

13 Child psychiatry

ISSY KOLVIN

The classic approach to prevention of psychiatric problems in childhood was based upon the work of Caplan (1964), who described three different levels of prevention – primary, secondary and tertiary. In theory, prevention is an attractive and powerful concept and in relation to it, phrases such as ‘cure is costly – prevention is priceless’ were coined.

Primary prevention

The appealing concept of preventing emotional and developmental problems in young children has galvanised a range of programmes with varying degrees of success. Those of a primary preventive nature are discussed with a focus on a target group or population at risk in early childhood. In this context McGuire & Earls (1991) pose some key questions.

(a) Which psychiatric problems can be prevented? They suggest that particular attention should be given to antisocial behaviour and delinquency which can be predicted in the school years.

(b) What strategies have a measurable and meaningful effect? One useful distinction is between intervention with the child (direct) or intervention with parents (indirect). Risk factors are those that when present, increase the likelihood of the child developing a psychiatric disorder (Garmezy, 1983) or induce in the child developmental delays (Werner & Smith, 1982); perinatal anomalies (Neligan *et al.*, 1976); difficult temperamental styles (Thomas & Chess, 1977) and chronic illness (Cadman *et al.*, 1986).

Risk factors in the family include being in care of social agencies (Rutter, 1989); family dysfunction including alcoholism (Quinton *et al.*, 1984); parental psychiatric illness (Rutter & Quinton, 1984); social disadvantage and poverty (Kolvin *et al.*, 1990) and criminality (West & Farrington, 1982). Again protective factors that modify the child’s response to some environmental hazard have to be taken into account (Rutter, 1979, 1985). Some of these risk factors are sex specific, but it is even more important to note that for the problem to emerge, there needs to be an interaction between pre-disposing factors (risk factors) and co-existing family or relational stresses (triggering events) (McGuire & Earls, 1991). For instance, family deprivation, but especially multiple deprivation in the first five years of life, is a powerful predictor of delinquency and criminality (Kolvin *et al.*, 1988).

(c) What extent of intervention is necessary to produce significant change? An earlier notion was that brief interventions could influence outcome in the medium or even longer term. Thus the relevance of the older model of 'medical inoculation' needs to be examined in relation to the more modern 'nutritional' model (Scarr & Weinberg, 1986), which implies that a longer duration of therapy is necessary to sustain improvement (McGuire & Earls, 1991). Allied to this is the concept of 'dosage', that is the extent of input to sustain change.

(d) Do such factors as timing or duration of the intervention influence effectiveness? There is the other widely accepted psychoanalytic view that earlier is better. Finally, McGuire & Earls (1991) offer evidence of the importance of neurobiological maturation as another possible mediating factor.

From their review McGuire & Earls offer a number of conclusions. First, a range of programmes has proved more successful in changing child than parental behaviour. For instance, in relation to families at risk, when teenage mothers were exposed to educational intervention, their children had higher mental and motor developmental quotients at 2 years than were found in controls but there were no differences at 5-8 years (Stone *et al*, 1988). This and other studies suggest that an inoculation model is not effective when multiple risk factors are present. However, some studies do not fully support the above conclusion (Johnson & Walker, 1987). Studies of the effects of social support and advice to single parents of low socio-economic status, especially when such support is of adequate duration and intensity (Provence & Naylor, 1983), can be effective in changing behaviour of parents and their male but not female children.

Second, as indicated above, boys in at risk environments may respond more dramatically to preventive intervention than girls.

Third, that intervention programmes can change intelligence, but it is noteworthy that they can change behaviour more radically than intelligence. For instance, the study by Campbell *et al* (1986) in Carolina of at risk families, as represented by young mothers (17 or under), low socio-economic status and low income and psychosocial problems with their children, allocated to day-care programmes for 15 months, found that intellectual development was moderately alterable (Ramey *et al*, 1984). Further studies on this population suggest that greater attention needs to be devoted to ways of maintaining beneficial effects once achieved - and that early prevention may be more effective than later prevention (McGuire & Earls, 1991). Furthermore, in this study increasing intervention led to increasing improvement compared with controls.

Fourth, it is unlikely that brief methods of enhancing infant responsiveness will substantially improve the academic achievements of socially disadvantaged children and thus society will have to envisage continuing intervention over at least the junior school years.

Fifth, there are serious questions about the utility of parental counselling which has been criticised as containing the potential of undermining parental confidence (Clements, 1985) or even as being unhelpful (Cadman *et al*, 1987). McGuire & Earls (1991) tentatively suggest that more attention should be given as to how to elicit more effective parenting through parent training; although there is no systematic evidence of effectiveness of counselling, there is some evidence of the utility of specific parental training.

Sixth, only a few programmes have addressed themselves to parent type intervention. One of these, NEWPIN (Cox *et al*, 1991) seeks to alleviate

maternal depression by supporting families with young children and this aims to prevent child abuse. There is preliminary evidence of helpful involvement in the programme and further data will be available in due course. Finally Nicol (1993) has looked at different types of intervention in a population of toddlers whose mothers were screened for maternal depression and explored different types of help to parents. Mothers' groups proved popular; family therapy was less favoured.

Seventh, no review can be undertaken without comments on the Head Start programmes (Darlington *et al*, 1980) which were comprehensive stimulatory and compensatory programmes for pre-school disadvantaged children. It is well known that initial IQ gains rapidly washed out, but subsequent long-term follow-up suggests a more promising general social and emotional (rather than specific cognitive and academic) outcome, in terms of better peer socialisation, lesser frequency and severity of offending, and better employment records.

Secondary prevention

Early secondary prevention is where children are considered to be 'at risk' before symptoms or problems become evident, but not prominent, and these are not necessarily associated with impairment in the social, family, educational or personal sense. Late secondary is where the symptoms/problems are demonstrably evident and are associated with impairment where the service delivery is intended to prevent continuation or progression. Over the last decade there have been some reservations about the utility of secondary preventive approaches, particularly the over-optimism regarding achievements.

With regard to those influential ideas that emerged between the 1960s and 1980s there was particular interest in early secondary preventive activities. Programmes were initiated that aimed at identifying children who were considered to be at grave risk of developing abnormally; service delivery was intended to prevent dysfunction from becoming severe or overt (Kolvin *et al*, 1981/6).

The concept of 'at risk'

The notion of early secondary prevention also includes the concept of 'at risk'. In order to establish an early secondary prevention programme it is desirable to have a method of identifying children 'at risk' so that the highest proportion of those who actually need help (high sensitivity) are included but at the same time those falsely identified as 'at risk' (i.e. high specificity) are excluded (Upshur, 1990). Over the last decade it has been appreciated that risk has multiple components. For instance, Tjossem (1976) advances a tripartite classification of risk, which can be modified to be appropriate for child psychiatry: the categories are behavioural/educational, social-environmental, and biological, and are not mutually exclusive.

However, the identification of children at risk is more easily described than achieved. It is often found that many children who are actually in need of help are not identified by the screening methods utilised, while an even larger number of those who do not need help may be included. Furthermore, a concept of risk that relies on behavioural and educational criteria alone is too narrow and will

tend to omit important and stressful socio-demographic and family factors and independent or inter-related biological factors. The children may be at risk in many senses, with little official intervention. Further there is good evidence that social (Neligan *et al*, 1976) and mother-infant interaction (Beckwith, 1984) are more powerful predictors of outcome in low birth weight children than the low birth weight *per se*. Thus, over the last three decades, the concept of risk has grown more complex and the inclusion of broader social and also biological factors in at risk indices indicates the difficulty in identifying which children may benefit from appropriate prevention (Upshur, 1990). Hence Upshur argues that simple screening methods will not be sufficiently sensitive or specific to detect both children and families in need of services. However, attempts to achieve comprehensive cover of all classes of risk factors and which reject single factor models, have yet to prove that they are pragmatic and effective. Single class risk prevention in child psychiatry has already demonstrated its utility (Kolvin *et al*, 1981/6; Kolvin *et al*, 1990).

Specific primary and early secondary prevention programmes

Commonly prevention programmes have focused on inner-city social disadvantage. It has been argued that in such circumstances, early prevention is likely to be more cost-effective than attempting intervention when the effects of deprivation have become deeply ingrained. However, there are four main qualifications to this argument: first, this is true only if the methods of prevention prove to be inexpensive and brief; second, the screening programme must be equally expeditious and inexpensive; third, that the preventive programme does not have any adverse consequences; fourth, the preventive endeavours must be evaluated adequately before attempting to obtain political commitment in such programmes; finally, there are questions concerning the targeting of resources – should they be aimed at the behaviour and scholastic achievements of the children at risk, at their families, or at their social environment.

Preventive programmes have to go beyond an examination of the effects of intervention by exploring the ways in which adverse effects of deprivation are mitigated or mediated. What are the processes and mechanisms that influence changes in behaviour of children? The factors to be explored should cover both the prevention programme itself and a range of other influences, such as the characteristics of the social and family environment and also influences that technically fall into the primary preventive category – namely the schools, their characteristics, the impact of the quality of organisation of academic programmes (Rutter *et al*, 1979) and finally the social characteristics of the school (Moos, 1978; Kolvin *et al*, 1981/6). These issues are best exemplified in relation to some specific prevention programmes.

Recent work indicates that in disadvantaged infant school children, changes in behaviour over time are profoundly influenced by the nature of the children's environment (Kolvin *et al*, 1990). The severity and chronicity of deprivational factors correlated significantly with improvement in behaviour, especially in relation to changes in conduct disorder and hyperactivity. Such findings suggest that in this area, the politician's attitudes and policies about social issues are likely to be as important or even more important than any secondary prevention programmes. Thus, the introduction of innovative social and

economic measures as a primary preventive tool should complement any secondary preventive measures by the psychologist or sociologist (Kolvin *et al*, 1990). This recent research provides some clues about other operative processes and mechanisms. For instance, it was found that more important than the influence of deprivation itself was the personality of mothers and the quality of their resilience in the face of family and environmental adversity – that is, how well did she cope with her life circumstances. Other crucial maternal influences were the quality of her involvement with and stimulation of her children and the thought she gave to her child-rearing practices.

Thus, both social, environmental and family factors are powerful influences on changes of behaviour of children in deprived families, and these influences seem to be mediated through the quality of care and stimulation provided by the main care giver. Hence thought needs to be given as to how social case-workers can help families improve their parenting and problem-solving skills, how politicians can contribute to the modification of the social environment and how educationists can devise ways of optimising school environments as a contribution to mitigating the effects of social and family deprivation on the mental health of children.

Late secondary prevention or intervention

Previously, clinicians who have conducted psychotherapy with children and adolescents have done so without the evidence that their activities were validated by sound research. Yet clinicians continued to practice psychotherapy, guided presumably by their own experiences within the context of therapy. But over the last decade it has proved possible to provide evidence at the research level also for the clinician's assumptions (Kolvin *et al*, 1981/6, 1988). Kolvin and colleagues have argued that positive evidence does exist (based on work conducted in Newcastle) – and additionally, that pessimistic conclusions have in the past been based on inadequate and misleading data. To place this argument on a sound footing, it is essential to address some fundamental issues concerning what constitutes good research evidence.

Criteria for good outcome research

There is considerable variability in methodological criteria across psychotherapy research studies. In an important review, Epstein & Vlok (1981) presented a list of accepted criteria so as to provide a framework for their own evaluation. The main criteria included:

- (a) Rigorous and clearly thought out assumptions, questions and procedures
- (b) Adequate size of research sample
- (c) Random assignment to experimental and control group
- (d) Clear description of patient sample to allow generalisation
- (e) Post-treatment evaluation and long-term follow-up
- (f) Multiple and valid measurement, and sources of assessment

The nature of the control group

With regard to the above, the nature of the control group is important. One of the basic assumptions in psychotherapy research is that the control group

will allow systematic investigation of the degree of spontaneous change in untreated patients. Given the possibility that even one diagnostic interview may be of therapeutic benefit in conveying support and reassurance (Meltzoff & Kornreich, 1970) with supposedly 'untreated' controls, in community-based research it is clearly difficult to maintain a rigorous separation between subjects who are 'treated' and those who are not. However, bias may be minimised with no-contact control groups, in which subjects have no knowledge of their inclusion. However, the notion that patients who do not receive formal psychotherapy such as no treatment or waiting list controls, remain without help from other sources has not been substantiated. Many people in search of psychological help do not choose mental health professionals but obtain help from other sources (Gurin *et al*, 1960). A more accurate representation of psychotherapy evaluation research is that, frequently, formal therapy is being compared with other forms of help of an unknown kind. Finally, treatment dropouts do not constitute adequate controls because selective factors such as motivation may determine continuation and a variety of negative factors may precipitate termination, as may positive factors such as seeing themselves as sufficiently well to no longer need help.

The early reviews that appeared to lead to a discrediting of psychotherapy with adult patients (Eysenck, 1952) were soon paralleled by reviews of child psychotherapy (Levitt, 1957, 1963). In a series of reviews starting 25 years ago, Levitt cites an outcome in child guidance cases at the end of treatment of one-third improved, one-third partly improved, and one-third not improved with similar rates for both treated and untreated cases. Somewhat better rates of improvement were observed at follow-up than at termination of treatment (three-quarters of cases as against two-thirds). Despite serious questions being raised about Levitt's evidence and conclusions, his contention of one-third 'improved', one-third 'partly improved' and one-third 'not improved' became the hallmark against which other therapies were judged. Thus, in the 1970s, the argument which psychotherapy researchers had to confront was that there was essentially no difference in outcome between treated and untreated groups - some 66% of both tended to show improvement. It was suggested that the base rate for spontaneous recovery was so impressive that psychotherapy was not worthwhile as children would improve irrespective; thus, a reliable baseline for spontaneous recovery is crucial.

The Newcastle research makes a useful contribution towards resolution of this complex area (Kolvin *et al*, 1981/6, 1988; Kolvin, 1990) (see also the next section). In these studies two control groups of disturbed children were identified, for which base rates could be calculated: these consisted of a random sample of 'maladjusted' controls in ordinary schools, aged 11-12 years and a random sample of 'at risk' controls aged 7-8 years, again in ordinary schools. The outcome pattern for the younger group proved similar to that shown by the older group; the large numbers increase the robustness of the results. The combination of control groups yields a sizeable sample of 144 untreated controls (Kolvin *et al*, 1990). The rate of good outcome after three years proved to be only 41%. These results probably constitute an optimistic estimate of spontaneous improvement. For example, there may have been possible therapeutic contamination of the controls within schools, through the numerous contacts with the controls or their families by research workers.

In addition, certain controls may have obtained help elsewhere. However, against the background of results of the early reviews on spontaneous remission, these are unexpected findings but are consistent with more recent reports. For instance Tramontana's 10-year survey of outcome data with psychiatrically disturbed adolescents (Tramontana, 1980) reveals only four studies with adequate control groups and reasonably sound methodology, with sample size sufficiently large to encourage confidence in results, and which also had follow-up data. When the outcomes of these four studies are combined (Kolvin, 1990), there is a 63% rate of good outcome for the treated cases and 42% for the controls. His analysis leads Tramontana to suggest that the change process in spontaneous remission is not random, but rather there are complex, but systematic, factors operating to produce changes in the absence of formal psychotherapy. He argues that describing it as spontaneous remission merely reflects our ignorance about such factors.

A study by Miller *et al* (1972) was comparable in methodology to the Newcastle treatment-comparison study. Two treatments, namely psychotherapy and systematic desensitisation were evaluated with phobic children. Multiple measures were employed, and assessments were also available at follow-up. While both treatments did better than controls, they did not differ from each other. Most importantly, from the point of view of the present discussion, only 34% of untreated cases had a successful outcome.

The findings examined in this section point consistently to the need for a downward revision of the traditional two-thirds estimate of spontaneous improvement of untreated cases. This represents an important shift in the standpoint of comparison for treatment studies. But what of treatment itself? Can it be shown to be effective?

Is therapy effective?

An example of research programmes that have addressed themselves to this question are the Newcastle studies (Kolvin *et al*, 1981/6, 1988), which go some way towards providing a positive answer. Data are available on several different treatment regimes from two separate studies.

The community-based study which involves school-based intervention, was undertaken with 547 children identified by screen procedures, and about whom individual information was gathered from parents, teachers and individual and group assessments (Kolvin *et al*, 1981/6). Two sets of therapy studies were undertaken - one with junior and one with senior school children. The children were randomly allocated by school class to the various treatment regimes, including a non-treatment regime. Major follow-ups were undertaken 18 and 36 months after the baseline assessments. The treatment regimes, with their principal characteristics, were as follows:

- (a) Behaviour modification in secondary schools
- (b) Group therapy was applied in both primary and secondary schools and conducted by social workers with small groups, with an emphasis on non-directive principles derived from Axline (1947) and Rogers (1952).
- (c) Parent counselling - teacher consultation was applied in primary and secondary schools. Interventions consisted of consultation by social

workers with teachers of identified children, casework with the parents, and attempts to link the home and school.

- (d) Nurture work – this was applied in primary schools and consisted of a compensatory and enrichment programme. Teacher-aides were the principal mediators of the procedures.

The study of *seriously disturbed children* was undertaken on a number of groups (Wrate *et al*, 1985), but the data of concern here are those pertaining to children who attended hospital for treatment either on an out- or in-patient basis, and the screened control group attending ordinary schools who showed comparable psychiatric disturbance both in the quantity of symptoms and the severity of the disorders.

Examining the results some 30–36 months after the start of treatment programmes, the following pattern emerged. Combining the untreated control groups derived from the school studies (Kolvin *et al*, 1981/6), the base rate for controls of good plus moderate outcome was 41%; the pattern for parent counselling – teacher consultation does not differ significantly from the controls; this base rate was exceeded by some 25% in the case of the nurture work, by 32% in the case of behaviour modification, and by about 35% in the case of group therapy (Kolvin *et al*, 1988). When combining the data on controls from the clinical and community studies, the base rate is higher, but the broad pattern remains with a similar wide difference between the rates for controls and that obtained with hospital-based clinical referrals (Kolvin *et al*, 1988).

It is important to try to locate such beneficial changes on the dimension of time. It is commonly believed that patients respond gradually to psychotherapeutic help, with the maximum response being achieved by the end of treatment. Thereafter, patients may reach a plateau, or, with the cessation of therapeutic support, the effects of treatment may begin to dissipate. Examining outcome across assessment points, it was intriguing to find that treatment effects continued to increase for some 18 months after the end of treatment. The failure of the controls to 'catch up' by the end of our follow-up period also suggests that positive processes had been set in motion by therapy.

One of the most attractive ideas to emerge from recent psychotherapy research is whether different types of disorders respond to different kinds of treatment. These concepts of specificity, which are so important in adult disorders, do not appear to be supported by the Newcastle work. There was no consistent evidence of specificity, namely a better response of conduct or neurotic disorders to different treatment or management programmes. Where treatment was effective, it proved to be more so for neurotic and less so for conduct disorders, but there was no particular treatment which was more effective for one or the other.

Comment

The authors of the Newcastle studies conclude that treatment can be effective and that some forms are more effective than others. Thus, nurture work, group therapy and behaviour modification showed significantly better outcome than controls. Parent counselling – teacher consultation proved ineffective, and children in this regime did not do better than untreated controls.

A major theme of the Newcastle studies has been the crucial status of information on untreated controls in evaluating therapy outcome. The results of the Newcastle studies and other reviews in relation to therapy with adolescents (Tramontana, 1980) suggest that therapy researchers have for too long been misled by inflated spontaneous remission rates, against which the impact of their own helping efforts seemed almost inevitably trivial. Levitt's pessimistic estimates seem strangely at odds with clinical experience and findings from longitudinal research that a significant proportion of difficulties in childhood and adolescence do persist. For instance, in the Isle of Wight follow-up study (Graham & Rutter, 1973) of children with psychiatric disorder at 10 years, three-quarters of those with conduct disorders and nearly half (46%) of those with emotional disorders still had handicapping psychiatric disorders in adolescence. There is much other evidence that disorders involving aggressive and anti-social behaviour are likely to persist to a greater extent than emotional disorders (Robins, 1979).

Another theme that the Newcastle studies has helped to highlight is the importance of follow-up assessments once treatment has ended. The findings suggest that therapy may set in motion processes that have effects long after termination and these may go undetected if provision is not made for long-term follow-up. This has been a particular weakness of behaviour modification research where the often unwarranted assumption has been made that withdrawal of reinforcement procedures will lead to the loss of treatment gains, in the absence of programming for reinforcement (MacMillan, 1983). The positive follow-up results reported here are not new: they are consistent with those of Wright *et al* (1976).

As well as considering the notion of the trajectory of change, it is also important to consider other ways in which time is a relevant factor in therapy. Duration of treatment is an important element. For many reasons it is essential to identify forms of therapy that give rise to good outcome in the briefest possible time and hence are the most economic (Strupp, 1978). The Newcastle studies endorse the utility of some shorter term treatments and this is consistent with the findings of others (Luborsky & Spence, 1978; Strupp, 1978) who have indicated that the majority of patients respond positively with brief intervention. An allied question is the importance of frequency of sessions of psychotherapy: type, rather than intensity of treatment, seems to be the critical factor in intervention.

The issue also arises about the central involvement of parents in treatment. They may be given treatment in their own right or be seen as a vehicle through which therapy is applied. However, there is good evidence that involving the child directly in therapy is important (Kolvin *et al*, 1981/6).

Thus, there is now substantial evidence that community-based prevention and intervention approaches help both children who are psychiatrically disturbed and those at risk for disturbance. It is anticipated that in the future research workers will be addressing themselves to ascertaining what other forms of intervention might be helpful and also studying the processes of therapy in endeavours to improve the ability to predict outcome.

Major authoritative reviews also suggest that the available evidence indicates a superiority of psychotherapy over controls (Tramontana, 1980). Such advances must not blind the researcher to monitor as well any deleterious effects of intervention, such as have been described in the Cambridge-Somerville study of delinquency (McCord, 1978).

The targets in late secondary prevention

Who do we target – the index subjects – the children at risk, or those who are symptomatic or the parents or the family? Or do we focus early on behavioural and not on cognitive abilities? Also, how do we screen to identify 'at risk' children with high probability or vulnerability for dysfunction and furthermore what is the cost of the screening? What measures of outcome should be employed? Some reviews and recent research have indicated that a small number of measures at limited points in time may lead to crucial changes being missed (Epstein & Vlok, 1981; Bell *et al.*, 1989). The above suggests that multiple outcome measures should be used. Further, the benefits of intervention are not always in the expected area. Additionally, the outcome should be studied at multiple points in time as 'sleeper effects' (delayed effects) of treatment may occur (Bell *et al.*, 1989).

The future in child and adolescent psychotherapy research

First and foremost it is not possible to ignore the appeal that research must address itself to the critical question of which set of procedures are effective when applied to what kinds of children, with what kinds of problems, as practised by what sorts of therapist (Barrett *et al.*, 1978). Also, an understanding is necessary of the more fundamental processes that are being explored by psychodynamic therapy (Barnett *et al.*, 1991) as has been addressed in adult psychotherapy research. Further, there is a need to explore the therapeutic alliance in relation to outcome. Fourth, a range of measures need to be developed to facilitate the exploration of deeper psychic structures in order to obtain some idea of meaningful change and not merely symptom reduction (Malan, 1975).

Finally, curtailment of follow-up at the end of treatment may lead to a failure to detect so called 'sleeper effects' (Bell *et al.*, 1989); long-term follow-up is essential.

Prevention of suicide in teenagers

A final question concerns suicide which by 1980 ranked second as a cause of death among males aged 15 to 24 in the USA (Shaffer *et al.*, 1988). Are effective means of primary or secondary prevention available? Recently Taylor *et al.* (1992) have reviewed the literature. A major primary prevention thrust in the USA has been the development of general school-based programmes, aimed at heightening awareness of the problems, with the hope that school staff and peers will be able to have access to those teenagers at risk. These approaches are complemented by programmes to improve the teenager's coping abilities. However, as Shaffer *et al.* (1988) point out, predicting which teenagers in the general population may commit suicide is likely to be a costly and inefficient exercise, as it consists of the prediction of rare events from common ones (Eisenberg, 1990).

Nevertheless, such arguments have less force when focusing on populations at high risk, such as those teenagers who have previously been the subject of deliberate self-harm. In these circumstances, in theory at least, secondary prevention/intervention programmes, analogous with those which have been

utilised in relation to maladjusted children in ordinary schools (Kolvin *et al*, 1981/6), are likely to prove less expensive and more efficacious. Unfortunately, the available evidence suggests that these crisis services have limited impact, for three main reasons (Shaffer *et al*, 1988): there is a low utilisation rate in the suicide-prone population; often there are serious questions about the quality of the advice that is offered; and even where crisis advice is offered, there is evidence from the USA (Shaffer *et al*, 1988) and the UK (Wrate & Kolvin, 1978) that further attendance and the response to advice and offers of help tends to be poor.

Prevention in childhood

The public health model

The original concepts of primary and early secondary prevention have been borrowed from public health approaches to child health problems. In public health the changes in the pattern of serious chronic disorders have emphasised the need for primary prevention through identification of causal processes, as well as the need for early secondary prevention to identify problems as early as possible and to ensure that disability is minimised. However, in the UK, child health has improved enormously since the Second World War, with many infectious diseases and other conditions having been controlled or prevented. Thus previously damaging or life threatening conditions, such as rheumatic fever, have largely disappeared from Western European countries (Taylor, 1990).

Such concepts of prevention do not necessarily carry over well into the mental health field. Eisenberg (1984) has summarised the situation well by pointing out that there are a diversity of problems which necessitate different prevention models. For instance, in preventing pellagra the solution was a macro-economic-social model and the essential ingredients are improved living standards and improved diets.

A general public health model may be necessary, aimed at disease control, of say, water or foodborne infection. In other cases the public health model may be aimed at specific disease control (for instance, in venereal diseases). Of crucial importance is the public health *vaccination model* against polio, pertussis, measles and rubella - this is a quick fix prevention endeavour.

In relation to the above prevention strategies, cost-benefit analyses have to be considered - that balance the cost of the current programme with future savings in medical care in individuals at risk for morbidity. Yet, it is to be remembered that the so called cost benefits may prove illusory - for instance, in the United States deinstitutionalisation was heralded as cost saving but it has been found that often the exercise consists of shifting costs between sectors rather than providing actual savings.

The rationale for disease prevention in childhood is sound as even physical disorders may have major psychological or psychiatric implications. For instance brain damage may not only give rise to handicap and psychopathology but may also increase the individuals vulnerability to other adverse life experiences (Rutter, 1985).

It is also well known that socioeconomic disadvantage and maternal smoking jointly are linked to low birth weight, and the attendant inadequacy of

intra-uterine nutrition was linked to higher rates of neonatal mortality and psychiatric morbidity. In one major study socioeconomic disadvantage by far outweighed the contribution of perinatal biological factors in the determination of cognitive and behavioural dysfunction (Neligan *et al*, 1976). However, the fuller availability of good obstetric and neonatal care has been shown to reduce the effects of these adverse experiences (Hawdon *et al*, 1990). Unfortunately endeavours to discourage smoking in the general population have only been moderately successful but there is the suggestion that they are more likely to be successful when they specifically target pregnant women (Eisenberg, 1984).

An allied issue is excess alcohol intake in pregnancy which can give rise to the foetal alcohol syndrome, consisting of growth retardation, central nervous system, cardiac and craniofacial anomalies (Streissguth *et al*, 1983). Eisenberg points out that while public health information programmes dramatically reduced alcohol use in pregnancy, it had only marginal effects on heavy drinkers in the first trimester of pregnancy (Streissguth *et al*, 1983). Congenital rubella with its high risk for mental handicap and autism can be reduced by target vaccination for post-pubertal girls. A variety of neonatal screening programmes are now available such as for phenylketonuria which allow the early institution of treatment programmes. Finally appropriate safety checks and measures can reduce motor vehicular accidents or at least the severity of attendant injuries, accidental overdosage and even a decrease in lead blood levels and their consequent effects on intelligence, learning and behaviour.

It is not surprising that the vaccination model has become the paradigm for prevention (Eisenberg, 1984) and it is likely that this model heavily influenced Gerald Caplan's elaboration of his concept of prevention. However, there remain a number of qualifications but most important – do 'quick fixes' work in reducing psychiatric morbidity? First, does any prevention confer long-term immunity to later stress? Following Erikson, some theorists have argued that successful negotiation of one psychological developmental stage may make successful passage of the next more likely, but this cannot be ensured (Eisenberg, 1977*a, b*). Furthermore, good child-rearing practices at one stage of child development may be essential, but are not necessary conditions for subsequent healthy development, nor is there evidence of enduring effects. For instance, the 'Head Start' programmes launched in the USA in the 1960s initially gave rise to considerable optimism. The intention was to interrupt cycles of disadvantage, and the biggest initial gains were in formal education achievements and cognitive abilities, but in neither of these target areas were persistent gains demonstrated. Subsequently the programmes gave rise to considerable pessimism because of the lack of persistence of the effect. However, more recent findings from long-term studies have provided evidence of latent benefits many years after enrolment. These were mainly of the child being more capable of utilising school provisions (Darlington *et al*, 1980). This gives rise to the question of mechanisms by which such time limited interventions begin to have an effect so many years later. Eisenberg (1984) speculates whether it is a consequence of parental involvement, giving them a greater sense of authority, combined with more modern attitudes and motivation of parents. Thus a crucial question is whether one should wait for preliminary evidence of efficacy before launching a prevention programme. But economy is often the hidden agenda behind such prevarications. Further, he points out that "children are exquisitely sensitive to time and they cannot

be put into suspended animation while we divert resources into other areas'' (Eisenberg, 1984).

Some conclusions

Prevention can be a victim of its own success (Eisenberg, 1984). This is particularly true of many of the public health measures. But as a consequence there may be an attendant increase in the developmental new chronic disorders at the other end of the age spectrum. But what about prevention of psychiatric and psychological morbidity in childhood? Preventive intervention has been shown to be justified for the majority of subjects. Administrators will want wider justification in terms of economic savings but the public and parents may well see justification in terms of improvement in quality of life for the children and their families.

Most of the prevention endeavours have been aimed at intelligence and yet there is good evidence that interventive prevention can influence behaviour more readily than intelligence (McGuire & Earls, 1991).

Further, in respect of behaviour, some argue that early pre-school-based intervention is better than late (Ramey *et al.*, 1984) but systematic research has demonstrated that school-based intervention can have significant effects (Kolvin *et al.*, 1981/6). The latter research also indicates that direct interventions (directly with the child) may have powerful influences.

However, the schools themselves cannot be ignored as previous work has indicated the significant contribution of the school culture and style of teaching in relation to gains in achievement and also behaviour (Rutter *et al.*, 1979). This suggests that ways need to be sought of optimising the school environment as a contribution to mitigating the effects of family deprivation (Kolvin *et al.*, 1990).

Finally, there is good evidence to show that the individual differences in maternal personality and care of children, despite equivalent levels of family deprivation, have powerful influences on how children subsequently function. Thus as important as deprivation is a mother's resilience in the face of adversity. These factors must be seen as crucial protective factors in the face of family adversity (Kolvin *et al.*, 1990). However social factors were fundamentally potent and hence the politician's attitude towards economic and social policy may be more important in introducing innovative measures as primary preventive tools than any secondary preventive measures by the psychologist or sociologist.

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