with a severely deprived background and little social support.

Introduction

Conduct disorder (CD), one of the disruptive behaviour disorders, is defined as a repetitive and persistent pattern of behaviour in which the basic rights of others or major age-appropriate societal rules or norms are violated. In the Diagnostic and Statistical Manual for Mental Disorders (DSM-IV-TR) (American Psychiatric Association 2000) the 15 criteria for the diagnosis of CD cover aggression towards people and animals, destruction of property, deceitfulness or theft and serious violation of societal rules. Although there is no systematic epidemiological research in southern Africa, there is increasing recognition among health professionals that disruptive behaviour disorders including CD pose a serious problem (Mpofu 2003). As Pillay (1998 p. 191) observes, 'clinicians are always receiving adverse reports from family members about adolescents with conduct disorder.' A study of 355 children with intellectual disability attending special schools in Cape Town found only a small percentage with disruptive behaviour disorders. This included eight (6%) with Attention Deficit Hyperactive Disorder (ADHD) and a smaller but unspecified number with CD or oppositional defiant disorder (Molteno, Molteno, Finchilescu and Dawes 2001). However, in a study of children and adolescents attending mental health clinics in KwaZulu-Natal, 29% of cases in the urban clinics were of disruptive behaviour disorders other than ADHD and 14% were ADHD cases. In rural clinics, the figures were much lower: only 8% and 5% respectively (Pillay, Naidoo and Lockhat, 1999). In the USA, CD has the highest rates of prevalence in low socioeconomic groups and in single as opposed to two-parent families. CD has also been found to be greater for boys than for girls, although after the onset of puberty, the prevalence rates of CD for both boys and girls are the same. Sadly, CD in children and adolescents is often the precursor of a lifetime of poor adjustment, social dysfunction, and antisocial behaviour and the earlier the onset, the more negative is the long-term prognosis and the greater the risk of children progressing from mild to severe CD over time (Frick 2001, Friedberg and McClure 2002; Kann and Hanna 2001; McMahon and Wells 1988)

CD not only affects those children and adolescents who suffer from it, but also impacts negatively on the peer group and family, disrupts the smooth running of schools, and presents a threat within the broader society. Conduct-disordered children and adolescents often elicit strong feelings of frustration, anger and anxiety within their families. They also strain the tolerance limits of those in authority positions through their repeated aggressive behaviour. At school, CD is associated with problems ranging from annoying and disruptive behaviour, such as non-compliance with instructions and regulations, to more serious antisocial, aggressive, and delinquent behaviours. CD is often not adequately addressed by the routine disciplinary system within a family or school and often fails to respond even with psychological treatment. Moreover, CD is costly to society: financial costs include the expense of repairing schools damaged by vandalism and social costs are associated with the inadequate and unsafe learning environments created in schools by conduct-disordered children (Brunk 2000; Frick

2001; Hill and Maughan 2001; McMahon and Wells 1998).

CD results from the interaction of a range of determining factors. One predisposing factor is a constitutionally difficult temperament which can be the result of neuropsychological deficits (McMahon and Wells 1998). This can make the child relatively insensitive to the prohibitions and sanctions of parents and other socializing agents. It also interferes with the normal development of perspective-taking and empathy and contributes to an interpersonal style in which focus on the potential rewards of using aggression to solve problems obscures its potentially harmful effects on others (Frick 2001). Attention deficit/hyperactivity is another predisposing factor. Irritability, hyperactivity and impulsiveness increase the likelihood of maladaptive parent-child interactions and these children tend to display higher levels of CD and have a poorer prognosis in response to treatment (McMahon and Wells 1998). Another predisposing factor is a family context which offers poor socialization due to absence of structure and unpredictable or harsh parenting. A developmental analysis therefore also needs to examine the degree of nurturance and support within the family, the availability of role models for prosocial or antisocial behaviour within the family and among peers, and the impact of the broader contexts of the individual's life, the school, neighbourhood and community. McMahon and Wells (1998) recommend a transactional perspective in which an assessment is made of how 'developmental and contextual processes unfold over time and continuously influence each other' (p. 116).

Conduct disorder is maintained by a range of distortions and deficiencies in several cognitive processes. These are organised into cognitive scripts that are overlearned, habitual and automatic. Once evoked in specific situations, they guide cognitive processing through a series of five stages: (i) encoding social cues, (ii) interpreting those cues, (iii) generating solutions, (iv) deciding on an optimal response and (v) enacting the response (Tolan and Cohler 1993). Deficits and biases in processing information can be examined at each stage. At the interpreting stage, researchers have found deficiencies in making attributions about what motivates the actions of another person, in perceiving how others feel and in predicting the consequences of one's own actions. Hostile attributional bias has been repeatedly reported in aggressive children and adolescents: under conditions of ambiguity, peers are perceived to have hostile intent. At the third step, deficiencies in generating alternative solutions to personal problems and behaviours have also been widely reported (Herbert 1998a 1998b; Hill and Maughan 2001; Tolan and Cohler 1993).

Given its negative impact, there is considerable urgency for the development and delivery of interventions that can address conduct-disordered behaviour. About 50% of treatment studies on CD over a period of nearly two decades have evaluated cognitive-behaviour therapy (CBT) interventions, whereas other approaches, based for example on psychodynamic therapy, client-centred therapy or family therapy, account for only about 5% each. This is because, compared to CBT, other interventions have been found to have limited effectiveness (Herbert 1998a 1998b; Mpofu and Crystal 2001). In practice, the cognitive-behavioural approach is integrative and incorporates many of the principles and strategies associated with the other approaches. Interventions typically involve a multifaceted approach to the problem that is designed on the basis of a comprehensive assessment that furnishes an understanding of the developmental pathways that led to the disorder, as well as of the individual and contextual factors that currently maintain it. A package of interventions is usually implemented, some directed at environmental factors that reinforce the problematic behaviours, others at altering specific perceptions, images, thoughts and beliefs through direct manipulation and restructuring of faulty, maladaptive cognitions. There is now considerable evidence that when well planned, these can effectively reduce conduct-disordered behaviours.

A range of assessment methods is employed (Herbert 1998a 1998b; Kann and Hanna 2000; Kendall 2000; McMahon and Wells 1998). Psychometric testing is used to assess intellectual functioning. Self-report scales may be used to assess the individual's mood or attitudes, or parents' parenting style. Behaviour checklists completed by parents or teachers are used to gather information on the nature and frequency of problematic behaviours. Behavioural observation in the clinic, home or school is one of the best means of assessing problematic behaviours. Interviews are conducted with caretakers and school staff. The affected child/adolescent is also interviewed, although play techniques rather than direct interviewing may be more useful, depending on age and developmental level. Individual interviews provide an opportunity to assess their perception of why they have been referred for therapy and to establish a good working relationship which is essential for effective treatment. Clinicians need to be patient and supportive as 'by.... the time the child meets with the therapist, he or she has been lectured, scolded, and punished by many adults, and often feels guilty and defensive' (Kendall 2000 p. 144). Affected individuals often respond with single word responses to open-ended questions, or simply shrug, withdraw and remain silent. Clinicians need to communicate that the aim of the interview and subsequent treatment is to help address their problems: confrontations must be avoided, as they are likely to evoke defensiveness and resistance to treatment.

These interviews are often not a valid source of information about disturbed conduct. Children below 10 years old are usually not reliable reporters of their own behaviours, and conduct-disordered individuals tend to present themselves in the best light or minimise their own aggressive behaviour. Nevertheless, valid information about covert types of conduct-disordered behaviour such as stealing and lying are more likely to be obtained in individual interviews with affected individuals than from significant others. The child/adolescent's cognitive processes and social skills may also be assessed in individual interviews using techniques such as role-play, imagery, and dysfunctional thought records. Furthermore, assessment is ongoing. The formulation is constantly updated in light of new information about the individual's cognitive, emotional and behavioural patterns 'throughout the duration of therapy' (Zarb 1992 p.190).

Disruptive behaviour has been an ongoing problem at the Eluxolweni Shelter for homeless or abandoned children/adolescents and the Amasango School, both situated in a

small Eastern Cape town. The Amasango school began operating in 1995, as an institution for socially deprived and marginalised individuals, including those living at the Eluxolweni Shelter. Their ages ranged from eight to 18 years and boys outnumbered girls in a ratio of 3:1. Some had never attended school previously but the majority were dropouts from mainstream education. They tended to have a three to four year educational disparity between their ages and their grades. Many of them had suffered from malnutrition and were small and underweight. In one extreme case, a 17-year-old male weighed only 39kg. At the time of the present study, the school had 87 learners in four classrooms. Classes I and II offered a curriculum specially structured for the severely deprived. The other two classes offered standard curricula for Grades 6 and 7 respectively. The school was staffed by two teachers and a principal who was a qualified high school teacher. Students from Rhodes University's Centre for Social Development assisted with teaching English, sports, and other activities. This kind of population is particularly vulnerable to the development of CD (Mpofu 2003) and the researchers were approached by school staff requesting help with conduct problems. The present paper describes a case study which formed part of a larger project to assist in addressing the conduct problems at the school.

Methodology

Research design

The aim was to draw upon standard CBT procedures to design, implement and evaluate an intervention that targeted conduct-disordered behaviour in one of the Amasango school learners. In research on treatment effectiveness (Barkham and Mellor-Clark 2003) or transportability (Schoenwald and Hoagwood 2001), interventions whose efficacy has been demonstrated in research studies, for example in randomized controlled trials, are tested in new settings to see whether they can be generalised. Case-based research provides a means of conducting this kind of enquiry since it allows for an in-depth examination of the processes set in motion by a psychological intervention. This can lead to the extension of practical clinical knowledge (Edwards, Dattilio, and Bromley 2004). The design was an embedded case study in which the treatment of the adolescent served as one level of analysis, and the school itself as a second level within which the adolescent's behaviour was embedded (Yin 1994). The study thus also involved a case study of the Amasango school as an institution (and also of the Eluxolweni Shelter, where the target adolescent lived) with specific focus on current strategies for behavioural management.

Participants

Bongani (pseudonym), aged 16 was in Grade 7 and met the DSM-IV criteria for conduct disorder, adolescent onset type, moderate. This diagnosis was confirmed by a psychiatrist he had seen a few months earlier and a clinical psychology intern who had seen him the previous year. He had been admitted to the Eluxolweni shelter in 1995 at the age of eight and had lived there ever since. The other participants were the school principal, teachers, shelter manager, house parents, volunteers and other relevant informants. The case was assessed and treated by the first author (EM) who will be referred to as 'the clinician'. The second author (DE) supervised the assessment and treatment as well as the formal design of the research and the writing up as a research case study.

Data collection

A wide range of data of different kinds was collected during the study. This included interviews (all of which were tape-recorded and selectively transcribed), behavioural observations, and psychometric tests. The full data set is summarised below:

Phase 1 — Assessment (27 February–11 March)

(i) Session 1: The shelter manager expressed the urgency of the problem and Bongani was briefly interviewed and given a Mental State Examination. (ii) Session 2: The principal provided background information on Bongani's developmental history and presenting problem; Bongani was briefly interviewed. He was assured of the confidentiality of information and was told that he would be given the opportunity to talk about his problems. His perception of the reason for referral was also assessed. (iii) Session 3: Three psychometric tests described by Groth-Marnat (2000) were administered to provide an estimate of intellectual functioning: (a) The Goodenough Draw-a-Person Test; (b) the Koppitz score on the Bender-Gestalt Test; (c) The Ravens Coloured Progressive Matrices, a test that is widely regarded as culture fair in that it is minimally influenced by education. He was asked about his history, and was given time to talk about those interactions with teachers, peers and shelter staff that were viewed by his teachers as problematic. He was also invited to do a drawing to express sadness evoked by his telling of family bereavements. (iv) Behavioural observations: these were made at weekly site visits during the first month of the study; the clinician observed the type and frequency of behavioural problems displayed by the learners as a whole and by Bongani in particular. The classroom observations were of limited value, since the presence of the clinician motivated him to behave well, however problematic behaviours were observed during school breaks. (v) Interviews with staff: during the four site visits, the clinician interviewed his class teacher, other teachers and shelter staff to elicit information about organisational structure, about problems they encountered with disruptive behaviour of learners generally, and of Bongani in particular. They were also asked about current management strategies and practices.

At the end of phase 1, *a case formulation and treatment plan* was written based on the full body of assessment data. The formulation focussed on the predisposing, precipitating and maintaining factors for Bongani's behavioural problems. This in turn was used to design a treatment plan (Leahy 1996) which included individual interventions with Bongani, as well as classroom interventions.

Phase 2 — Intervention phase (20 March–18 September)

(i) Bongani had twenty-three 50-minute sessions with the clinician. These had three functions: first they provided an ongoing assessment which yielded further information

particularly about cognitions and emotions associated with his aggressive behaviour; second, they included cognitive-behavioural interventions through which he was trained to modify his behaviour; third, they allowed the clinician to monitor his attitude and response to the intervention. Comprehensive summaries were made of each of these sessions. (ii) A behaviour checklist was completed by the class teacher that listed the kinds of problematic behaviours frequently observed. The Conner's Teacher Rating Scale — Revised (Conners 1997) was used on a trial basis for a week during phase 1. However this 59-item instrument was too long and cumbersome and was adapted to track 13 behaviours of specific concern to this case (see Table 1). The adapted scale was completed by the teacher daily. The clinician collected these records every Friday. Bongani was informed of this. (iii) Interviews with his class teacher, other teachers and shelter staff took place regularly. The first was in April, after that there were two in May, two in June, one in July and one in August. These were designed to evaluate if there were any improvements in Bongani's behaviour, and to identify new behavioural problems. From May, they were also used to train the staff in the contingency management aspects of the intervention.

Phase 3 — Follow-up

It was planned to continue the ongoing monitoring of the intervention phase for six weeks after the end of the intervention. Unfortunately, this was not possible for reasons that will become clear in the case narrative below.

Data reduction

In data reduction, a large and complex body of data is organised into one or more structured forms (Edwards 1998). For the institutional case study, data from the interviews and observations was organised into a report which summarised the frequency and nature of non-compliant and disruptive behaviours observed in the various settings, on the attitudes and responses of teachers to these behaviours, and on the methods employed in the existing disciplinary system. For the case study of Bongani, four data reduction steps were employed. (i) A synoptic summary was written of information obtained about the relevant aspects of the organisation of the school and the shelter as well as the disciplinary situation in the classroom and at the shelter. This focused on organisational aspects and strategies for dealing with problematic behaviours. (ii) A summary of all information gained at the assessment of Bongani was written into an assessment report and used as the basis for the treatment plan. (iii) A narrative was written of Bongani's response to the interventions. (iv) Data from repeated measures on the behaviour checklist were displayed graphically. Each week, an Aggression Index was calculated. This was a score from 0 (absent) to 3 (persistent and severe) based on the teacher's ratings of behaviours 1 to 4. At the end of each month, the mean of the weekly Aggression Indices was calculated and these monthly means were displayed as a bar graph.

Table 1: Behaviour checklist

Behaviour	Rating
1 Hits another pupil	
2 Stabs another pupil (with pen or other – specify)	
3 Hurts another pupil – specify:	
4 Quarrelsome	
5 Lies	
6 Temper outbursts, explosive and unpredictable behaviour	
7 Steals	
8 Intolerant of other's mistakes	
9 Teases other children or interferes with their activities	
10 Defiant	
11 Cheeky and rude	
12 Excessive demands for teachers' attention	
13 Stubborn	
Other (please describe)	

Rating scale: 0 = not at all; 1 = Just a little; 2 = Pretty much; 3 = Very much

Data interpretation

The reading guide method was used to draw conclusions from these data reductions (Edwards 1998). The reading questions included: How effective is the present system of discipline? To what extent does it accord with recommendations in the CBT literature on the management of disruptive behaviour? What changes can be recommended? How did Bongani respond to specific interventions at specific times? To what extent was his behaviour effectively modified? Was this CBT approach appropriate in this setting? Care was taken to ensure that the argument from the data to conclusion was supported by the information from the case and existing knowledge as reflected in the literature.

Results

The summaries and narratives prepared in the data reduction phase of the study are presented here in a very abbreviated form.

Behavioural management at Amasango school

The academic performance of many of the learners at Amasango School was poor. Many appeared to have a short concentration span. Teachers realised that there were special difficulties involved in teaching severely marginalised children and felt that they did not have the training and resources to cope. They were uncertain if the problematic behaviours occurred as a result of adverse familial conditions, substance abuse, or intellectual impairments such as learning disabilities or mental retardation. Communication between teachers and parents was extremely rare and teachers had difficulty in trying to solve the children's problems without the assistance of their parents. Behavioural problems were common and posed a serious threat to normal educational activity. Classes were chaotic and discipline and control were lax. Learners routinely disrupted lessons and disregarded the authority of their teachers. Many of the learners were aggressive, poorly disciplined, had anger outbursts and frequently fought with each other. Children frequently failed to comply with instructions, swore at each other and at teachers and shelter staff, bullied peers, made insulting remarks, argued with teachers and threw stones at closed doors or roofing. Some physical fights were so intense that on occasion professional guards from a firm who provided

security for the school had to be called on to separate the boys. They kicked, boxed and pushed each other against the wall. It was common for them to stab each other with pencils, sharpened pieces of wire, sticks or metal rods, and, on a few occasions, screwdrivers and knives. On one occasion a boy who was stabbed had to be taken to hospital for suturing. Stealing was common and some pupils were known to smoke cannabis after school hours (or even sell it).

Both the school and the shelter suffered from a shortage of staff, and discipline was ineffective and inconsistent. At school, teachers reported feeling helpless about doing anything to improve the situation. There was a limited range of behavioural management strategies. Teachers used gold stars to reinforce good behaviour and the number of stars went up to three if good behaviour persisted. However these charts were not on display because when attempts were made to display them, learners damaged or removed them. A number of methods of punishment were employed in response to disruptive behaviours. One method was to give red stars, and those who received three red stars were sent to the shelter or allocated duties that had to be performed during school breaks. Sometimes they would be told to leave the classroom. They would then loiter outside and disturb the class by looking in the window or roam around the premises unsupervised (or leave them altogether). On some occasions cold water was thrown over an aggressive learner, on others, a learner would be sent to the principal's office to wait in seclusion until he or she had calmed down. On occasions the principal would hug a learner who had been sent to her for bad behaviour and stated that they needed to experience affection and warmth.

There were fewer problematic behaviours at the shelter. Punishments usually took the form of allocation of extra duties. However, there were limited facilities for games or constructive activities and limited staff to interact positively with the children and reinforce prosocial behaviours. Those with persistent behavioural problems were sometimes referred to a psychiatrist or psychologist. Small groups of them were also assigned to an art therapy group run by clinical psychology interns at the school. However, these interventions had limited impact. Those who displayed more severe forms of behavioural problems and did not respond to any form of punishment were transferred to places of safety in Port Elizabeth that were 'more strict and well-staffed'. Such transfers had to be authorised by the Child Welfare Commissioner (a magistrate) and were only resorted to in extreme cases where the learner was completely beyond control of school and shelter staff.

Bongani: A successful intervention that failed

Background

Bongani had an ongoing history of violent outbursts over the previous two years and the principal had long been aware that his behavioural problems were severe. Disciplinary and remedial action to resolve his behaviour had been ineffective. The previous year he had had weekly counselling sessions for two months with a clinical psychology intern, and later that year had attended weekly group art therapy for six months. However his behaviour problems escalated. In January the following year he was referred to the local psychiatric hospital where he was prescribed Carbamazepine, a tricyclic anticonvulsant that has been shown in randomised controlled trials to have some efficacy in reducing disruptive behaviours (Felix 2004). However this had no impact on his aggressive behaviour. He had a history of poor scholastic performance and his cognitive functioning was well below average. The tests yielded results in the mild mental retardation range (Goodenough Draw a Person Test: Score 30, estimated IQ = 67. Bender Gestalt Test: Score 3, estimated IQ = 55; Raven's Coloured Progressive Matrices: Score 19, estimated IQ = 60–70). However, given his history of life in a physically and educationally impoverished background, these scores probably underestimate his actual intellectual capacity and clinical impressions suggested intellectual functioning in the borderline retarded range. This meant that he could not easily participate in some of the standard assessment strategies, such as the use of imagery or the dysfunctional thought record, and that interventions had to be simple and carefully and repeatedly explained.

Bongani's life had been very unsettled and he lacked a stable family background. He had frequently been exposed to hostility and criticism to which he learned to respond with aggression. Both his parents had abused alcohol: he recalled times when his mother was drunk and would lose consciousness. His father, though still alive, never took responsibility for him, and his mother died when he was five. He did not know the cause of her death. The pain of losing her was still apparent: he held back tears as he related some good memories of her. He recalled how she used to give him pocket money and had a special pet name for him. After her death he lived with his maternal uncle for a few months and was later cared for by friends of his mother, until he was admitted to the shelter at the age of eight. He had two older sisters both of whom had died in their early 20s of AIDS-related illnesses in the two years before the assessment began. He had been close to one of them who had, he recalled, been kind to him, and their loss was clearly painful to him. The only family member he had any contact with now was his half-brother, aged 20, who had lived at the shelter until two years previously and now lived with their maternal uncle. His father did part-time jobs and abused alcohol. He sometimes visited Bongani at the shelter in an intoxicated state. On occasion, he gave him some pocket money. Bongani did not know his address and he could not be contacted for an interview.

Case formulation

The poverty and neglectful circumstances under which Bongani was brought up predisposed him to disruptive behaviour. His basic physical and emotional needs were not met, and he learned from an early age to fend for himself. Repeated exposure to aversive physical and social situations elicited and reinforced aggressive behaviour and he had a limited repertoire of alternative responses to conflict situations. Like the majority of children with CD, he had been poorly socialised and lacked the ability to delay gratification and conform to societal norms and rules. The shelter to which he moved at the age of eight was short-staffed and interaction between staff and children/adolescents was mainly work-related. There was little supervision, bullying was common and staff often ignored the complaints of victims. As the majority of the

children and adolescents in the shelter displayed behavioural problems, frequent interaction with them reinforced his own, and he learned to defend himself against being bullied. It was hypothesised that his unresolved grief for his mother and sisters contributed to the problem. It made him vulnerable to painful feelings that he had no means of dealing with except by distracting himself with disruptive behaviour. It also supported his belief that he had bad luck. His anticipation that something bad would occur if he did not protect himself led him to see aggression as the best way to deal with everyday problems. The situation was worse at school where there was far more disruptive behaviour among the learners, and discipline was ineffective. He was often scolded and this only angered him more. The crying of the children that he bullied also reinforced his aggressive behaviour. Threats of punishment or expulsion had no impact. However the fact that he behaved well when the clinician was observing in class suggested he had the capacity for self-control.

Intervention phase

Bongani did not immediately form a collaborative relationship with the clinician. He laughed and shook his head when the clinician attempted to engage him in role-plays, which he regarded as 'kid's stuff'. He was not very verbal and responded to open-ended questions with one-word sentences. For this reason sessions 1 and 2 focused on motivational interviewing. This is an approach originally developed for substance dependent clients (Miller and Rollnick 2002) that is widely used with adolescents with a range of presenting problems and has been used with homeless 'street' youth in the USA (Baer and Peterson 2002). The aim was to help him to appreciate that an intervention would be do his advantage as it could assist him in overcoming his problems and was not just being imposed on him. Different strategies were adopted to motivate him. He was helped to see the effects of his behavioural problems on his current life and the probable effects in the future. The perspective was offered that his behaviour was a problem that needed to and could be solved. He responded well to this and liked the idea that the clinician would create time and space for him to talk about his problems and would use different assessment strategies to identify why he often became aggressive. Taking a non-judgmental problem-solving approach and listening attentively to his side of the story encouraged him to talk freely about his interactions with his peers and teachers, as well as staff members at the shelter. In sessions 3 to 5, the clinician worked to help him express his emotions about these losses, and to process his grief (Fleming and Robinson 1991). After relating his family history, he had appeared very sad, but was unable to verbalise his feelings. With his chronically unsettled background, characterised by a lack of familial and social support, he had been unable to engage in a meaningful grieving process for his mother and sisters. When asked to draw how he felt, he used red and blue paints which could have been indicative of anger and sadness. The drawings portrayed his anger and loneliness and his lack of love and support from close family members. He wanted to know why all this had happened to him. The clinician encouraged him to write letters to his mothers and sisters to tell them how he felt. However, it was not easy for him to express this in writing, so it was suggested he talk to them. He said: 'Mama, because you died, I was taken to the shelter as there was no one to live with me.' He became very tearful and time was allowed for him to cry and express his grief. He said things that suggested that he blamed her for his current life situation, so the clinician talked about the pain his mother could have experienced before she died. In subsequent sessions, it was observed that he could talk about his mother without becoming anxious or tearful.

From session 6 (end of April), the focus was on his anger and aggressive behaviour. From role plays it was clear that he had no alternative solutions other than aggression for dealing with conflict or provocation. When asked to describe the physiological sensations that he usually experienced before fighting and hitting others, he said that his body felt warm, light, and his muscles became tight, particularly those of the arms. In sessions 7 and 8, he was taught deep breathing and relaxation skills and role-plays were used to help him practice the deep breathing as a part of anger reduction (Wilde 1997). In session 9, he reported that he had managed to control himself from fighting another pupil who destroyed his book while they were in the classroom. Self-instructional training was given in sessions 9 and 10 to help him develop internalised speech patterns that would support self-control (Friedberg and McClure 2002; Herbert 1998b). Initially, he practised these aloud. For example, he was trained to take three slow deep breaths and then to say loudly: 'I will stay calm, I will not give in to angry feelings.' Afterwards, he was asked to apply what he had learned in the session *in vivo* and in the following sessions he was trained to fade self-instructions to a whisper and, finally, to use covert speech to guide overt behaviour.

Despite all this, no positive changes had been observed on the daily behaviour checklists completed by the teacher (see Table 1). The first contingency management training of staff took place in the second half of May, before session 10. Six such training sessions took place altogether, the final one in August. His teacher undertook to be consistent in punishing behavioural problems and rewarding good behaviour, and to apply reinforcement and punishment consistently to the whole class. The teacher also promised to assist Bongani with problems related to his class work and was shown how to prompt him to use his relaxation skills. The disciplinary regime was supplemented by withdrawing television privileges from all learners who were sent to the shelter during school hours as a punishment. In session 10, Bongani spoke positively about being motivated to obtain gold stars for not hitting other children

In June, in sessions 11 and 12, the focus was on consolidating self-control skills in everyday conflict situations and motivating him further. An investigation of incidents for which he was punished revealed that Bongani frequently interpreted other's actions as hostile, and retaliated accordingly. To decrease Bongani's negative attributional biases and to explore various alternatives, cognitive restructuring interventions were implemented in sessions 13 and 14. A few passages from a CBT manual on 'bad stuff that happens when one becomes angry' (Wilde 1997, p.11) were read to

him slowly to help him to see how, when one is angry, one is likely to act without reflection. Drawings were made that illustrated his behaviour in different situations where he was angry. It took about two sessions for him to understand the role of 'faulty thinking' in maintaining and fuelling his anger and role-plays were used to identify dysfunctional thoughts in different situations. For example, Bongani discovered that another boy who lived at the shelter had allegedly stolen his clothing and sold it in the township. He retaliated by stabbing the boy in the hand with a kitchen knife. The thoughts he identified were, 'he thinks I am scared of him,' 'he thinks I am a coward,' 'people like messing me up,' and 'I have bad luck.' The clinician used these to help Bongani see the connection between thought and feeling. He recognised that they were associated with anger but felt he had no other alternative but to retaliate. To address this, he was introduced to the concept of 'demanding words,' phrases that convey that people should or must act in a certain way. Over two sessions he learned to identify such 'demanding words' and to see how they contributed to his urge to retaliate in a range of situations.

By now there was a noticeable drop in aggressive behaviour observed by the teacher (Figure 1). However, he was still regularly implicated in the bullying of other learners and in July (sessions 15–18), he was given assignments to practice all the skills he had been taught as a means of preventing him from doing this. The clinician showed Bongani how to challenge the identified thoughts. For example, she asked him whether there was any proof that the other boy thought that Bongani was a coward. He agreed with the clinician that there was no evidence to substantiate this, and gradually began to understand that it was not usually possible to be sure of what another person was thinking and that it was wrong to retaliate against others for things of which one has no proof. He was also trained in alternative thinking. With guidance from the clinician he realised there could be other reasons for the other boy's behaviour. He could now see how using this 'new way' of thinking reduced his anger and removed the compulsion to hit the other boy. He was also guided through Friedberg and McClure's (2002) 'On Purpose or By Accident' exercises to help him to reduce his tendency to blame others for things which they had not done intentionally. For each of six events, he had to decide if it happened on purpose or by accident and was helped to evaluate the choices he had made. He also practised homework assignments in real life settings. During this month progress was very encouraging and there continued to be an observable reduction in the number of aggressive behaviours (see Figure 1).

In August (sessions 19–21), the focus was on systematic training in skills in interpersonal communication, negotiation and the giving of feedback, in the context of specific incidents that Bongani described. He reported an incident where another boy taunted him, calling him a coward and he had responded calmly. Situation-specific role-plays were continuously developed. Sometimes the clinician role-played the part of younger boys who provoked him. He was encouraged to think of himself as a grown-up boy, who would soon be 17 years old and was coached to remind himself of this. Continuous rehearsing of coping/social skills was done to allow him to identify, explore and practice alternative behaviours which would be more effective in dealing with these situations. Events where the client had hit, or in one case, stabbed another child were used to help him to recognise how his victims felt and to develop empathy. Role reversal was used in role-plays of situations between aggressor and victim. Taking on the role of victim helped him to develop an understanding of the victim's feelings, and he became more aware that his aggressive behaviour to others caused his victims frustration and anxiety and disrupted their focus on tasks both during lessons and in the playground.

During this month (see Figure 1), no incidents of problematic aggressive behaviour were observed either in class or

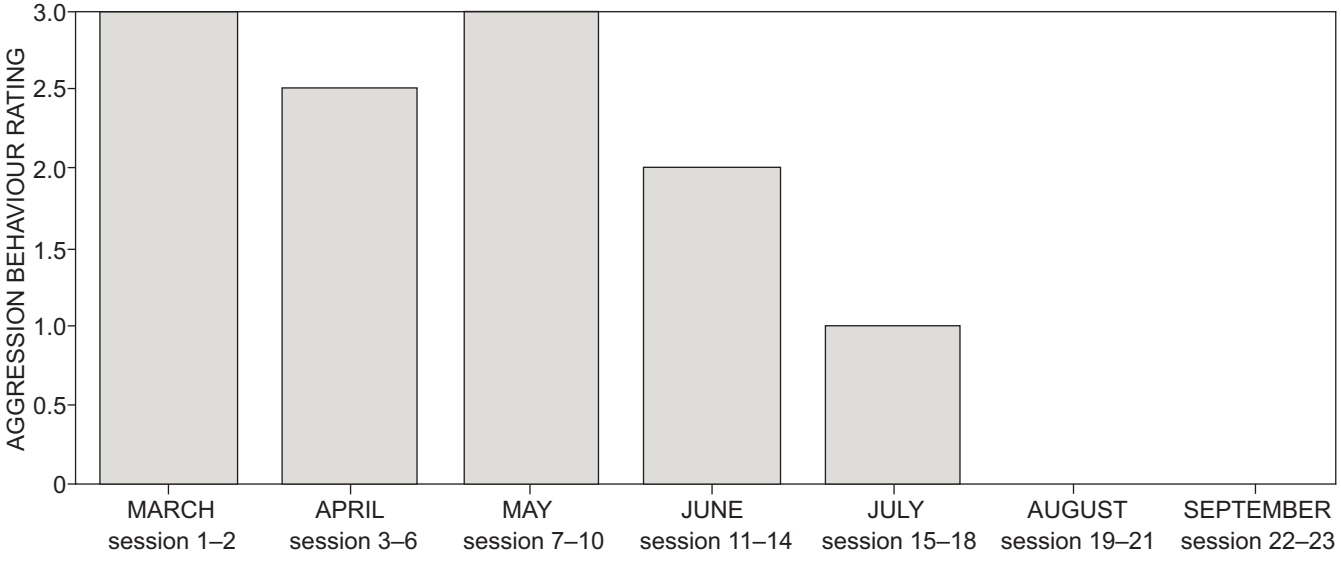

Figure 1: Monthly means of Bongani's Aggression Index

at the shelter. The reduction of aggressive behaviour was accompanied by a corresponding increase in prosocial behaviour and he recognised that the changes in his behaviour had the effect of his enjoying his life much more. Bongani stopped hitting and fighting with other children and started reporting others to the class teacher when they provoked him. He ceased disruption in the classroom and became more respectful to his teachers. He received gold stars for displaying good behaviour, something which had never happened before. He was also willing to ask his teacher for help when he had problems. For example, in July, he informed his class teacher that he found Grade 7 very difficult and suggested that he be allowed to repeat Grade 6, a move which both the class teacher and principal supported. In session 21, Bongani told the clinician that he could control his anger arousal and that he no longer needed any assistance in this respect. In view of his progress, frequency of sessions was reduced from weekly to fortnightly. At session 22, in early September, progress was maintained and neither he nor the teacher reported any further behavioural problems. At session 23, two weeks later, his good behaviour was maintained, but he spoke of 'bad moods' that he experienced on awakening in the morning following 'bad dreams' that he could not remember. This opened up the possibility of another stage in the therapy. But unfortunately, this was not to be, as this story of positive developments came to a sudden end. One of the shelter staff caught Bongani and two other learners from the shelter selling clocks in town. It was alleged that they had stolen the clocks from the shelter storeroom. The theft was reported to the police and Bongani and the two other learners were taken before a magistrate. Although they were released with a warning, the shelter governing body expelled the culprits in order to send a clear message to other learners that wrongdoing would not be tolerated.

Sadly, it seemed that the treatment had backfired. There had been no history of stealing in Bongani's record to date, so it was a problem that had not been addressed in therapy. Paradoxically, it seems likely that his involvement in the theft was an indirect result of the positive changes in his behaviour. Previously, he had been unpopular because of his aggression and negative outlook. Now he was much more able to form friendships with others. Unfortunately, those with whom he became friends served as a negative influence. Neither the clinician nor the class teacher, who had been very impressed by the positive changes in Bongani's behaviour, were part of the decision process that led to Bongani's expulsion. Had a different decision been made, it seems probable that, given Bongani's positive response to treatment, this behaviour could have been tackled too.

This unfortunate outcome does not negate the genuine and significant changes that had occurred in his behaviour at school. During the last meeting with the class teacher, she described his behaviour as 'like that of any normal child.' His interpersonal skills had positively changed, he was cooperative and more compliant with those in authority and his peers, and he could play amicably with other children without becoming aggressive. He even shared a desk with another learner, which he had been unable to do before and showed initiative in such tasks as cleaning the blackboard in class and assisting shelter houseparents during spring cleaning. He was functioning at a normal level and, had it not been for his involvement in the stealing, would no longer have met criteria for CD.

Discussion

The value of a case study is that it provides an in-depth documentation of a process in action. This is informative since a phrase like 'CBT intervention' fails to convey the details and complexities of the specific interventions within a case. It also serves to demonstrate the suitability of CBT interventions developed in Europe and the USA with a deprived South African child in an institution for the marginalised. It also provides a basis for readers to evaluate the process as a whole and to form their own conclusions about the impact of different aspects of the intervention and the kind of approach to formulation and intervention that is likely to be of value in future cases. The present study also provides evidence that a multi-modal cognitive-behavioural intervention can be effective in changing disruptive behaviour in disadvantaged children. Although no formal records had been maintained, there was evidence that Bongani's severely disruptive behaviour had become worse over time and had not responded to previous attempts at intervention (weekly counselling, an art therapy group, psychiatric evaluation and medication). It had escalated to the point where staff regarded the situation as a crisis. The hypothesis that the improvements in his behaviour was the result of spontaneous remission has therefore little support. Previous attempts at treatment also help to rule out the hypothesis that the observed changes in behaviour were as a result of non-specific therapy factors since no change occurred in response to previous psychotherapy interventions. The case narrative provides evidence that the positive changes in behaviour resulted from the intervention and led to Bongani having a more rewarding and satisfying experience both with respect to school work and in his relationships with staff and peers. The new pattern of behaviour had been sustained for nearly two months when he was expelled from the school.

To what extent is it possible to identify which components of the intervention are responsible for the changes that were achieved? A 'dismantling' approach tries to answer questions like this by running studies in which different groups are treated with different components of an overall treatment. From a holistic perspective, these studies can be unhelpful because the impact of specific interventions may vary from case to case and because different interventions within a package may have a synergistic effect. In the present case, therefore, it is probably unhelpful to ask whether the individual interventions or the contingency management training of staff were the most important ingredient. It seems probable that both played a significant role. Bongani responded to the individual sessions, learned new behavioural and metacognitive skills and practised them in real situations. However the immediate feedback provided by ensuring that contingencies of reward and punishment were managed in a more systematic and consistent manner undoubtedly served to motivate him further

to effect behaviour change. The reduction and eventual disappea-rance of the disruptive behaviours was accompanied by an overall change of attitude and approach to his life and everyday problems to which the experience of mentorship provided by the individual sessions probably contributed. Contingency management addressed the socio-environmental causes of Bongani's problems, while cognitive and behavioural interventions equipped Bongani with effective interpersonal and social coping skills which he lacked before. These enabled him to generate adaptive solutions and alternatives for everyday problems. The experience of successful problem-solving without resorting to aggression encouraged him to continue applying the learned skills to new situations. The combined effort of the clinician and school and shelter staff contributed to the promotion of his prosocial behaviour to the normative level. While further research in settings like the Amasango school could clarify the relative contribution of contingency management and individual sessions, there is an emerging consensus from research that no one treatment regime can be effectively utilised to treat CD and that interventions should be tailored to the individual needs of the target child/adolescent. The study also shows the importance of the psychologist working as a team with all role-players involved in the caring and teaching of children with special needs and regularly informing them about treatment plans and objectives (Bailey 1998, Herbert 1998a 1998b; Hill and Maughan 2001; Frick 2001, Howells 2000).

The present study used a case-based method (Edwards, *et al*. 2004) to provide meaningful evidence that the multimodal CBT approach whose efficacy has been proven in research settings, is transportable (Schoenwald and Hoagwood 2001) to an under-resourced South African setting such as the Amasango school catering for seriously deprived and marginalised children. The clinician (the first author) was not a highly experienced cognitive-behaviour therapist. As part of her training as a clinical psychologist she had attended a fairly comprehensive course on cognitive therapy offered by the second author as well as a weekly group supervision in which some child cases were discussed. She began assessing this case early in her internship year. The study therefore shows that a multimodal cognitive-behavioural approach can be effective outside the research contexts in which the efficacy research was conducted (Barkham and Mellor-Clark 2003), and can be employed by professionals with a basic level of training in the modality.

The assessment and intervention process was relatively time-consuming and involved close to 40 hours of professional time (including 3 assessment sessions, 23 individual sessions, 3 site visits during the assessment phase, weekly site visits to collect behaviour checklists, and 8 site visits for feedback and contingency management training). However, the results suggest that with this amount of professional input, significant and lasting change can be achieved. In a case like this, a series of haphazard interventions over a period could absorb a similar degree of professional time with limited effect. A UK study by Hutchings, Lane and Kelly (2004) provides a warning of the danger of employing half-hearted or incomplete interventions. They found that in conduct-disordered children treated with a brief intervention, there was limited change and no maintenance, while children who received an intensive intervention made clinically significant changes that were sustained. In practice one must beware of offering too little spread too thin and using this to discredit the approach.

In conclusion, therefore, this case study provides valuable evidence for the effectiveness of a multi-modal cognitive-behavioural programme for conduct-disordered children in a South African setting. The further development and testing of such interventions is an urgent necessity, since conduct-disordered children are at high risk for developing long-lasting psychological problems as adults (McMahon and Wells 1998) and intervention during childhood or adolescence could provide a platform for the development of a more secure and law-abiding adulthood.

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