The development of Family Smoking Education materials

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The effectiveness of school health education programmes can be very much influenced by parents' attitudes and behaviour. In this paper the outcome of a feasibility study to develop Family Smoking Education (F.S.E.) materials is summarised, and construction of these materials on the basis of theory and empirical evidence is described.

The discrepancy between personal health behaviours and general health knowledge and attitudes is well documented[1], particularly the discrepancy between children's knowledge about the consequences of smoking and their smoking behaviour[2]. Smoking prevention programmes based on the implicit assumption that changes in knowledge will lead to changes in behaviour have not been successful in preventing children from smoking. As Baric[3] has stated, it is doubtful whether *health reasons alone could influence a child's future [smoking] behaviour* (p.31). There is an abundance of literature indicating that social, psychological, and environmental factors exert an influence on adolescent smoking behaviour. For a review of motivating factors in adolescent smoking behaviour, see Peers[2].

On *a priori* grounds it would seem that parents, in conjunction with teachers and health care professionals, could provide a valuable input into school health programmes. Evidence that is available[4] supports the hypothesis that the degree of parental support is a major influence in determining the success or failure of school health programmes. Hauknes *et al.*[5] in a review of factors influencing children's smoking have drawn the substantive conclusion that *studies from several countries confirm that social influences from peers and family are the most important set of predictors of children's smoking behaviour* (p.4); and *the immediate social environment is the single most important predictor* (p.5).

Bringing in the parents

It is surprising, given the evidence that is available, that there has been a paucity of school health programmes that directly involve parents. Most children in our society are born into a family, and the significance of parental involvement in school health programmes is derived from the influential role that the family plays during primary socialisation of the child – a time when health-risk attitudes, norms, and routines are acquired.

The role that parents might play in school health education programmes will

be influenced by several factors, including information that parents have about health care; family stability; and financial and social stability. There is evidence that family instability (divorces and separations), and social and financial instability (often brought about by unemployment) increase the child's susceptibility to health and school problems[6–8]. The effectiveness of parental involvement must, therefore, be viewed in the socio-economic and political context in which the family brings up children.

Parental involvement in smoking education

Whilst a relationship between parental smoking and adolescent smoking has been well documented[9–13], less attention has been directed to the influence of parental attitudes on adolescent smoking[14–15]. In addition, studies which might elucidate the relative importance of parental *attitudes* and *behaviour* have been scarce[15].

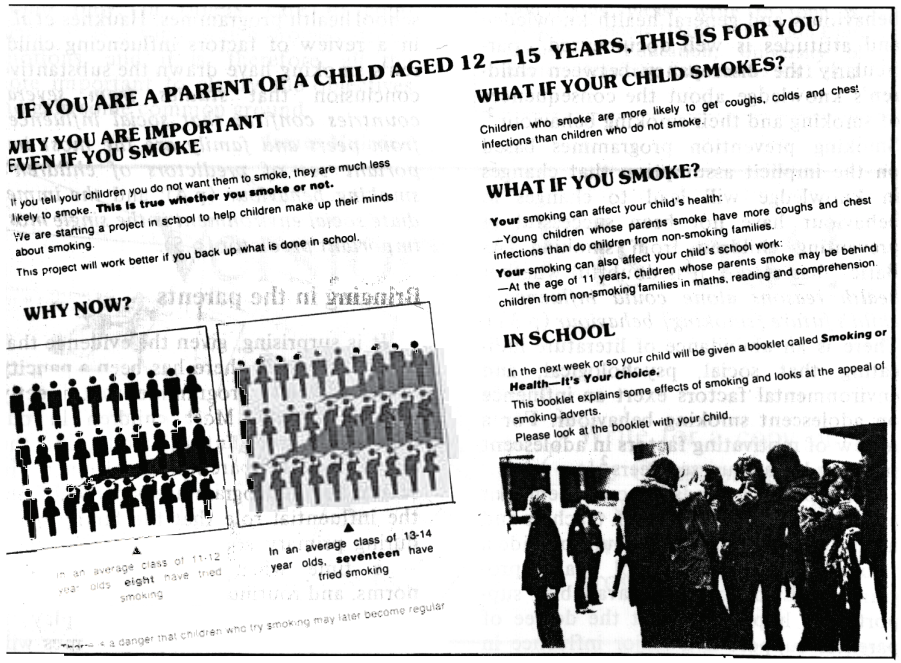
Two recent studies, however[5, 15], have indicated that both parental attitudes and behaviour exert a significant influence on youth smoking behaviour.

Findings from these two studies have been unequivocal. *If both parents smoke there is a greater likelihood that the child will begin smoking than if one parent smokes or neither parent smokes.* Also, those adolescents who report that their parents do not have a disapproving attitude towards them smoking exhibit significantly higher smoking rates, and this is upheld whether the parents are smokers or not.

The evidence received here shows the importance of the family as a medium for influencing the child's smoking behaviour. This paper describes the development of the F.S.E. materials.

The pilot study

A preliminary study was undertaken to develop intervention materials for pupils, their families, and teachers. The development of the materials was undertaken in two stages. Firstly, materials were constructed based on a successful Norwegian



IF YOU ARE A PARENT OF A CHILD AGED 12—15 YEARS, THIS IS FOR YOU

WHY YOU ARE IMPORTANT EVEN IF YOU SMOKE

If you tell your children you do not want them to smoke, they are much less likely to smoke. **This is true whether you smoke or not.**

We are starting a project in school to help children make up their minds about smoking.

This project will work better if you back up what is done in school.

WHY NOW?

In an average class of 11-12 year olds eight have tried smoking

In an average class of 13-14 year olds, **seventeen** have tried smoking

There is a danger that children who try smoking may later become regular

WHAT IF YOUR CHILD SMOKES?

Children who smoke are more likely to get coughs, colds and chest infections than children who do not smoke.

WHAT IF YOU SMOKE?

Your smoking can affect your child's health:
—Young children whose parents smoke have more coughs and chest infections than do children from non-smoking families.
Your smoking can also affect your child's school work:
—At the age of 11 years, children whose parents smoke may be behind children from non-smoking families in maths, reading and comprehension.

IN SCHOOL

In the next week or so your child will be given a booklet called **Smoking or Health—It's Your Choice.**
This booklet explains some effects of smoking and looks at the appeal of smoking adverts.
Please look at the booklet with your child.

educational programme on smoking and health[16]. The study was implemented and evaluated with teachers, parents and pupils from Scotland, England, Northern Ireland, and North Wales. For a description of the methodology, and a detailed account of the results, see Peers, Christie & Ledwith[17]. Secondly, the materials were modified on the basis of this evaluation. The final programme materials are described below, followed by some of the more important interview results.

Parents' material

An important criterion for the parents' material was that it should be attractive, simple, and concise, since the information presented needs to be of immediate use to parents. The leaflet is kept as short as possible, and is written in a personalised form.

This document, an A5 colour leaflet, is given to pupils in a sealed envelope to take home about a week prior to commencing the class work. It informs parents about the F.S.E. programme and the school work that their child will be starting and explains why the best time to start teaching children about smoking is when they are between 11 and 14 years old.

The leaflet urges parents to support the programme, to talk to their children about smoking, and explains that the programme will be more effective with their help. The leaflet also describes the important influence that parents have on their child's smoking behaviour.

The following responses from parents were obtained from an analysis of taped interviews:

1. The overall aim, "of increasing the number of parents who were willing to discuss smoking with their children", was appropriate, and one which parents would support.

2. Parents believed that school work on smoking was important.

3. Parents, in general, were of the opinion that schools should start work on smoking just as children were beginning to experiment with cigarettes. In identifying this period, however, suggestions ranged between 11-15 years of age. Further empirical evidence[18] suggested that the most appropriate time for intervention was between 11 and 14 years of age.

4. Parents thought that the information in the parents' leaflet was clearly presented, especially the depiction of the numbers of adolescent smokers in an average class in pictorial rather than graphical form.

Teachers' material

The teachers' material, an A5 colour leaflet, contains a rationale for smoking education and a brief description of the content of the programme, including suggestions for organization, ideas for practical activities, and a clear estimate of time required for preparation and implementation. Depending on the ability of a group, and the way in which the teacher uses the materials, the classwork may be completed within two 40-minute lessons.

No specific material was developed for Health Education Officers participating in the pilot study. Instead, a covering letter describing the background to the development of the materials, and copies of parents', teachers', and pupils' materials, were sent to them.

Taped interviews with teachers revealed the following points:

1. Teachers welcomed the involvement of parents in school health education programmes.
2. Teachers believed that parental support was a crucial factor in the effectiveness of school health programmes, but were sceptical about enlisting this support from some parents.
3. The overall content of the pupils' material was recognised by teachers as being appropriate for a target group of lower secondary-school pupils. Teachers shared the concerns of parents about the most effective time to implement a programme on smoking.
4. Whilst the overall content of the pupils' booklet was acceptable, the ordering of concepts, and the juxtaposition of

text and pictures, was deemed by both teachers and parents to be unsatisfactory. The positioning of the pictures interrupted the text, and made it difficult to read. Teachers suggested that the text should be set in columns adjacent to the respective picture.

5. Teachers made the point that introduction and placement in the curriculum had to be facilitated. They suggested that for maximum use of the programme, and to encourage the use of this programme by teachers who did not have a specific health-education role, the material needed to be self-contained, able to fit well in existing classroom organization without the need for special equipment, and not too demanding of curriculum time.

6. All of the teachers deemed management of the programme, including classroom organization and delivery system to the parents, to be an important issue. For acceptability by teachers, the demands of the innovation had to be explicit. Examples mentioned included:

- **clear estimate of time required for preparation and implementation;**
- **a rationale for adopting this approach;**
- **requirement for information and resources;**
- **guidelines for organization;**
- **need for feedback to justify the innovation (this implies the need for an evaluative component and clear programme objectives).**

Pupils' material

The pupils' material is an eight-page A4 full-colour booklet. The booklet examines the immediate consequences of smoking, encourages a social awareness of the effects of smoking, links smoking with pollution, and looks at the mechanisms and appeal of smoking advertising.

The booklet, throughout, encourages a dialogue between pupils and parents. To facilitate this aim, sections of the material are designated as "tasks" which are to be completed with the help of parents and siblings at home. Questions appear throughout the text (separated from the main text by a colour tint) to check understanding of concepts.

Taped interviews with pupils were conducted, producing the responses below:

1. Pupils thought the coloured pictures were the most striking aspect of the work booklet.
2. All of the pupils thought the text was difficult to read because the pictures broke up the text.
3. Pupils thought the work on smoking in poor countries was particularly interesting, and asked for more information about this.
4. The majority of the pupils did not understand the concept of vasoconstriction.

The overall aims of the programme and the objectives of the pupil material were also modified as a result of the pilot study. The aims are to promote a free dialogue about smoking amongst the family, to reinforce non-smokers' attitudes and behaviour, and to discourage non-smokers from experimenting with cigarettes. It is anticipated that the programme may also have an influence on parental smoking.

Pupil objectives: a summary

The pupils' material is not intended to cover all aspects of smoking and health, and should be seen as complementing existing material. The pupil objectives are, therefore, limited but specific. They are:

1. **To develop a conceptual understanding of the structure, function and care of the body and the immediate/shorter-term effects on it of smoking.**
2. **To develop an awareness of the psychosocial determinants of smoking.**
3. **To practise using evidence in questioning and arguing rationally.**
4. **To develop a social awareness of the consequences of smoking.**
5. **To be able to discuss smoking freely with parents.**

Two guiding principles were adopted in the modification of the materials. Firstly, the recognition that information presented had to be salient, consistent, clear, and have high source credibility. Secondly, the strategy adopted needed to motivate pupils and parents by actively engaging pupils in classwork, and both pupils and parents in work at home.

In achieving these objectives, and accommodating the two principles, two opposing constraints had to be overcome:

1. **The need to create a favourable social climate both in school and at home for the programme.**
2. **Recognising that for some individuals smoking represents a means of social acceptance and ego enhancement.**

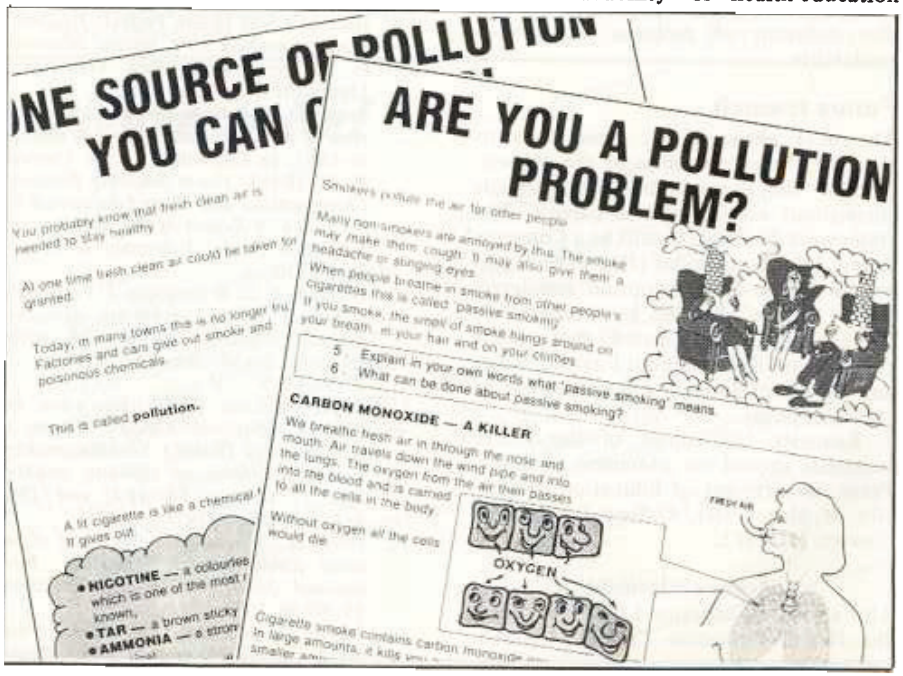
The following strategies based on psycho-social principles (see Zimbardo *et al.*[19]; Peers[2]) were adopted to meet the programme objectives and overcome the identified constraints:

1. **Readability had to be appropriate for the target group. To present information clearly, there was a need to make the language more personal and to use familiar phrases.**
2. **A need to facilitate group support and offer opportunities for reinforcement of learning.**
3. **A need to help individuals before invitations to smoke by inviting them to rehearse various strategies in role play.**
4. **A need to create a climate (in the classroom) where the debate can be articulated without fear of reprisals or damage to self-esteem.**
5. **A need to elicit recommendations for immediate response or action.**

Readability

The pupils' material was written on an individual-learning basis, so that pupils could study the materials independently of the teacher. This strategy was adopted to facilitate use of the material with mixed-ability groups. Particular attention had, therefore, to be paid to readability level.

Blinkhorn[20] and Holloway *et al.*,[21] have drawn attention to the need to match readability of health-education



texts to target groups. They recommend the use of the E.R.I. ("Ease of Readability") checklist[20] and Fog index (Gunning[22]) to compute a reading age for written materials, and, on the basis of this, to select texts for appropriate target groups. Unfortunately, this and other widely-used methods of measuring readability focus only on linguistic factors, and do not take into account the way pictures can help comprehension. They are, therefore, misleading, and seriously under-estimate the readability level of texts.

It is suggested by Reid, Briggs and Beveridge[23] that pictures may induce a deeper level of memory processing, and hence aid recall. Data from their study is unequivocal in showing that pictures enhance the memory of words and phrases. Recall is also facilitated when the text is written at a low level of lexical readability.

Pictures have previously been used effectively to enhance memory of written passages[24]. On the basis of this evidence, a central tenet of the pupil material was the inclusion of pictures to enhance readability.

Future research

The next phase of the research is to examine the effectiveness of the delivery system: the dissemination of materials throughout schools and to parents. The framework for analysis will be a Concerns Based Adoption Model (Hall *et al.*,[25]) to examine innovation adoption and levels of use of the materials by teachers and parents. It is anticipated that about twenty schools throughout England, Wales and Northern Ireland will participate in this next phase.

Requests for copies of the F.S.E. materials should be addressed to Ian S. Peers, Department of Education, University of Manchester, Oxford Road, Manchester, M13 9PL.

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