

public, can only raise anxiety among parents. We know of some who were very frightened by what they saw and told us they would never have their children immunised as a result—a sad commentary on the effect the programme produced. We fear the consequences for some of the children who may remain unprotected against a vicious disease because of this programme.

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¹ Alderslade R, Bellman MH, Rawson NSB, Ross EM, Miller DM. *Whooping cough*. London: HMSO, 1981.

² Miller DL, Ross EM, Alderslade R, Bellman MH, Rawson NSB. Pertussis immunisation and serious acute neurological illness in children. *Br Med J* 1981;282:1595-9.

³ Miller DL, Ross EM. ABC of 1 to 7: whooping cough. *Br Med J* 1982;284:1874.

Immunisation policies

SIR,—We share Dr C G D Brook's concern at the low level of acceptance of vaccination against measles and pertussis in this country (2 April, p 1082). We would like to comment, however, on his proposal to change the rubella immunisation policy of selective vaccination of girls between the ages of 10 and 14 years by adopting the American approach of vaccinating both boys and girls at the age of 1 year.

The objective of rubella vaccination is the prevention of congenital rubella defects. The American policy depends on eradication of the reservoir of infection in the community by achieving herd immunity, whereas the British policy aims to protect the individual at risk by selective immunisation. The success of the American policy depends on a high vaccination rate and long term vaccine immunity. Herd immunity to interrupt transmission of wild virus would occur only if 85% of young children—boys and girls—were vaccinated.^{1,2} If lower rates were achieved rubella would not be eradicated, fewer girls would acquire natural immunity in childhood, and the proportion of young adults susceptible to rubella would rise, thus increasing the risk of congenital rubella. The British policy, in which circulation of wild virus continues to occur, should be more effective in preventing congenital rubella when immunisation rates are less than 85%.

Without compulsory vaccination (as practised in most states in the United States) it is highly unlikely that an 85% vaccination rate would be achieved. Since only 40-60% of British children are vaccinated against measles it is doubtful whether the acceptance rate for rubella vaccination at the age of 1 year would be substantially higher. A change to the American rubella policy could therefore run the risk of increasing the incidence of congenital rubella in this country.

The British policy of vaccinating young adolescent girls was introduced with the expectation that the incidence of congenital rubella would be reduced by the mid-1980s. In order to protect those women who were not included in the school vaccination programme the policy was extended to offer vaccination to susceptible women of child bearing age. Although information from the National Congenital Rubella Surveillance programme³ shows no clear cut reduction in congenital

rubella as yet, seroepidemiological data show that there has been a decline in the number of young women who are susceptible to rubella.⁴

It would be unfortunate if there was a change in the rubella vaccination policy at a time when the efforts of the last decade should begin to bear fruit. It is essential that the importance of rubella vaccination is emphasised and that every attempt is made to improve acceptance rates.

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¹ Anderson RM, May RM. Vaccination against rubella and measles: quantitative investigations of different policies. *J Hyg (Camb)* 1983;90:259-325.

² Hethcote HW. Measles and rubella in the United States. *Am J Epidemiol* 1983;117:2-11.

³ Communicable Disease Report (CDR) 82/36 10 September 1982.

⁴ Clarke M, Schild GC, Miller C, et al. Surveys of rubella antibodies in young adults and children. *Lancet* 1983;i:667-9.

SIR,—While applauding Dr P D Griffiths's defence of our national rubella policy (23 April, p 1352), we believe that in his reply to Dr C G D Brook's leading article (2 April, p 1082) a misleading emphasis was given to the importance of puerperal vaccination. In fact, the keystone to our national policy is the immunisation of prepubertal schoolgirls. The scientific basis for this, which has eluded Dr Brook, is that immunisation at this age ensures that 70-80% of women of child bearing age have had an opportunity to acquire the solid and long lasting immunity to rubella provided by natural infection, which provides a safeguard until we are sure of the long term efficacy of vaccines. The implementation of the schoolgirl policy varies from region to region. In Edinburgh we immunise only seronegative girls. Since 1972 95% of the 37 279 13-14 year olds in Edinburgh schools have been tested for rubella antibody and only 29% found to be seronegative. Of the seronegative girls 94% have been immunised, and the seroconversion rate after immunisation is 96%.

We believe that two main factors contribute to the consistently good uptake of vaccine. Firstly, and most important, is the dedication of a small team of two part time medical officers and one clerical officer who are responsible for the schools rubella programme, ensuring that no girl is overlooked through failing to return her consent form; and, secondly, our prevaccination screening test which overcomes parental doubts when they believe their daughter has had rubella and also identifies girls who can be specifically advised that immunisation is important for them.

If similar results for local schoolgirl rubella vaccination programmes could be achieved throughout the country then puerperal immunisation would take its proper place as a secondary safety net for the few women who escape the schools programme. We believe our policy to be correct in scientific terms, but its implementation must be improved. We support Dr Griffiths's conviction that a rubella eradication policy as suggested by Dr Brook would be even less well implemented.

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Panic disorder

SIR,—We would like to take issue with Dr Philip Snaith's suggestion (30 April, p 1376) that panic disorder has sailed through medical history under numerous aliases, including effort syndrome, cardiac neurosis, and a number of other obsolete terms.

The assumption that patients with these "diseases of yesteryear" would now be assigned a diagnosis of panic disorder is not justified: effort syndrome and cardiac neurosis were terms used to describe disorders with diverse neurotic and somatic symptomatology, and panic attacks were not essential constituents of these syndromes. A similar claim¹ that patients with these disorders would now receive a diagnosis of anxiety neurosis is equally unsatisfactory. As long ago as 1941 Jones and Lewis² pointed out that although many patients with effort syndrome fell into the anxiety neurosis category, there were enough who had to be designated otherwise to invalidate it as a general category. Dr Snaith's suggestion that these patients would now be classified as panic disorder is equally over inclusive. Replacing one inappropriate term with another does little to advance our understanding of a complex group of disorders which are not homogeneous and do not have a single, identifiable cause.

Dr Snaith refers to evidence for biogenic and endogenous factors in panic disorders but fails to mention hyperventilation. This frequently unrecognised psychophysiological disorder is an important cause of somatic symptoms in phobic patients. Indeed, the relation between phobic disorders (especially claustrophobia), breathlessness, and physical symptoms such as syncope and chest pain is complex. A proportion of agoraphobic patients have chronic hypocapnia (resting end tidal Pco₂ below 30 mm Hg) and for this reason spend long periods of their lives on the threshold of unpleasant physical symptoms. We have studied phobic patients whose end tidal Pco₂ plummeted to 15 mm Hg when they are presented with a feared stimulus in imagination. Many drug treatments for phobic patients fail to take this into account. In the face of such profound hypocapnia, behavioural treatments such as exposure would also be of limited value. Future studies of agoraphobics would benefit by including some measure of end tidal Pco₂, perhaps by ambulatory monitoring.

The nosological status of panic disorder is unclear. Many of the criteria are classic symptoms of the hyperventilation syndrome.³ The disorder bears a striking similarity to Roth's phobic anxiety-depersonalisation syndrome,⁴ which is now no longer regarded by most psychiatrists as a separate entity. According to the criteria of the *Diagnostic and Statistical Manual of Mental Disorders* panic disorder is not associated with agoraphobia, yet Dr Snaith states that panic anxiety "rapidly leads to" avoidance responses and agoraphobia. This does not always occur: some patients experience recurrent panic attacks without phobias developing. There may be a case for regarding this latter group of patients as distinct from those with panic attacks who subsequently develop phobic restriction, but it is premature to suggest that there is a specific drug responsive panic syndrome. Moreover, Dr Snaith oversimplifies matters by following an American precedent⁵ of ascribing a single cause or diagnostic label to a heterogeneous group of common disorders of multiple causation.

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¹ Marks I, Lader M. Anxiety states (anxiety neurosis): a review. *J Nerv Ment Dis* 1973;156:3-18.

² Jones M, Lewis A. Effort syndrome. *Br Med J* 1941; i:813-8.