Depression in childhood

M L Barrett, I Kolvin, Hospital for Sick Children, Newcastle upon Tyne

The concept and classification of depression in childhood is currently under review. A modern view is that childhood depression is similar to adult depressive disorders, although the extent of variation with age and sex is not yet clear. Reliable and valid diagnostic criteria are being established, which will allow a more accurate estimation of prevalence rates, aetiology, and prognosis.

Historical resistance to the notion that children can suffer from depressive disorders similar to those in adults has taken a long time to overcome. In the post-war years, views of childhood depression were greatly influenced by psychodynamic formulations. Despite the fact that some workers alluded to depression in infancy (Spitz, 1946), others deemed melancholia in children a theoretical impossibility due to their lack of a fully structured super-ego (Rachlin, 1959). Later, ego psychology conceived depression as a result of a fall in self-esteem due to a discrepancy between the ego-ideal and the actual self, and since children were thought to lack a stable self-image they were considered to be immune from depression (Rie, 1966). Consonant with these views was a belief in the uniqueness of the individual child-patient and a general disregard for nosology. But in the 1970s there was a sudden burst of interest in the classification and epidemiology of childhood disorders and as a result, not only has this resistance been overcome but there has also been a pendular swing to a popular acceptance of the notion, with depression becoming a relatively common diagnosis. Further, a vast modern literature now attests that the depressive disorders have assumed an important position as a topic for concern and scientific enquiry (Kolvin and Nicol, 1979).

Concepts of depression

Similarities and differences of depression in childhood and adulthood

The traditional basis for distinguishing between depressive conditions in pre-pubertal and pubertal children is that psychiatric conditions manifested in the pubertal child rapidly become more akin to those in adults than do those in the pre-pubertal period. However, focusing on the pre-pubertal period alone precludes answering the question of just how depression in the post-pubertal schoolchild differs from that in the adult, and how that in pre-puberty differs from that in puberty. To be more specific the question must become "In what way does the long list of nonspecific symptoms, especially those displayed by disturbed children, resemble or differ from the symptoms displayed by adult depressives and what continuities are there between the two?"

An important review of similarities and continuities between symptoms and syndromes of depression in childhood and adulthood was that of Graham (1974). From his review of epidemiological studies, common environmental stresses, physical stress, familial and follow-up studies, he concluded that there was little similarity or continuity between symptoms and syndromes of depression between these two periods of life. Nevertheless, it is possible that these negative findings occurred because depression in childhood had been inadequately conceptualized and characterized. This has constituted a stimulus to collaborative research between workers in both the child and adult fields: some examples include studies of the Dexamethasone Suppression Test in pre-pubertal and adolescent depressives (Poznanski and Carroll, 1982; Targum and Capodanno, 1983; Weller and Weller, 1984), and investigations of REM sleep measures and growth hormone secretion in pre-pubertal children with depression (Puig-Antich et al, 1981–4).

Symptoms and syndromes of depression in childhood

This has been an ongoing source of debate among child psychiatrists. One view was that pure depressive illness in the pre-pubertal period is rare and does not give rise to any great diagnostic problems. On the other hand, depressive symptoms of sadness and misery are relatively common and often found in association with neurotic and conduct disorders of middle childhood, and may be interpreted as reactions rather than illnesses (Graham, 1974). A more recent view is that childhood depression is a genuine entity that is equivalent to, or a variant of, adult depression. This gives rise to questions about the concept of depression in childhood and the features that should be used to characterize it, particularly if adult-type criteria can be reliably and validly used with children (Kolvin et al, 1984).

One of the cardinal features in adult depressive disorders is an abnormal mood state. This begs the important question regarding the diagnostic significance of such a change in children, since sadness is not syndrome-specific—for instance, it is common both in conduct and neurotic disorders (Rutter et al, 1970). The clinical significance of this feature remains a matter of dispute and only now are workers addressing themselves to this crucial issue. Some argue that we must not expect symptomatology in children to be the same as symptomatology in adult depressive disorders, nor even to manifest as dysphoric mood. Frommer (1968) appears to adopt this position; she not only describes three types of depression—pure depression, phobic depression and enuretic/encopretic depression—but also lists a wide range of features including abdominal pain, anorexia, headaches, encopresis, and enuresis, which she considers to be typical of childhood depression. Other workers go even further and question whether mood change is a necessary feature of

childhood depressive disorder. This latter notion has found favour with certain authors to the extent of their being attracted to the two allied concepts of masked depression (Glaser, 1968; Cytryn and McKnew, 1972) and depressive equivalents (Malmquist, 1971). The former is, in essence, a depressive disorder without mood change with symptomatology including hyperactivity, aggressive behaviour, delinquency, and learning difficulties, while the latter most commonly manifests as somatic complaints. Many others see such features as simply being presenting or referral symptoms and not necessarily those which contribute to the characterization or the underlying syndrome; alternatively they may be viewed as attributable to nonspecific psychological disturbance which constitutes behavioural colouring appropriate to that age and stage of development (Kovacs and Beck, 1977).

The problem with such notions is that they extend the concept of depression so widely that most childhood behaviour disorders could be considered as being depressions. Further, most modern research does not support the original concept of masked depression (Kolvin et al, 1984). A variation of the original concept of masked depresson might prove more acceptable — this consists of a condition where the more fundamental dysphoric mood is concealed by nonspecific symptomatology rather than there being an absence of change of mood. This is a possibility, as many of the child behaviour checklists do not focus on mood changes and hence may have been missed.

Finally, and more recently, there are those who argue that while the pictures in childhood and adult depression are broadly similar, in childhood there might be some additional unique features that have to be identified by research (Kovacs and Beck, 1977). A number of strategies have been used in an attempt to delineate these. The classical method is that of attempting to identify a pattern of phenomena sufficiently characteristic to be described as a circumscribed disorder; an alternative, is to adopt and adapt operationally defined diagnostic criteria which have been developed for use with adults. The former approach is used by Kolvin and colleagues (1984) in the UK, while the latter is used in the USA, where Weinberg et al (1973) adopted the criteria of Feighner et al (1972) and Puig-Antich et al (1980) adopted those of Spitzer et al (1978).

From their review of the literature, Kovacs and Beck (1977) claim they can recognize in childhood the group symptoms found in adult depressive syndrome — affective changes, cognitive changes, motivational changes, and autonomic disturbance. The closest to this approach is that of Weinberg et al (1973) who list as diagnostic criteria certain clinical features similar to those considered to be characteristic of adult depression. In order to be diagnosed as depressed the child has to have the primary symptom of a dysphoric mood and to express self-deprecatory ideas, low self-esteem, but also needs to have at least two of the other eight secondary symptoms which include aggressive behaviour, suicidal thoughts, sleep disturbance, falling off of school performance, loss of appetite, social withdrawal, and somatic complaints. This important research has two major limitations. First, sadness and misery are not uncommon in childhood (Lapouse, 1966) and, if dysphoric mood is used as a primary symptom, it must be qualified by a statement as to degree of severity, otherwise the concept is so widened as to become meaningless (Werry, 1976; Kolvin et al, 1984). Hence only the more extreme variations of primary symptoms should be considered to be abnormal. Second, some of the secondary symptoms are also so common in disturbed children that they cannot be considered in any sense to be specific to depression.

Identifying depression in children

Two approaches have been developed to help identify depressed children. First, there are the interview questionnaires: Puig-Antich and colleagues (1984) have modified Spitzer et al's (1978) Schedule for Affective Disorders and Schizophrenia (SADS) for use with children and labelled it the Kiddie-SADS. This is a structured interview which gives due attention to onset, duration, and severity of a wide range of features. Other questionnaires of this type include Herjanic and Campbell's (1977) Diagnostic Schedule for Children and the Diagnostic Interview for Children and Adolescents. Self-rating instruments have been devised by workers on both sides of the Atlantic, the most well-known being that modified by Kovacs (1981) and labelled the Child Depression Interview. Unfortunately it has poor sensitivity and specificity (Carlson and Cantwell, 1980). In the UK a scale has been developed by Birleson (1981). Preliminary work suggests that it is reliable, but questions remain as to its sensitivity and specificity. It should be used with caution.

Classification

A major impetus to the general acceptance of revised views of childhood depression was the decision by the American Psychiatric Association to classify depressive disorders in children in a similar way to those in adults. Thus, in their Diagnostic and Statistical Manual of Mental Disorders (DSM III 1980), it is asserted that "the essential features of affective disorders are the same in children and adults — there should be no distinction in symptoms between age groups".

Previously, Rutter (1965) had argued that an acceptable classification should be based on facts, with operationally defined categories, which convey clinically relevant information, that classify the disorders and not the children. The DSM III is attractive in that it satisfied many of these criteria but it has, as yet, an insubstantial research basis.

Diagnostic criteria in childhood depression

Childhood depression has been studied sufficiently for us to make some suggestions about diagnostic criteria. While it would be unwise to use dysphoric mood as the cardinal criteria because of its frequency (Graham, 1974) and because the diagnostic value of an individual behavioural symptom is limited (Werry, 1976), in the current stage of knowledge it would seem unwise not to use it as one of the primary diagnostic criteria. It would be necessary to ensure that such mood changes are of reasonable severity and duration, and are sufficiently durable to be only poorly reactive to environmental changes (Anthony, 1967). Gittelman-Klein (1977) emphasises the child's reduced ability to experience pleasure as part of the mood change.

The next most likely contender for inclusion is suicidal ideation. However, research into suicide suggests that there is no associated depression in a high proportion of suicidal children (Koski, 1971; Shaffer, 1974; Gittelman-Klein 1977). Loss of energy could similarly be considered to be one of the primary criteria. Statistical analysis of data from clinical studies will help to identify other important diagnostic criteria.

There is no doubt that the clear specification of diagnostic criteria constitutes an essential prerequisite to clinical studies undertaken to validate instruments currently being developed to identify childhood depression. However, such an exercise is often bedevilled by the joint problems of reliability of clinical judgment and by the varying ability of children at different ages to respond to the questions asked (Nowels, 1977). Such clinical research will enable workers to classify depressive disorders by type and by age. So far much of the work on childhood and

depression has been confined to statistical studies of phenomena, but these should be followed by comparative studies of family factors, life circumstances and events, aetiological and genetic factors, prevalence, natural history and outcome, premorbid personality, and so on.

The modern sophisticated approach consists of applying multivariate analyses (such as principal component analysis) to identify factors of depression. Discriminant function analysis is another multivariate approach which attempts to ascertain whether two mutually exclusive populations of patients can be discriminated significantly one from the other. (Kolvin et al, 1984). This latter technique has been used by Pearce (1974), who undertook a discriminant function analysis to try to identify other behavioural discriminants between children with and without symptoms of depression. He found that while depressive symptoms cluster together as a syndrome of depression, a third of the children with depressive symptoms had more in common with those without symptoms. This is an important finding since it indicates that not all children with the symptom of depression suffer from a depressive syndrome. In addition many of the symptoms previously thought to be depressive equivalents such as enuresis, aggression, and stealing, were found to be negatively associated with the depressive symptoms. Kolvin et al (1984), studying school phobics, identified two meaningful subgroups, namely a depressed group and a residual school phobic group. Further, using multivariate analyses, they identified 11 key symptoms and using these evolved a formula for diagnosing adult-type depression, which gives particular emphasis to severity of the individual symptoms. Using similar techniques Achenbach (1966) demonstrated a robust depression factor in pre-puberty.

Prevalence and treatment

The prevalence depends on the broadness of the definition used; obviously the broader the definition, the higher the rate, and vice versa. The rates, therefore, vary between those who deny the existence of depression in childhood or who consider it to be very rare (Makita, 1973; Graham, 1974), to those who view it as common and see a large number of behavioural symptoms in childhood as being pathognomonic of depression (Frommer, 1968). Using the epidemiological data of Werry and Quay (1971), Leftkowitz (1977) calculates that if a wide range of symptoms considered to be characteristic of depression in childhood were to be used as diagnostic criteria, then 22 per cent of boys and 18 per cent of girls in ordinary elementary schools could be judged to have depressive disorders! It is our view that a more rigorous concept and criteria are necessary for the concept to be scientifically credible and for the syndrome to have any clinical value. When these are used, the prevalence rate in the general population is low. For example, in their epidemiological studies Rutter et al (1970) report the syndrome depression in about one to two children per 1000 population at the age of 10–11 years; increasing to about 15 per 1000 of the population in 14 to 15 year olds (Rutter et al, 1976). On the other hand, depressive symptomatology is described in 10 per cent of the population at 10–11 years and 20 per cent of the population in adolescence.

A similar picture is obtained in clinical samples, running from 60 per cent when using broader criteria with an inpatient population (Weinberg et al, 1973) to 15 per cent when using narrower criteria with an outpatient population (Kovacs and Beck, 1977).

So far most of the studies on the drug treatment of depression in childhood have been methodologically poor in terms of heterogeneity of patient population, lack of specified diagnostic criteria or of criteria for improvement, and inadequate controls. Nevertheless, Shaffer (1985) concludes that so far there is inadequate evidence for drug efficacy. There is suggestive evidence that depressive symptoms respond well to customary management (Berney et al, 1981; Puig-Antich et al, 1984) with the former group reporting that depressive symptoms wane rapidly with nonspecific psychological treatment and the latter group reporting high placebo improvement rates. In addition, the more recent forms of psychological therapy (cognitive), developed for use with adults, are being modified and are likely to make an important contribution to treatment.

Achenbach, T M (1966) *Psychological Monographs,* **80,** No 615
Anthony, E J (1967) *in* Comprehensive Textbook of Psychiatry (edited by Freedman, A M, Kaplan, H G.) Williams and Wilkins, Baltimore. p.1433
Berney, T P et al (1981) *British Journal of Psychiatry,* **138,** 110
Birleson, P (1981) *Journal of Child Psychology and Psychiatry,* **22,** 73
Carlson, G A, Cantwell, D P (1980) *American Journal of Psychiatry,* **137,** 445
Cytryn, L, McKnew, D J (1972) *ibid.,* **129,** 149
Diagnostic Criteria (Quick Reference To the Diagnostic Criteria from Diagnostic And Statistical Manual of Mental Disorders, Third Edition. Washington, DC, The American Psychiatric Association, 1980.)
Feighner, J P, Robins, E, Guze, S B, Woodruff, R A, Winokur, G, Munoz, R (1972) *Archives of General Psychiatry,* **26,** 57
Frommer, E A (1968) *British Journal of Psychiatry,* Special Publication No 2, 117
Gittelman-Klein, R (1977) *in* Depression in Childhood; Diagnosis, Treatment and Conceptual Models (edited by Schulterbrandt, J G and Raskin, A) Raven Press, New York, p.69
Glaser, K (1968) *Annual Progress in Child Psychiatry and Child Development,* **1,** 345
Graham, P (1974) *Developmental Medicine and Child Neurology,* **16,** 340
Herjanic, B, Campbell, W (1977) *Journal of the Association of Child Psychology,* **5,** 127
Kolvin, I, Nicol, A R (1979) *in* Recent Advances in Clinical Psychiatry, 3rd edn edited by K Granville-Grossman) Churchill Livingstone, London
Kolvin, I, Berney, T P, Bhate, S R (1984) *British Journal of Psychiatry,* **145,** 347
Koski, M L (1971) *in* Depressive States in Childhood and Adolescence (edited by Annell, A L, Proc. 4th UEP Congress, Stockholm) Almqvist & Wiksell, Stockholm. p.329
Kovacs, M (1981) *Acta Paedopsychiatrica,* **46,** 305
—, Beck, A T (1977) *in* Depression in Childhood. (edited by Schulterbrandt, J G, Raskin, A) Raven Press, New York, p.1
Lapouse, R (1966) *American Journal of Diseases in Childhood,* **111,** 594
Lefkowitz, M M (1977) *in* Depression in Childhood (edited by Schulterbrandt, J G, Raskin, A), Raven Press, New York
Makita, K (1973) *Acta Paedopsychiatry,* **40,** 37
Malmquist, C P (1971) *New England Journal of Medicine,* **284, 887, 995**
Nowels, A (1977) *in* Depression in Childhood. (edited by Schulterbrandt, J G, Raskin, A) Raven Press, New York
Pearce, J B (1974) Childhood Depression. MPhil. (Psych) Thesis. University of London
Poznanski, E O, Carroll, B (1982) *American Journal of Psychiatry,* **139,** 321
Puig-Antich, J (1980) *Psychiatric Clinics of North America,* **3,** 403
— et al (1982) *Archives of General Psychiatry,* **39,** 932
— et al (1983) *ibid.,* **40,** 187
— et al (1984) *ibid.,* **41,** 463
— et al (1984) *in* Child and Adolescent Psychiatry. Modern approaches (2nd edition, Rutter and Herson, 1985) Blackwell Scientific, Oxford. p.717
— et al (1981) *Journal of Biol Psychiat,* **16,** 801
Rachlin, G (1959) *Journal of the American Psychoanalytic Association,* **7,** 299
Rie, H E (1966) *Journal of the American Academy of Child Psychiatry,* **4,** 653
Rutter, M (1965) *Journal of Child Psychology and Psychiatry,* **6,** 71
—, Tizard, J, Whitmore, K (1970) Editors. Education, Health and Behaviour. John Wiley and Sons, New York
—, Graham, P, Chadwick, O, Yule, W (1976) *Journal of Child Psychology and Psychiatry,* **17,** 35
Shaffer, D (1974) *ibid.* **45,** 406
— (1985) *in* Child and Adolescent Psychiatry: Modern Approaches. (edited by Rutter, M, Hersov, L.) Blackwell Scientific Publications, Oxford. p.706
Spitz, R (1946) *Psychoanalytical Study of Children,* **2,** 113
Spitzer, R L, Endicott, J, Robins, E (1978) *Archives of General Psychiatry,* **35,** 773
Targum, S, Capodanno, A (1983) *American Journal of Psychiatry,* **140,** 589
Weinberg, W A, Rutman, J, Sullivan, L, Penick, E, Dietz, S (1973) *Journal of Paediatrics,* **83,** 1065
Weller, E, Weller, R (1984) *American Journal of Psychiatry,* **141,** 290
Werry, J S (1976) *in* Depression; Behavioural, Biochemical, Diagnostic and Treatment Concepts (edited by Gallant, D M, Simpson, G M) Spectrum Publications, Holliswood, New York. p.196
—, Quay, H C (1971) *American Journal of Orthopsychiatry,* **41,** 136