Fortnightly review

Aggressive behaviour in childhood

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Increasing numbers of children who behave in a defiant and aggressive way are being excluded from school. Outside school the victims of these children's aggression have included young children and elderly people. At the extreme, two children recently convicted of murder in England were only 10 years old. Often these children are portrayed as inexplicably "evil" or "possessed." In fact a great deal is known about the factors leading to such behaviour, and how to prevent it.¹

Method

Many thousands of articles have been written about human aggression, in disciplines as varied as molecular genetics, endocrinology, ethology, social anthropology, education, criminology, and town planning. It would be impossible to review them all. This article is based on personal reading, mainly in psychology, psychiatry, and medicine.

Clinical manifestations

Conduct disorder is the commonest psychiatric disorder of childhood, occurring in 4% of a rural population and 9% of an urban one.² Three times as many boys as girls are affected. In younger children conduct disorder is characterised by temper tantrums, hitting and kicking people, destruction of property, disobeying rules, lying, stealing, and spitefulness. In adolescence it may include bullying and intimidation of others, frequent fighting, carrying and sometimes using a knife, cruelty to people or animals, more serious stealing, mugging, extensive drug misuse, truanting from school, running away from home, and arson.

The children are not usually content and well adjusted. Typically they have low self esteem and believe they are bad, often showing marked misery and unhappiness. Their ability to get on with their lives is impaired. A third have specific reading retardation (dyslexia), defined as being two standard deviations below the mean on a reading test after allowing for IQ.³ They lack the social skills to maintain friendships and are rather isolated.⁴

Continuity of behaviour

The difficulties would matter less if most of the children grew out of it. However, 40% of 7 and 8 year olds with

Summary points

The origins of persistent youth aggression and violence are to be found in early childhood

Aggressive behaviour in children (conduct disorder) occurs in nearly 10% of children in an urban population

90% of recidivist juvenile delinquents have had conduct disorder at age 7

Harsh, inconsistent parenting is the main cause of conduct disorder, but child hyperactivity and lower IQ also contribute

Children with conduct disorder are usually rather sad and fail at school and with friends

Programmes to improve parenting are effective in reducing antisocial behaviour in children under 10; adolescents are far harder to treat

Effective preventive programmes require input from both the parent(s) and the school

For vulnerable adolescents, the risk of developing an aggressive lifestyle will remain high while they have easy access to a subculture of violence and while few constructive alternatives are available to them

conduct disorder become recidivist delinquents as teenagers; and over 90% of recidivist juvenile delinquents had conduct disorder as children. Well over half of future recidivist delinquents can be predicted at age 7 from the child's aggressive behaviour together with the family's ineffective child rearing practices.⁵ On the other hand, where protective factors exist, the outcome can be good: figure 1 shows the school report of the 9 year old Winston Churchill, whose conduct was "exceedingly bad."

The adult manifestations are widespread. The psychiatric disorders that follow conduct disorder are alcoholism, drug dependence, and antisocial personality disorder⁶; non-psychiatric antisocial behaviours include theft, violence to people and property, drunk

poor at generating constructive solutions to conflicts, believing instead that aggression will be effective.¹⁹ This quickness to take offence at the slightest opportunity is reflected on the street in sensitivity to “dis” (disrespect), which can lead to swift retribution. This indicates the fragile self esteem and confrontational view of the world that these young people have come to develop after experiencing years of frustration and failure. Some find that being violent makes them feel good about themselves and gives them control.

Difficulties with friends and at school

In the school playground these children lack the skills to participate and take turns without upsetting others and becoming aggressive. Peer rejection typically ensues quickly,²⁰ and the children then associate with the other antisocial children, who share their set of values.

Those with difficulty reading typically fail to get any qualifications by the time they leave school, and they become unemployed. This may contribute to persisting antisocial behaviour.²¹

Predisposing child characteristics

Hyperactivity (also known as attention deficit hyperactivity disorder) is predominantly genetically determined.²² Children who show this restless, impulsive pattern of behaviour do not necessarily start off aggressive, but over time a proportion become so.²³ They have difficulty waiting their turns in social encounters and games and so easily provoke retaliation and get into fights. Where hyperactivity and conduct disorder coexist from an early age the long term outlook is especially poor.²³

Delinquents have repeatedly been shown to have an IQ that is 8–10 points lower than law abiding peers—and this is before the onset of antisocial behaviour.²⁴ Other traits predisposing to conduct problems include irritability and explosiveness, lack of social awareness and social anxiety, and reward seeking behaviour.

The interplay between a child's characteristics and the environment is complex. As children grow older, their environment is increasingly determined by their own behaviour and choices. There may be turning points when certain decisions set the scene for years to

Elements in parenting programmes

- *Play and good times together*—To cut into the cycle of defiant behaviour and recriminations, it is essential to replace it with some positive experiences for both sides and begin to mend the relationship. Some parents are unable to play with their children and need to learn how to recognise and respond to their needs
- *Praise and recognition for good behaviour*—The child needs to receive praise for mundane behaviour such as eating nicely and getting dressed quickly; then he or she will do it more often. Yet some parents find it hard to praise and fail to recognise positive behaviour, with the result that it becomes less frequent
- *Clearly expressed expectations*—Rules need to be explicit and constant; commands need to be firm and brief. Thus shouting at a child to stop being naughty does not tell him what he ought to do, whereas, for example, telling him to play quietly gives a clear instruction, which makes compliance easier
- *Consistent and calm consequences for misbehaviour*—Aggression needs a firm and calm response (for example, by putting the child in a room for a few minutes rather than using counter aggression). Some parents utter a string of dire threats that are usually not carried out; they may give in to the child's whining for a quiet life, thus unwittingly teaching him or her that it pays to whine
- *Planning ahead to avoid trouble*—Fairly simple measures may improve a difficult situation (for example, no longer taking the child to the supermarket, or taking a favourite book to entertain the child while at the doctor's surgery)

come.²⁵ Thus it is not simply a young person's level of antisocial behaviour per se that determines later outcome but also how the behaviour shapes the social world inhabited later on. This has important implications for intervention.

Interventions

Treatment needs to be targeted at major modifiable risk factors and its outcome measured objectively.²⁶ It should preferably be at an early age as conduct disorder can be reliably detected early,⁵ has high continuity,²⁷ is amenable to treatment at a young age,⁴ and is very hard to eradicate in older children.²⁸ In this section I discuss interventions for general aggressiveness only in children under 12; interventions targeting youth crime have been excellently reviewed by Farrington.²⁹

Parent training programmes for reducing antisocial behaviour in children

Little published evidence exists that individual psychotherapy (whether psychodynamic or cognitive behavioural), pharmacotherapy, general eclectic family work, or formal family therapy are effective in treating conduct disorder.⁴ Behaviourally based programmes to help parents, however, have consistently been shown to be effective. For example, the pioneering work of Patterson and colleagues¹⁵ showed that directly instructing parents while they interact with their children leads to significant and lasting reduction in behavioural problems. Many other studies have replicated this.³⁰ The content of a typical parenting programme is shown in the box.

Fig 2 Criminality in young adults who had been adopted, according to congenital and postnatal risk. Adapted from Bohman¹²

Developing a programme

Firstly, the tone of the approach is vital. "Professional" overtures showing parents how to do things while treating them as unskilled and incompetent leave them feeling even more of a failure and lead to a high drop-out rate. A more collaborative approach is much more effective.³¹ Secondly, unfocused social support may be appreciated by parents but often does not improve parenting.^{32, 33} To get results the professionals need to be trained in the specific methods—a manual and a training centre are necessary. Thirdly, most consistently effective programmes have at least 10 sessions; to increase the effects, a booster is desirable several months later. Fourthly, intervention needs to be early, since teenage treatments have only small effects.²⁹

Training using videotapes

Although conventional one-to-one treatment is effective, a more cost effective approach is needed to treat larger numbers. Webster-Stratton and colleagues developed a series of videotapes for training groups of parents without their children present.³⁰ The videos show short vignettes of parents and children in common situations. They show the powerful effect of parents' behaviour on their child's activity, with examples of "right" and "wrong" ways to handle children. Ten to 14 parents attend a weekly two hour session for 12 weeks. Two therapists lead the group and promote discussion, so that all members grasp the principles; role play is used to practise the new techniques. Practical homework is set each week and carefully reviewed with a trouble shooting approach.

Outcome studies in the United States of this package have shown it to be just as effective as the accepted ideal of giving individual instruction to the parent with the child present. Objective measures of the child's antisocial behaviour show improvement; appropriate parental behaviour increases, with a large reduction in smacking. The gains are maintained at one year follow up.³⁰ The cost is a quarter that of individual treatment. In Britain two randomised controlled trials are in progress to replicate the findings with referred cases.

Other training programmes

Among more intensive programmes, the one developed by Puckering et al entails one day a week for 16

weeks.³⁴ This programme has been shown to be effective in improving parenting in quite damaged families and enabling children to come off "at risk" child protection registers.

Failure of parent training

However, even in the best hands about a third of children do not improve with parent training. In many cases, this is due to lack of change in parental behaviour, often because of parental psychiatric difficulties such as depression, drug and alcohol problems, and personality difficulties. In other cases, the children have comorbid problems maintaining their behaviour, such as mental retardation, severe language disorders, or severe hyperactivity.

Management of hyperactivity

Hyperactivity is distinct from conduct disorder, although they often coexist. Psychological treatment has to be rather different. Rewards have to be given more contingently and more frequently and have to be changed more often. Tasks have to be broken down into shorter components. Specific, clear rules have to be set for each different situation, as these children have difficulty generalising. School is often particularly difficult as the demands for concentration are great, the distractions from other children higher than at home, and the level of adult supervision lower. However, use of the principles outlined above can lead to useful improvements.³⁵

Management with drugs (usually methylphenidate or dexamphetamine) is reserved for children with severe symptoms in both home and school (hyperkinetic syndrome). This syndrome occurs in just over 1% of boys. The short term effects of drug treatment are large; less is known about long term benefits.

Interventions at school

Effective techniques exist for helping parents to get their children to read.³⁶ One parent-child reading programme with 5 year olds reduced the proportion of children in the "very poor" category of reading from 26% to 14%.³⁶ Teachers can be taught techniques to reduce disruptive behaviour in the classroom. Teaching younger children directly to cope with their peers in a non-aggressive way has had mixed results so far,³⁷ although children can be taught to use non-aggressive means of resolving conflict at school.³⁸

Early preventive educational programmes can reduce later antisocial behaviour. In the United States the Perry/High Scope project gave educational input to deprived children aged 3-4 before they went to school. By age 27 they had better peer relationships, they received fewer state benefits, and the level of repeat arrests was reduced from 35% to 7%, compared with randomly allocated controls who received no intervention.³⁹ Several ambitious programmes have now started in North America for primary school age children that combine parental and school interventions, but the results are not yet known.⁴⁰

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The origins of persistent youth aggression and violence are found in early childhood

- 1 Spender Q, Scott S. Conduct disorder. *Curr Opin Psychiatry* 1996;9:273-7.
- 2 Rutter M, Cox A, Tupling C, Berger M, Yule W. Attainment and adjustment in two geographical areas. *Br J Psychiatry* 1975;126:493-509.
- 3 Rutter M, Yule W. Reading retardation and antisocial behaviour: the nature of the association. In: Rutter M, Tizard J, Whitmore K, eds. *Education, health, and behaviour*. London: Heinemann, 1970.

- 4 Kazdin AE. *Conduct disorders in childhood and adolescence*. London: Sage, 1995.
- 5 Farrington DP. The development of offending and antisocial behaviour from childhood: key findings from the Cambridge study in delinquent development. *J Child Psychol Psychiatry* 1995;36:929-64.
- 6 Robins LN, Price RK. Adult disorders predicted by childhood conduct problems: results from the NIMH epidemiologic catchment area project. *Psychiatry* 1991;54:116-32.
- 7 Rutter M, Giller H. *Juvenile delinquency*. Harmondsworth: Penguin, 1983.
- 8 Bailey V, Graham P, Boniface D. How much child psychiatry does a general practitioner do? *J R Coll Gen Pract* 1978;28:621-6.
- 9 Scott S. Mental retardation. In: Rutter M, Taylor E, Hersov L, eds. *Child and adolescent psychiatry: modern approaches*. 3rd ed. Oxford: Blackwell Scientific, 1994.
- 10 Garralda E, Bailey D. Psychiatric disorders in general paediatric referrals. *Arch Dis Child* 1989;64:1727-33.
- 11 Goldsmith HH, Gottesman II. Heritable variability and variable heritability in developmental psychopathology. In: Lenzenweger MF, Haugaard JJ, eds. *Frontiers of developmental psychopathology*. Oxford: Oxford University Press, 1995.
- 12 Bohman M. Predisposition to criminality Swedish adoption studies in retrospect. In: Rutter M, ed. *Genetics of criminal and antisocial behavior*. Chichester: Wiley, 1996. (CIBA Foundation symposium 194.)
- 13 Rutter M. *Genetics of criminal and antisocial behaviour*. Chichester: Wiley and Sons, 1996.
- 14 Farrington DP. Early developmental prevention of juvenile delinquency. *Criminal Behaviour and Mental Health* 1994;4:209-27.
- 15 Patterson GR, Reid JB, Dishion JT. *Antisocial boys*. Eugene, OR: Castalia, 1992.
- 16 Gardner EM. Parent-child interaction and conduct disorder. *Educ Psychol Rev* 1992;2:135-63.
- 17 Lyons-Ruth K. Attachment relationships among children with aggressive behavior problems: the role of disorganized attachment patterns. *J Consult Clin Psychol* 1996;64(1):64-73.
- 18 Fonagy P, Steele H, Steele M. Maternal representations of attachment during pregnancy predict the organization of infant-mother attachment at one year of age. *Child Dev* 1991;62:891-905.
- 19 Dodge KA, Lochman JE. Social-cognitive processes of severely violent, moderately aggressive and non-aggressive boys. *J Consult Clin Psychol* 1994;62:366-74.
- 20 Kupersmidt KB, Coie JD, Dodge KA. The role of poor peer relationships in the development of disorder. In: Asher SR, Coie JD, eds. *Peer rejection in childhood*. Cambridge: Cambridge University Press, 1990.
- 21 Hinshaw S. Externalizing behaviour problems and academic underachievement in childhood and adolescence: causal relationships and underlying mechanisms. *Psychol Bull* 1992;111:127-55.
- 22 Goodman R, Stevenson J. A twin study of hyperactivity: I. An examination of hyperactivity scores and categories derived from Rutter teacher and parent questionnaires. II. The aetiological role of genes, family relationships, and perinatal adversity. *J Child Psychol Psychiatry* 1989;30:671-710.
- 23 Taylor E, Chadwick O, Heptinstall E, Danckaerts M. Hyperactivity and conduct problems as risk factors for adolescent development. *J Am Acad Child Adolesc Psychiatry* 1996;35:1213-26.
- 24 Moffitt TE, Lynam D, Silva PA. Neuropsychological tests predict persistent male delinquency. *Criminology* 1994;32:101-24.
- 25 Quinton D, Pickles A, Maughan B, Rutter M. Partners, peers, and pathways: assortative pairing and continuities in conduct disorder. *Dev Psychopathol* 1993;5:763-83.
- 26 Scott S. Measuring oppositional and aggressive behaviour. *Child Psychol Psychiatry Review* 1996;1:104-9.
- 27 Loeber R. Antisocial behaviour: more enduring than changeable? *J Am Acad Child Adolesc Psychiatry* 1991;30:393-7.
- 28 Bank L, Marlowe JH, Reid JB, Patterson GR, Weinrott MR. A comparative evaluation of parent-training interventions for families of chronic delinquents. *J Abnorm Child Psychol* 1991;19:15-33.
- 29 Farrington P. *Understanding and preventing youth crime*. York: Joseph Rowntree Foundation, 1996.
- 30 Webster-Stratton C, Hollinsworth T, Kolpacoff M. The long-term effectiveness and clinical significance of three cost-effective training programs for families with conduct-problem children. *J Consult Clin Psychol* 1989;57:550-3.
- 31 Webster-Stratton C, Herbert M. *Troubled families—problem children. Working with parents: a collaborative process*. Chichester: Wiley, 1994.
- 32 McCord J. The Cambridge-Somerville study: a pioneering longitudinal experimental study of delinquency prevention. In: McCord J, Tremblay RE, eds. *Preventing antisocial behaviour—interventions from birth through adolescence*. New York: Guilford Press, 1992.
- 33 Dadds MR, McHugh TA. Social support and treatment outcome in behavioral family therapy for child conduct problems. *J Consult Clin Psychol* 1992;60:252-9.
- 34 Puckering C, Rogers J, Mills M, Cox D, Mattson-Graff M. Process and evaluation of a group intervention for mothers with parenting difficulties. *Child Abuse Rev* 1994;3:299-310.
- 35 Piffner LJ, Barkley RA. Educational placement and classroom management. In: Barkley R, ed. *Attention deficit hyperactivity disorder: a handbook for diagnosis and treatment*. New York: Guilford Press, 1991.
- 36 Hannon P. *Literacy, home and school: research and practice in teaching literacy with parents*. Falmer: Falmer Press, 1995.
- 37 Prinz RJ, Blechman EA, Dumas JE. An evaluation of peer coping-skills training for childhood aggression. *J Clin Child Psychol* 1994;23:193-203.
- 38 Levin DE. Making peace in violent times: a constructivist approach to conflict resolution. *Young Children* 1992;47:4-13.
- 39 Schweinhart LJ, Weikart DP. *A summary of significant benefits: the High Scope Perry pre-school study through age 27*. Ypsilanti, MI: High Scope, 1993.
- 40 McCord J, Tremblay RE, Vitaro F, Desmarais-Gervais L. Boys' disruptive behaviour, school adjustment, and delinquency: The Montreal prevention experiment. *Int J Behav Dev* 1994;17:739-52.

Lesson of the week

Emergence of classic enteropathy after longstanding gluten sensitive oral ulceration

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Patients with recurrent oral ulcers may have gluten sensitivity and subsequently develop coeliac enteropathy

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The mechanisms responsible for recurrent oral ulcers have yet to be defined. Oral ulcers occur in several conditions, including connective tissue disease, viral infections, and gastrointestinal disorders such as inflammatory bowel disease and gluten sensitive enteropathy or coeliac disease. Treatment of gluten sensitivity with a diet that is free of gluten results in resolution of small intestinal lesions and often also oral ulcers.¹ While some patients present with gluten sensitivity and recurrent oral ulcers without gastrointestinal abnormalities,² the possibility that some of these patients may subsequently develop enteropathy has not been confirmed. We report on a patient with gluten sensitivity and oral ulcers who developed abnormalities of the small intestine without gastrointestinal symptoms after many years of surveillance.

Case report

A 14 year old boy presented to the coeliac outpatient clinic in St James's Hospital, Dublin, with a history of oral

ulcers since 3 years of age. His mother had longstanding coeliac disease but had had no oral ulcers; there was no other family history of coeliac enteropathy or oral ulcers. When the patient was 13 years old investigations showed normal jejunal histology.

At presentation his antibody concentrations to gliadin were raised (31.0 arbitrary units/ml, normal range 0 to 3 arbitrary units/ml; reference range based on a protocol developed at St James's Hospital, Dublin). A duodenal biopsy at this time showed no abnormality. The patient's ulcers resolved after he was put on a diet free of gluten; the concentration of antibodies to gliadin fell to 14 arbitrary units/ml within six months. As the patient may have had latent coeliac disease he was challenged with a normal diet containing gluten for four months; the ulcers recurred and the concentration of antibodies to gliadin increased to 16 arbitrary units/ml. A duodenal biopsy at this time was normal (fig 1 (left)) and the patient had no gastrointestinal symptoms.

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