THE INCIDENCE AND DEPTH OF DISTURBANCE IN A SAMPLE OF DEAF CHILDREN

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INTRODUCTION

I am afraid I am really here under false pretences. Some months ago when Dr Henderson was visiting Newcastle, we were in the planning stage of our research. So I am sure when the invitation was sent out, Dr Henderson must have realised that all I could do was to outline what we are doing.

Our hospital lies cheek by jowl with the main day and residential school for the profoundly deaf of Newcastle City and surrounding counties. As such, we are presented with a highly fascinating but also highly selected group of cases. Therefore, we thought it would be eminently sensible to study systematically the cases coming our way. We started with an examination of our case material. This provided some important leads or hunches, which could be developed into hypothetical forms.

Firstly, there was the not very original suggestion that a major part of the disordered behaviour which we saw was secondary to communication difficulties. But it could be argued that the communication difficulty and the disordered behaviour could both be secondary to underlying cerebral patho-physiology. In support of the first hypothesis was the suggestion that improved communication frequently, but not invariably, led to improved behaviour. But again, it could equally be argued that improved behaviour could be a product of maturation.

Secondly, there was the suggestion that psychiatric disturbance of the child sometimes seemed determined by mental instability of the parents in terms of psychopathy or psychiatric illness. The treatment of the parents variably resulted in improved behaviour of the child.

Thirdly, in the north-east we are particularly impressed by the frequency with which social and family disorganization

appears to be the main associant in psychiatric breakdown of children, including deaf children. In other words, social pathology appears to determine psychological behaviour. I am not sure whether this is a regional socio-economic artefact. But it convinces one of the crucial importance of practising child psychiatry within its social context.

Fourthly, the common pattern of disturbed behaviour consisting of overt aggression, restlessness, and poor tolerance of frustration, often led to speculation about whether this was a 'formes frustes' or a variant of the hyperkinetic syndrome. We wondered, therefore, if this type of disturbed behaviour could be related to biological factors such as associated epilepsy and brain damage and/or congenital temperamental pattern, rather than being psycho-dynamically determined by frustration.

However, on reflection, it did seem as if the depth of disorder was related to the same kind of background factors as in any other group of psychiatrically disordered children without deafness. Furthermore, the level of referral from schools seemed to be dependent on an interaction between the depth of psychiatric disorder in the child, and the degree of tolerance and understanding of the teachers, and their skill and ingenuity in the management of difficult behaviour. Withdrawal patterns, unless grave, are easily overlooked. When I recently spoke to Mr Evans, the Headmaster of the Northern Counties School, about the poor ability to tolerate frustration, and the manifestation of aggressive reactions in young deaf children, he quite rightly pointed out that some degrees of these appeared relatively frequently in deaf school populations, where they are considered relatively normal manifestations. Accordingly, staff evolve techniques for dealing with them.

This account of psychological disturbance in deaf children is an impressionistic, individual and clinical one. Invaluable though it may be in providing us with basic descriptions of the behaviour of the most obviously disturbed deaf children, and possible etiological bases of these disturbances, it tells us nothing about deaf children in general; it tells us nothing about the frequency of certain features of behaviour in comparison with children who are not deaf; nor provides us with basic data about populations of deaf children; nor does it answer the two crucial questions posed by Fisch (1963) concerning the size of the prob-

lem and an estimate of the service needs. We, therefore, decided to abandon the hospital approach in favour of a cross-sectional study of a one year age range of the total school population of deaf children.

QUESTION POSED

The stage was, therefore, set for the posing of a series of questions (related to deaf children) in such a way that they permitted scientific examination. This is suggesting no more than an emulation of what is happening in other fields of scientific endeavour in child psychiatry such as Wolff in Edinburgh and Rutter and colleagues on the Isle of Wight.

1. *Incidence*. What is the size of the problem within a population of profoundly deaf or severely deaf school children. As a rider to this, how are we going to define the incidence — is it going to be the frequency of serious problems within the population as seen by the parent; or as seen by the teachers; or as assessed by the psychiatrist?

2. *Depth of Disorder*. What is the nature and type and a degree or depth of disorder?

3. *Can we IDENTIFY any disordered behaviour patterns idiosyncratic to deaf children*? This is really a variant of the previous question.

4. *What is the Course or Natural History of any disordered behaviour patterns*?

5. *Can we provide an estimate of psychiatric service needs of deaf school children?*

6. *What is the validity of the available screening instruments in the indentification of psychiatrically disordered deaf children?*

7. *What are the relationships between behavioural symptomatology (and psychiatric disorder) and other factors?*

(a) Factors intrinsic to the child such as:
  (i) Degree of deafness.
  (ii) Associated speech disturbance.
  (iii) Personality factors.
  (iv) Identifiable brain damage?

(b) Factors extrinsic to the child:
  (i) Social class.

(ii) Social and family disorganization.
(iii) Family mental instability.
(iv) The personalities and attitudes of mothers to child rearing.

Methodology

We are in the fortunate position in Newcastle that we have an ongoing child development study of some 13,000 children born in Newcastle over a 3-year period. In our Department, a research team is studying all the prematures of one year's births. This group of prematures is being compared with a control group which is a random 6 per cent sample of one year's birth of Newcastle school children. This provides us with a control group which could be common to a number of special studies, provided the children in these studies were born in Newcastle over the chosen period. It has been approximately worked out (Godber, 1963) that the number of deaf children in the school population is approximately one in a thousand. The 13,000 Newcastle schoolchildren could, therefore, not provide an adequate number of deaf children for study. My colleague, Mr Geoffrey Chaytor, who is a member of the research team, is the otologist who accepts sole responsibility for the audiological assessment and management of deaf children in Newcastle and environs. He also provides a service to the deaf and partially hearing unit within this area. He, thus, provides relatively comprehensive coverage of deaf children on the Tyneside. It was, therefore, decided as our common control group was being studied between the ages of six and eight, to take as a cohort of deaf children all the known deaf children in the immediate area covered by Mr Chaytor. By this means we were going to obtain an experimental and a study group in which there was adequate control of the age factor, but only a broad control of geographic factors. Nevertheless, it was felt that the character of the Tyneside was homogeneous enough for this to be considered a reasonably legitimate or valid technique which would allow at least broad comparison. A series based on Newcastle alone would have been too small for useful statistical analyses, and even so we doubt if we are going to be able to gather a cohort of more than 60 deaf children.

TECHNIQUES

A. The screen techniques we are using are teachers' questionnaires and parental questionnaires (Rutter).

B. The intensive techniques consist of the following:

1. A teacher's questionnaire asking whether the child indubitably needs psychiatric help, possibly needs psychiatric help, or does not need psychiatric help.

2. Ratings of behaviour symptoms using a structured interview technique, adapted from Wolff's modification of the Macfarlane scale rating (mainly a scheduled, standardized interview, but allowing a terminal, open-ended approach).

3. Parental view of presence or absence of significant psychological disorder in the child (c/f with teachers).

4. A social data check list.

5. A family data check list.

6. A child rearing attitude self-rating inventory — the one used (M.P.A.S.) is considered less open to the objections outlined by Becker and Krug. These objections are not completely ruled out. We have in fact tried to develop a maternal attitude scale on the same lines as the MacFarlane scale with respect to behavioural symptomatology. However, we have discovered that this takes about one and a half hours to administer, as against the twenty minutes of the self-rating inventory. This has to be taken into consideration when interviewing already takes over four hours with each mother.

7. Usual type of psychiatric social history interview but geared towards gathering information in specific areas, i.e. relative to a mother's specific attitude towards her handicapped child, and to handicapped children in general.

8. Mothers will complete an E.P.T.

9. Psychiatric and neurological examination of the child:
   (a) a neurological screen examination developed for use in our study.
   (b) a psychiatric examination aimed at producing a psychiatric rating from absence to clear-cut presence of psychiatric disorder (c/f Rutter).
   (c) Categorization according to Rutter's four broad

categories of disorder (neurotic; anti-social; neurotic and anti-social; and other.)

10. Special examinations of the child:
    (a) Audiological,
    (b) By the psychologist and teacher — intellectual, educational, speech, personality and tests for brain damage.
    (c) By the speech therapist — broad screening of speech.

Analysis of Results

All functions studied, even when qualitative, will be quantitatively rated. This will permit various statistical analyses. For instance, cut off of points will be taken on both teachers' and parental questionnaires, with children being dichotomized into 'disturbed' and 'not disturbed'. We will then be able to discover what overlap there exists between the two groups of disturbed children ascertained by these techniques, and what correlation they bear to psychiatric ratings.

Follow Up

Each child will be followed up between two and three years after the initial assessment. This will provide us with information concerning those behavioural symptoms, or clusters of symptoms, which persist, and those which apparently disappear spontaneously. By spontaneously I mean without psychiatric help, but this certainly does not preclude other kinds of management such as auditory, speech, and educational training. Of course, it will not be possible to disentangle what part of the improvement is due to maturation; nor what part due to the learning of new acceptable responses, rather than the unravelling of the old unacceptable responses (Ackral, Kolvin and Scott.)

The first year's testing of this cohort should be completed by the end of this year. However, we are still in the early stages of this research, and so would be grateful for any advice or critical comments.

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Discussion

Dr A. Elithorn:

I was interested in your insistence on a psychiatric approach, and in your criteria, as to whether a child needs help being whether somebody thinks a child is distressed or whether somebody is upset and bothered by the child's behaviour. Do you think that this problem should be considered only in psychiatric terms, that is to say in terms of disturbed behaviour? Should not the psychiatrist — or the educationalist — also assess how much the child is learning or if failing to learn, and whether or not some deficiency in the learning process is secondary to an emotional disturbance? It is this type of emotional problem which tends to get neglected, and to detect this you surely need a psychologist's help.

Dr I. Kolvin:

We hope to look broadly at all facets. Each child will be located on a series of dimensions, using rating scale techniques. We shall then be able to ascertain whether there is an association between neuroticism and educational attainment, environment and educational attainment, etc. Otherwise, ours is an epide-

miological approach and is not geared to answer the specific questions you pose.

Dr A. Elithorn:

Do you consider that psychological deficiency is an illness of which the child does not show symptoms of an emotional significance which seems to be a problem which is neglected?

Dr I. Kolvin:

We are looking for measurable anomalies.

Dr A. Elithorn:

Yes, but these cannot help in learning. If you have an uneven pattern in learning, there are good techniques for assessing a child's abilities and achievements.

Dr L. Fisch:

There is no strict division between these two categories of children, that is the group of the unhappy, disturbed children who do not learn well, but show no serious anti-social behaviour, and about whom nobody complains, and the group of children who are aggressive or show serious anti-social behaviour. A child who may be unhappy and emotionally disturbed while he is in school and still under our control. When he leaves school he may jump from one category to the other, and become one of those deeply disturbed adolescents who are responsible for a good amount of anti-social behaviour after they leave school. I think these two types are very closely related. For this reason, it is important to study this 'silent' group of disturbed children who may be helped, but without help may become seriously disturbed with anti-social behaviour.

Dr I. Kolvin:

For the sake of brevity, I have not given a full account of all tests which are applied. Each child will be intensively tested by both psychological and educational staff. I think it is

quite right to be concerned about this. We hope to obtain some of the information which you mentioned, but we cannot go into it in the depth which you have gone in your study.

Dr A. Elithorn:

I am very glad to hear that you are, as I was sure you must be, considering this aspect of the problem. It is clearly very important that those children who are, in fact, doing badly, but who are not making a fuss and who are not in some way specially unacceptable, should be discovered and helped.

Dr I. Kolvin:

As our Headmaster has suggested—he has had considerable experience of these children—there is a cleavage between the severely deaf children and the profoundly deaf child, and we are going to try and equate the degree of deafness if possible with the amount of disturbance which the child has.

With regard to improvement, we have to try and discover how this can be related both to what is happening in the environment, but also to changes within the child — but the latter is going to be more difficult.

Newcastle are putting forward this research, and I am here as a member of the team. Leaders have to be helped to organize and get research going, but we have other teams who are looking at these clinical problems. The psychistrist plays an important, but only a medical role in this. The team looking into communication problems is loosely organized by the Professor of Paediatrics and includes the Head of the Speech Therapy Department, an otologist, psychologist and psychiatrist. In my own Department, we take in young children with complicated communication disorders. These constitute just a small proportion of the children coming to us with behaviour disorders.