

Childhood asthma. A controlled trial of family psychotherapy

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SUMMARY In an attempt to evaluate the effectiveness of family psychotherapy as an adjunct to conventional treatment in childhood asthma, children with moderate to severe asthma were randomly allocated to a control group or to an experimental group; the latter group received 6 hours of family treatment during a 4-month period, and both groups had standard medical treatment. While there was no significant difference between the two groups on three parameters, the experimental group were significantly better in day-wheeze score and thoracic gas volume. These results suggest that family treatment in selected cases may have a place in the overall management of childhood asthma, and that more research with larger numbers of children is necessary.

While it is accepted that the basic abnormality in childhood asthma is the combination of bronchial lability and atopic status (König and Godfrey, 1973), it is well known that emotional factors play an important part in its aggravation and maintenance (Purcell *et al.*, 1969; Graham and Rutter, 1970; Godfrey and Silverman, 1973; Pilling, 1975; Williams, 1975). McNicol and his colleagues stated that 'patients with severe ventilatory disturbance should be assessed psychologically and the family interrelationships assessed' (McNicol *et al.*, 1973). The implication of this is that psychological methods of treatment as an adjunct to medication may be indicated either for the asthmatic child or his family.

Despite the many reports on emotional aspects of childhood asthma, there have been very few controlled studies of psychological methods of treatment. Some modest claims have been made for the effectiveness of such behavioural methods of treatment as conditioning and relaxation (Lukeman, 1975; Kotses *et al.*, 1978), while Pinkerton (1967) showed that a group of 13 asthmatic children treated with short-term individual psychotherapy had a lower relapse rate than did a matched control group of 12 children. More recently spectacular success was claimed for the use of family psychotherapy in the treatment of intractable childhood asthma (Liebman *et al.*, 1974). The validity of this claim is diminished by the absence of a control group.

However on the basis that 'it is at home with persons who are most loved (or at times hated) that emotional relationships are most intense, and most likely to produce symptoms' (Apley and Mac Keith, 1968), we decided to test the effectiveness of family psychotherapy as an adjunct to standard medical management of childhood asthma. No controlled studies have been published on family psychotherapy for any childhood conditions.

Methods

The children were attending the asthma clinic at a postgraduate teaching hospital, where many patients are referred for a 2nd, or even a 3rd, opinion. Any child between the ages of 4 and 14 with grade C or D asthma (as defined by McNicol and Williams, 1973) was considered eligible for the study.* Their families were then randomly allocated to the experimental (group A) or control group (group B). Three of the families had more than one asthmatic child, and so all were included in the assessments. Initially, group A comprised 17 families with 21 asthmatic children, and group B comprised 16 families with 16 asthmatic children. The two groups were homogeneous with respect to severity of asthma, age (range 4–14), social class, and psychological health. There were more boys than girls in group A, but as the natural history of asthma does not vary between the sexes

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*Grade C children with a continuing history of episodic asthma over a number of years.
 Grade D children with a current history of very frequent or chronic unremitting asthma.

(McNicol *et al.*, 1973), this was not considered to matter.

In group A 10 children were using cromoglycate (Intal) or beclomethasone (Becotide) regularly, and 8 were using only bronchodilators. In group B 6 children were using cromoglycate or beclomethasone regularly, and 5 were using only bronchodilators. Two children in group A and one in group B had received intermittent courses of corticosteroids before the trial but not during it.

Each child was assessed using diary cards, recording day-wheeze and activity limitation on a 0-3 scale of ascending severity, and the peak expiratory flow rate (PEFR) was measured before giving the morning or evening medication. These measurements were made during a 6-week baseline period before the start of treatment, and were repeated during a similar 6-week follow-up period one year later. One measurement of forced expiratory volume (FEV_{0.75}) and thoracic gas volume (TGV) was made during each period. In addition, the children and families were fully assessed psychologically before treatment began, and the families classified according to Schneidermann—as emotionally healthy, moderately disturbed, or poorly adjusted (Schneidermann *et al.*, 1976).

Children in group B were seen and appropriately treated by the paediatrician at 3-weekly intervals during a 4-month period. Drug regimens were monitored and changed if necessary, and general management of the asthma was discussed, but there was no specific attempt to clarify or alter family relationships. Children in group A were seen by the paediatrician in the same way but these children also attended with their families on the same day for 6 one-hour sessions of family psychotherapy. Details of this treatment are to be found elsewhere (Lask, 1979; Lask and Kirk, 1979) but a brief summary is given below.

Family psychotherapy. This has as its conceptual focus the whole family system with particular emphasis on understanding the individual's symptoms and behaviour as arising from and feeding back into the general family system of interaction. The family therapist would meet the *whole* family together and, in the case of an asthmatic child, would focus on such themes as the varying attitudes to the illness, the doctor and the medication, the fear of death, and the experiencing of painful and frightening emotions. By dealing with such themes and helping to adjust attitudes away from the extreme and towards the more realistic, he would work towards an improvement in the psychological well-being of the family. In this way there would be an alleviation of some of the stresses which, in inter-

action with other physical factors, contribute to the recurrence of asthmatic attacks (Pinkerton, 1967).

Results

Some children who were initially assessed were not included in the follow-up. One family in group B dropped out after the initial assessment, and one family in each group dropped out after the first session. A further 3 children in group B were excluded from follow-up as one of them had failed to attend most of the appointments while two others were sent to special boarding-schools for asthmatic children because their health had so deteriorated. Finally, 3 children in group B, were unable to cooperate in the measurement of TGV. Consequently, at final follow-up there were 18 children in group A and 11 in group B of whom 3 had each missed one test.

The peak flow was expressed as percentage predicted normal for height, and the mean morning and evening peak flows for the two 6-week assessment periods were determined (Table 1). There was no significant difference between the two groups, but there was a significant improvement between baseline and follow-up scores in group A, but not in group B ($P < 0.005$, paired *t* test).

The FEV_{0.75} and the TGV were expressed as percentage predicted normal for height (Table 1). There was no significant change in FEV_{0.75}. TGV is an index of lung overinflation and therefore if this falls there has been an improvement. There was a significant improvement in TGV in group A compared with group B ($P < 0.02$, rank sum test).

The activity and day-wheeze scores were expressed as the total score for each 6-week baseline and follow-up period (Table 2). There was no significant difference in change of activity score, but the day-wheeze score improved in favour of the experimental group ($P < 0.01$, rank sum test).

The results of the respiratory function tests and the symptom scores expressed as the differences

Table 1 *Respiratory function, mean values for experimental and control groups expressed in percent predicted for height*

Group	PEFR		FEV _{0.75}		TGV			
	<i>a.m.</i>		<i>p.m.</i>					
	Mean	SD	Mean	SD	Mean	SD		
Experimental								
Baseline	53	21	61	20	71	15	155	45
Follow-up	66	20	72	15	70	14	146	38
Control								
Baseline	49	22	54	20	67	18	158	31
Follow-up	56	22	60	22	62	18	176	33

Table 2 Symptom scores, mean values for experimental and control groups

Group	Day-wheeze		Activity	
	Mean	SD	Mean	SD
Experimental				
Baseline	14	15	13	13
Follow-up	7	8	5	8
Control				
Baseline	20	12	20	12
Follow-up	21	11	15	13

between baseline and follow-up values are shown in the Figure.

Discussion and conclusions

Although the number of children in this study was small, we believe that the findings warrant a more detailed evaluation of such treatment. That there should be a significant improvement in an objective test of respiratory function is in accordance with the conclusions of Pinkerton (1967) that many studies seem to indicate that psychodynamic factors are contributing to most cases of childhood asthma, and in turn will affect ventilatory function. We believe that the family treatment has helped to alleviate psychopathology within the family, and thus has contributed to an alleviation of the asthma. As we know of no other controlled studies showing improved respiratory function in asthmatic subjects after psychotherapy, and family therapy itself has been

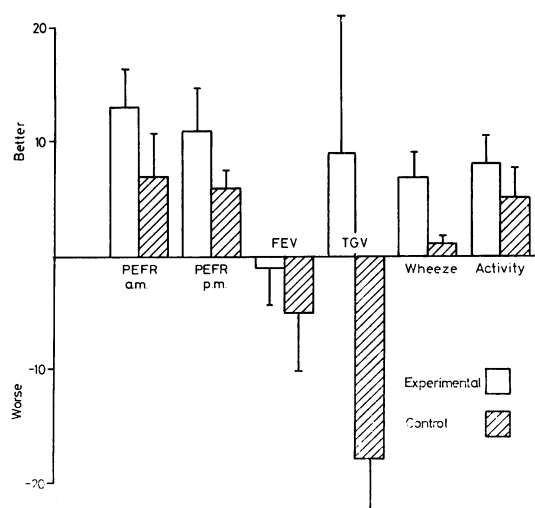


Figure Differences (and SEM) between the baseline and follow-up values as shown in Tables 1 and 2.

the subject of very few controlled studies, this approach should be more fully evaluated. Further studies should be on a much larger number of children, and, if possible, allowance should be made for the effect of increased attention. It should be added that the time allotted to the family psychotherapy was relatively short. Liebman *et al.* (1974) treated such families once a week for 1½ hours at a time for a one-year period. We recommend a compromise between the two. We suggest that family therapy may have a part to play in selected cases of childhood asthma, and especially in those cases where the asthma is not being well controlled with conventional treatment methods.

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