

*Discussion and conclusions*

In the official report on the studies (Ministry of Health, Scottish Office, Ministry of Housing and Local Government, 1962) comparison is made between the findings in Great Britain and those in the Grand Rapids study in the United States (Arnold, Dean, Jay & Knutson 1956). After adjustment for changes in the control areas, the reduction among children aged 4 years was 42% in Grand Rapids and 54% in Great Britain, the corresponding figures for children of 5 years being 45% and 47%. The same order of reduction was thus being achieved in this country as in Grand Rapids, and it is reasonable to expect that over a longer period of fluoridation in this country results for both the deciduous and permanent teeth similar to those in Grand Rapids will be obtained.

The findings from these American and British studies themselves provide clear evidence of the value of fluoridation as a preventive measure against dental caries. In conjunction with the findings from studies in other parts of the world, they provide massive evidence.

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**Fluoridation and public relations**

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*Background*

At first glance, it might seem extraordinary that a precise scientific matter like the fluoridation of public water supplies should call for a special public relations policy. There is no public health measure or prophylactic procedure that has been so exhaustively examined and tested. It shares with vaccination against smallpox, alone, the distinction of being based on observations of entirely natural phenomena. The benefits it can offer promise an impressive saving in suffering and money, and the safety margin exceeds that offered by any other prophylactic procedure. It must be remembered, however, that proponents of this measure have encountered opposition in the USA, Sweden, New Zealand, Eire and the UK.

Paul (1961) gives the figures for the number of communities in the USA that have accepted or rejected fluoridation between 1950 and 1960. At the end of 1950, ninety-five communities with a total population of 1 500 000 accepted the measure. By the end of 1956, the number of acceptances rose to 1500 communities with a total population of 31 000 000. However, the rate of acceptance slowed between 1956 and 1960, at the end of which time 2000 communities with a population of 38 000 000 had adopted fluoridation. In two-thirds of the referendums held to decide whether fluoridation should be adopted, the proposal was defeated. For example, in 1960, out of fifty-six local referendums, the issue was lost in forty-three (77%).

In the UK, fluoridation was discontinued in Andover in July 1958 by the decision of the local authority. In Norwich and Darlington, where a proposal had been made to establish a study fluoridation area, the local authority decided against it. In Kilmarnock (Nisbet, 1958) and Anglesey (Griffith, 1956), opposition was encountered but was overcome by public-relations activities and health education. In all instances it is possible to identify a point at which an educational issue becomes a political issue. The emergence of an organized opposition with definable characteristics can be observed in every country and in every community where it is proposed to adopt the measure.

Are there any special features of fluoridation that could account for this phenomenon? The following are suggested:

(1) There is general public apathy about dental disease. Moser, Gales & Morpurgo (1962) have commented on public attitudes to dental health in the UK. They believe that dental illness to an extraordinary degree is taken for granted. Metzner (1957) made a similar assertion in the USA.

(2) Fluoridation would re-introduce compulsion into prophylactic procedures. This is an argument which is attractive to those who are meticulous about points of principle.

(3) The evidence on which fluoridation is based is of a statistical character, and involves areas of knowledge which require explanation themselves before the facts of the association between fluorine and tooth structure can be understood. Here are two barriers to communication which can be overcome, but which require something more than superficial communication if they are to be surmounted.

(4) Discussion of water supplies always arouses irrational emotional responses in certain people. Although such responses are mostly to be expected in the uneducated, they can also be found in the highly literate. The words 'pure water' are usually evoked and the whole issue is bound up with semi-mystical ideas about 'natural living'. This is an attitude frequently encountered in the nutrition field. The anxieties manifested by such attitudes are much more severe when water is considered. Thus, although people may choose compost-grown stone-ground wheat, it is much harder to choose an individual water supply, although some antagonists to fluoridation have gone to this length.

This is the background to the organized opposition to fluoridation. The opposition is numerically small, and it would be fair to say that the majority of the public is

indifferent. However, the strategy and tactics of the opposition are designed to stimulate similar attitudes in their fellow citizens and, by creating doubt, to bring about the defeat of any official policy to fluoridate the water supply.

*Studies of opposition ideas, strategy and tactics*

The opposition to fluoridation has three main lines of argument:

- (1) it is asserted that fluoridation is not effective;
- (2) it is asserted that fluoridation is dangerous;
- (3) it is asserted that fluoridation is unethical.

Evidence is adduced to support these assertions. In the first, the epidemiological work is discredited and there is a further assertion that dental disease should be prevented by attention to diet and oral hygiene. In the second, attempts are made to associate the consumption of water containing 1 p.p.m. of fluorine with every conceivable form of disease ranging from mongolism (Rapaport, 1956) to fluorosis, and including cancer (Holman, 1961). There has even been an assertion (Grant, 1957) that the consumption of fluoridated water causes the 'precipitation of a highly insoluble Sr 90'. In the early days of fluoridation schemes, and even before the plant is in operation, complaints of a variety of functional disorders are common. In the third line of argument, tactics vary from straightforward claims that it is unethical to take away freedom of choice—'mass medication' is used here—to paranoid ideas that the measure is some occult political move—mass brain-washing, for example.

This then is the strategy of the opposition. The tactics are highly variable and mainly represent side arguments or sophistication of scientific, or pseudoscientific, information. For example, it may be stated that as fluoridation benefits only children, then fluoride should be given in tablets. Again, it is stated that there is a qualitative difference between calcium ('natural') fluoride and sodium fluoride. As a few medical men or dentists of recognized academic standing have published papers which appear to support the anti-fluoridationist cause, these are naturally seized upon as evidence, which places proponents in the difficult position of being obliged to criticize the work of their colleagues in public. What is perfectly legitimate in the correspondence columns of medical and dental journals is impossible in the national and local Press.

It is necessary to add that, because the public-relations approach has been neglected in this field, opponents of fluoridation have a tactical advantage. As their assertions appear first, the proponents' evidence appears in the guise of counter-arguments. The latter are much weaker in effect than positive arguments. A planned public-relations programme would convert the opponents' assertions into counter-arguments.

Griffith (1956) gave an account of the opposition to fluoridation in Anglesey. After the local authority had taken the decision to fluoridate, a statement was prepared for the local Press, and the County Medical Officer personally addressed meetings of all organized groups, including old people's clubs. Nevertheless, a very violent opposition campaign was conducted in the local Press. It was significant that all the letters

emanated from outside the county. This was a feature also observed in Kilmarnock by Nisbet (1958).

In Anglesey, the Press campaign by the opposition was characterized by abusive language in which parallels with Hitler's regime were drawn, as well as reference being made to the Nuremberg trials. Abusive letters were received even from the USA, and antifuoridation literature was sent in plain envelopes to members of the Borough Council. After the report of the UK Mission to the USA had been exhibited in the public library, a request was made to exhibit antifuoridationist literature. Events in Anglesey were treated in a sensational way by the national Press in banner headlines such as—'This Water May Poison Millions'. Despite this campaign, the County Council approved of fluoridation at a special meeting by a vote of twenty-seven for and five against. After this decision the antifuoridation campaign suddenly subsided. This is a different sequence of events from that observed in the USA in places where communities have resorted to referendums.

Although referendums are not resorted to in the UK, their study is valuable in that it has enabled social scientists in the USA to identify the attitudes and motives of opponents of fluoridation. Metzner (1957) commented that a referendum changes an educational situation into a political situation. Doubt is created, indicating that members of a public authority, or officials, lack belief in the measure they are proposing. Once doubt is created, then most people will vote against change. In this way, a numerically small opposition is helped to sway a large number of their fellow voters. In the UK, antifuoridationists have attempted to put doubt in the minds of candidates for Parliamentary and local elections. One device is to circulate official-looking forms in which candidates are invited to state whether they support or oppose fluoridation. Similarly, the electorate is urged to vote only for candidates who declare their opposition to the measure.

Sanders (1961) has evidence that referendums in the USA have tended to go against fluoridation in communities in which supporters had been confident of a favourable result. A favourable result is more likely to occur where water districts are not co-terminous with the boundaries of the 'political action unit'. The explanation given is that the regular political apparatus cannot be used by a minority to force the issue in a given direction since some of its power figures live outside the water district. If this is generally true, then it suggests that the best districts to start fluoridation are those where the water undertaking also supplies a number of neighbouring districts.

Several social scientists in the USA have attempted to diagnose personality traits associated with opposition to fluoridation. Such attempts must be regarded as speculation. For example, Zetterberg (1957), quoted by Simmel (1961), claims that people tend to act so as to maximize their self-esteem. In certain circumstances, defence mechanisms provide a means of restructuring the world so that self-esteem may be maintained or enhanced. Simmel (1961) adduces evidence to prove the hypothesis that opposition to fluoridation is likely to be manifested by people with a sense of political deprivation or social alienation. Raulet (1961) shows that professional proponents of fluoridation may also suffer from conflicts. His description

of a campaign designed to bring about a favourable result in a referendum reveals the paradoxical result of the proponents' anxiety not to appear to be biased. This prevented their taking part in public debates, and their genuinely objective efforts at education were redefined by the opponents as arrogant attempts to suppress anti-fluoridation information and arguments, and as a violation of norms of democratic behaviour. A similar tendency has been observed in the UK where a refusal by a professional proponent to discuss ethical issues has been attacked as totalitarian, despite the use of moderate and tolerant language by the professional expert.

*Requirements for a public-relations programme*

The literature of the social phenomenon of antifluoridationist movements now bids fair to rival in volume that of the scientific basis of the subject. However, it is hoped that the examples given have shown that we are dealing with a specific behaviour pattern, and that a public-relations policy is needed if fluoridation is to be applied practically. The following main points are suggested:

(1) There must be a planned campaign of public education before the issue becomes political. The objectives must include an attack on the general apathy concerning dental health. As regards fluoridation itself, the statistical basis must be explained and there should be a simple explanation of what is known so far regarding the role of fluorine. The safety, as well as the effectiveness, of the measure must be emphasized and we might follow Metzner (1957) in his suggestion that the history of the measure—concentrating on natural epidemiological features—might prove the most convincing introduction.

(2) The methods and media to be employed will be different for national and local campaigns. Television, radio, Press and magazines are suitable for the national approach. Meetings with small groups, and the discriminate use of posters, exhibition material, and leaflets, would be employed for local campaigns.

(3) Education must begin with professional groups—doctors, dentists, water engineers, teachers. This will create an informed public opinion at the top level and, apart from the fact that these professional groups will teach others informally, they will also form a pool of lecturers who can be recruited to teach small organized groups such as the Women's Institute, Rotary, Church groups, political groups.

The scientific background of fluoridation is complicated, and all who face public audiences must be well-equipped to deal with questions. They must also be prepared to acquire skills in public speaking, discussion-leading, and the use of visual aids. The organization of such lecturing activities and the necessary training could well be a joint enterprise between professional associations and local health authorities. For example, the Fluoridation Study Group of the Society of Medical Officers of Health is an appropriate body to fulfil such a role.

(4) Special attention should be paid to informing Members of Parliament and members of local authorities. As regards local authorities, channels of communication at the national level exist in the local authority associations. The Royal Society of Health also provides a forum in which communication can be made to members of local authorities, and the Medical Officer of Health and Chief Dental Officer can

make an approach to the members of their own committees. The Central Council for Health Education also provides speakers at meetings of councillors of all types of local authority.

(5) Tackling the opposition involves the patient monitoring of all correspondence in the national and local Press, and the writing of an appropriate answer. It will also involve attending meetings and taking part in discussions. Once again, a large number of professional people are needed to cover this task adequately, and guidance is needed from a central agency.

(6) The setting up of a special public-relations organization would be valuable when the issue becomes political, i.e. when a local authority makes a decision to fluoridate its water supplies. Posters, leaflets, Press hand-outs, and general information services are required. This task could be handled easily where a health education section exists.

Such a programme requires the support of a central agency which can give guidance on policy, and which can also undertake the following tasks: (a) supply of regular digests of information for use in local campaigns; (b) maintenance of contact with the national Press, radio and television; (c) supplying of answers to questions of technical fact, or advice in problems of special difficulty; (d) production and distribution of materials—visual aids, slides, films, filmstrips, tape recordings, 'classroom aids', exhibition material, leaflets, posters, booklets; (e) recruitment of panel of consultants to advise on content and presentation of programmes.

In the UK such a scheme could be readily set up because of the close association between professional groups and the local authority health services which are the principal health education agencies in the country.

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