Special advisory service for immunisation

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SUMMARY Among steps to improve immunisation rates in Clwyd an advisory service was introduced for children with immunisation problems. We report on setting up the service and the first two years of running it; during this time 191 children attended. Influencing parental and professional attitudes through education, counselling, and the demonstration of good practice is emphasised.

Ways to improve immunisation uptake have been considered in many districts. Initiatives in Clwyd, after a Welsh Office directive in 1985, aimed to increase uptake of pertussis (60%) and measles (57%) vaccines to at least 70% within 12 months: a short term goal towards World Health Organisation/ Department of Health and Social Security (DHSS) targets of 90% by 1990.[1]

Various measures introduced included a service based in the community for children with immunisation problems. Experience in setting up the service and the first two years of running the clinic is reported.

Methods

Aims were defined: to investigate and advise on immunisation in relation to specific medical problems; to ensure appropriate immunisation for those with genuine vaccine contraindications; to act as a focal point for education about immunisation; and to increase the proportion of children protected.

Referrals of any problems related to immunisation were accepted from doctors, preferably before or at the scheduled date for the procedure. Local paediatric approval was gained and general practitioners, child health doctors, and health visitors notified before monthly clinics commenced in October 1985. Sessions were conducted by a community physician with a designated health visitor, initially in clinic premises in Wrexham town centre, and from July 1986, in Rhyl.

Advice given strictly followed DHSS guidelines, and where possible, appropriate vaccine was administered immediately. Subsequent progress was monitored by health visitors. Detailed reports were sent to referring doctors, and action entered in the computerised immunisation schedule.

Results

From October 1985 to September 1987, 191 children attended. Community health doctors, who administer most immunisations in the district, referred 137 (72%), while 37 (19%) were from general practitioners, 15 (8%) from paediatricians, and two (1%) from other sources.

Ages ranged from 1 month to 16 years 2 months (mean 2 years 4 months; median 12 months). More boys (109) than girls (82) attended. Almost half (45%) were first born, with a third (31%) second in birth order.

Analysis of referrals showed 14 (7%) from social class I and II compared with 25% of all Clwyd children; 54 (28%) were from social class V as opposed to 14% of Clwyd children. Of the 173

Table 1 *Reasons for referrals*

Condition	*Frequency*		
	Personal history	*Family history*	*Total*
Convulsions	15	52	67
Vaccine reaction:			
Local	10		
General	26	9	45
Atopy*	12	7	19
Allergy:			
Drugs	2	—	2
Eggs	6	—	6
Developmental delay/ handicap	8	11	19
Perinatal/neonatal problems	14	—	14
Past recommended age for vaccine	12	—	12
Apnoea/breath holding after neonatal period	8	—	8
Severe parental anxiety	—	7	7
Cardiac lesion	3	—	3
Brain tumour	—	2	2
Death of sibling	—	2	2
Homoeopathic vaccine	2	—	2
Meningitis	1	—	1
Agammaglobulinaemia	—	1	1
Adoption	—	1	1
Cystic fibrosis	1	—	1
Total	120	92	212

*Includes asthma, eczema, rhinitis.

Table 2 *Vaccine of primary concern*

Primary concern	*Frequency*
Pertussis antigen (alone or as triple vaccine component)	77
Measles vaccine	54
Diphtheria/pertussis/tetanus vaccine	31
Diphtheria/tetanus vaccine	15
Polio vaccine	9
Tetanus antigen	5
Heaf testing/BCG vaccine	5
Rubella vaccine	2
All immunisation procedures	4
Total	202

families represented, 49 (28%) travelled between 10 and 30 miles to appointments.

Table 1 shows reasons for referral and whether the child or a relative was affected. More than one reason was sometimes given. Table 2 indicates the vaccine primarily concerned: in 11 instances two procedures of equal concern are included. Ten requests were for pertussis immunisation of children aged 2 to 6 years. Two teenagers who had no previous immunisations were referred for consideration of all procedures.

Previous vaccine reactions were sufficiently severe for omission of pertusssis antigen in six instances and diphtheria antigen pending Schick testing in four. Measles vaccine with concurrent gammaglobulin was given in 11 cases, although antipyretic agents are now preferred. Pertussis vaccine was advised for three children over 2 years of age on specific medical grounds.

Apart from these, routine immunisation procedures were recommended and initiated in all instances, except for two families who rejected advice given. No reports of untoward reactions were received.

The target of 70% uptake was achieved in Clwyd within one year for measles vaccine (72%) but not for pertussis vaccine; after two years, levels of 77% and 71% respectively were reached.

Discussion

The service described has a dual role, with responsibility for individual children with immunisation problems, and with a broader remit to influence immunisation uptake in the community through education and demonstration of good practice. Education of professionals as well as parents is crucial to improving vaccine uptake; evidence suggests that DHSS guidelines are widely disregarded by health visitors and clinic nurses, who have an important role in determining parental attitudes.[2]

To achieve its purpose this type of service is ideally community based: hospital facilities are unnecessary, as proper interpretation of guidelines incurs risks no different to routine immunisation. The specialist nature of the clinics, however, provides reassurance, expertise for cases requiring special consideration, and practical training opportunities.

Siting of clinics and timing of appointments are important factors. Utilisation of services decreases with distance, and accessibility by public or private transport may have increased the willingness of families to travel to clinics.[3] Monthly sessions are necessary to accommodate some vaccine schedules. Potential immunisation problems should be identified before the first dose of triple vaccine whenever possible because of the association between pertussis and measles uptake and confusion about respective contraindications, a factor confirmed by the frequency with which parents enquired about both immunisations.[4]

The predominance of referrals from social class V was encouraging as immunisation uptake is known to have a social class gradient, although good levels can be achieved in situations of great deprivation.[5]

Presenting problems were similar to those reported elsewhere with genuine contraindications confirmed in few instances.[6] Clinic interviews generated wide discussion and often advice was sought about children, vaccines, and schedules other than those primarily referred. First born children provided an opportunity to influence parental attitudes to immunisation of subsequent siblings. The extent to which advice was accepted indicates potential for improving uptake through careful parental counselling.

Immunisation uptake rates in Clwyd have improved in concert with national trends to which various factors may have contributed. Theoretically the requirement for an immunisation advisory service of this kind should diminish if the educational component is successful. The effect of introducing the measles, mumps, rubella vaccine in October 1988 upon clinic referrals and vaccine uptake will be interesting.

We are grateful to Mrs Susan Williams, Miss Margaret Jones, and Mr Tecwyn Williams for help with the preparation of this report.

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Accepted 8 August 1988

Platelet phenolsulphotransferase activity and 'abdominal migraine'

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SUMMARY Low platelet phenolsulphotransferase activity has been reported in adult patients with dietary sensitive migraine. Platelet activity of this enzyme was therefore measured in children having 'abdominal migraine' with probable dietary trigger and in controls. No significant difference was found in activity between the two groups. There was no significant correlation between platelet phenolsulphotransferase activity and age.

'Abdominal migraine' in children is characterised by recurrent central abdominal pain, and is typically associated with pallor and with gastrointestinal symptoms such as anorexia, nausea, or vomiting.[1] Despite the term being clearly self contradictory, as migraine comes from the Latin 'hemicrania' meaning '(pain in) the half of the head', it has become hallowed by usage, and reflects the suggestion that there is a relationship with common or classical migraine. Indeed, a positive family history of cranial migraine is often taken as a diagnostic criterion and, although not conclusive, evidence strongly suggests that there is a relationship between 'abdominal migraine' and common or classical migraine.[1] As there is, as yet, no diagnostic laboratory test for migraine, diagnosis is purely clinical, and it remains uncertain whether common pathophysiological mechanisms underlie the two conditions.

In many cases it is thought that attacks of 'abdominal migraine' can be provoked by articles of diet, with the list of foods implicated being very similar to those suggested as being linked to dietary cranial migraine. In particular citrus fruit, cheese, and chocolate are often cited as provoking agents.[2 3] Adult migraine patients who believe that dietary factors can provoke their attacks have significantly lower mean platelet phenolsulphotransferase P and phenolsulphotransferase M activity than patients with migraine not caused by diet or controls.[4 5] It therefore seemed of interest to measure platelet phenolsulphotransferase activities in a group of children suffering from 'abdominal migraine' with probable dietary trigger.

Patients and methods

Platelet suspensions in sucrose were prepared from blood collected from a group of patients attending Ealing Hospital as outpatients (n=21; 10 boys, 11 girls) and from a group of controls (n=13; six boys, seven girls). The major criteria used for making a diagnosis of 'abdominal migraine' were recurrent central abdominal pain (more than three attacks in not less than three months) accompanied by pallor, nausea or vomiting, or both, and a positive family history of migraine. At the time of study patients and controls were outside an attack and drug free. The mean (SD) age of patient group was 8·8 (2·5) years and of the control group 7·9 (3·2) years with a range from 3–13 years. Platelet samples were also collected from a group of adult controls (n=16) with a mean (SD) age of 36·6 (13·2) years with a range from 22 to 60 years.

Phenolsulphotransferase activity was assayed using phenol (final concentration 10 μmol/l) and tyramine (final concentration 130 μmol/l) as substrates for phenolsulphotransferase P and phenolsulphotransferase M respectively.[6] Platelet samples, prepared as described previously,[4] were used as enzyme source.

Results

No significant difference was found in either platelet