Measles—mumps—rubella immunization: the role of the general practitioner in achieving a high uptake

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SUMMARY. A survey of all general practitioners in Fife conducted prior to the introduction of measles—mumps—rubella immunization on a pilot basis in May 1987 showed that 85% considered mumps worth preventing and 94% believed the rubella programme worth augmenting with universal childhood immunization. Ninety seven per cent considered measles worth preventing and 98% were prepared to recommend measles—mumps—rubella immunization to parents instead of measles vaccine.

One year after introducing the measles—mumps—rubella vaccine in Fife, 91% of children had been immunized with the combined vaccine or measles vaccine before their second birthday. This compares with the 83% that received measles vaccine before the combined vaccine was introduced. Eighty per cent of preschool children were also immunized with the combined vaccine at school entry in a catch-up exercise.

This study demonstrates that there are few major professional barriers to achieving a high uptake of the measles—mumps—rubella vaccine in this area. The vaccine was introduced nationally on 1 October 1988 and its uptake is likely to exceed the current unsatisfactory level achieved with measles vaccine. However, this outcome will largely depend on the commitment of doctors to the programme.

Introduction

In April 1987 the government announced that immunization with a combined vaccine against measles, mumps and rubella would in future replace the measles vaccine currently being offered to children in the second year of life.1 In Fife this combined vaccine was introduced on a pilot basis in May 1987.

As possible barriers to immunization can exist among parents and professionals,2,3 the attitudes of both groups to measles, mumps and rubella and the prevention of these diseases by immunization were studied immediately before the pilot introduction of the combined vaccine. The results of interviews with doctors are reported here but those with parents, health visitors and clinical medical officers will be reported elsewhere. The uptake of immunization before and after an educational campaign among doctors is also reported.

Method

All 197 general practitioners involved in immunization in the Fife area were invited to take part in the study. Only one refused, giving an overall response rate of 99.5%. The doctors were visited and interviewed using a semi-structured questionnaire. The questionnaire asked about the doctors’ attitudes to measles, mumps and rubella and what potential barriers they felt might exist to prevent a high uptake of the measles—mumps—rubella vaccine.

When administering the questionnaire the opportunity was taken to discuss the introduction of the combined vaccine with the doctors in order to help overcome any professional barriers that might exist to the vaccine. Measles, mumps, rubella and the measles—mumps—rubella vaccine also featured in the monthly communicable disease newsletter sent to all doctors and health visitors in Fife. In addition, clear guidelines on the indications and contraindications to immunization with the measles—Mumps—rubella vaccine were provided.

The uptake of measles vaccine for children born in 1984 and immunized by the end of 1986 was determined from the routine immunization returns provided by the Fife health board to the Information and Statistics Division of the Common Services Agency and published internally by them. The uptake of measles—mumps—rubella or measles vaccine by the second birthday for children born in March 1986 was determined from data held on the Fife health board computer. Whether children were immunized by general practitioners or clinical medical officers was also established. The proportion of children receiving measles—mumps—rubella rather than measles vaccine was calculated for May 1987 and for January and February 1988.

During the first four years of the combined vaccination programme all primary school entrants are being offered the measles—mumps—rubella vaccine in a catch-up exercise regardless of a previous history of measles immunization, or of measles, mumps or rubella infections. The proportion of children enrolling in primary schools in Fife in 1987 who accepted measles—mumps—rubella immunization was determined.

Results

The general practitioners’ attitudes to measles, mumps and rubella are shown in Table 1. Just under half the doctors considered mumps to be a moderate or very severe illness although the great majority considered mumps to be worth preventing and 98% were prepared to recommend measles—mumps—rubella to parents instead of measles vaccine.

The general practitioners believed that there were a number of potential barriers among parents to high uptake of the measles—mumps—rubella vaccine. Many felt parents might be concerned about vaccine safety (166 doctors), would not be motivated because of the lack of severity of measles, mumps and rubella (69 doctors) or would be worried about the newness of the vaccine (75 doctors). Eighty nine doctors also felt the media might overstate the risks of immunization or understate the benefits. Only 10 saw professional barriers of any kind as a problem to high uptake.

Measles vaccine uptake for children born in 1984 and immunized by the end of 1986 prior to the introduction of the measles—mumps—rubella vaccine in Fife was 83%. Table 2 shows

Table 1. Attitudes of general practitioners to measles, mumps and rubella.

<table>
<thead>
<tr>
<th>Attitude</th>
<th>Number (%) of GPs (n = 196)</th>
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</thead>
<tbody>
<tr>
<td>Considered measles worth preventing</td>
<td>190 (97)</td>
</tr>
<tr>
<td>Considered mumps a:</td>
<td></td>
</tr>
<tr>
<td>Mild disease</td>
<td>100 (51)</td>
</tr>
<tr>
<td>Moderately severe disease</td>
<td>90 (46)</td>
</tr>
<tr>
<td>Very severe disease</td>
<td>4 (2)</td>
</tr>
<tr>
<td>Considered mumps worth preventing</td>
<td>167 (85)</td>
</tr>
<tr>
<td>Considered rubella immunization policy</td>
<td></td>
</tr>
<tr>
<td>worth augmenting with universal</td>
<td></td>
</tr>
<tr>
<td>childhood immunization</td>
<td>184 (94)</td>
</tr>
<tr>
<td>Prepared to recommend MMR instead of measles vaccine</td>
<td>194 (98)</td>
</tr>
</tbody>
</table>

n = total number of respondents. MMR = measles-mumps-rubella vaccine.

Table 2. Uptake of measles–mumps–rubella vaccine (MMR) by the second birthday among the 385 children born in Fife in March 1986.

<table>
<thead>
<tr>
<th>Uptake</th>
<th>Number (% of children)</th>
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<tbody>
<tr>
<td>Received MMR</td>
<td>307 (80)</td>
</tr>
<tr>
<td>Received measles immunization before MMR was introduced</td>
<td>30 (8)</td>
</tr>
<tr>
<td>Received measles immunization after MMR was introduced</td>
<td>12 (3)</td>
</tr>
<tr>
<td>Offered MMR but not immunized</td>
<td>20 (5)</td>
</tr>
<tr>
<td>Not offered MMR; triple/polio incomplete</td>
<td>16 (4)</td>
</tr>
</tbody>
</table>

that measles–mumps–rubella or measles vaccine uptake by the second birthday for children born in March 1986 was 91%, an increase of 8% in the level of protection against measles. Of the children receiving vaccine, 71% were immunized by general practitioners and 29% by clinical medical officers. Because 16 children had yet to complete their primary course of diphtheria–pertussis–tetanus and polio immunization only 369 children were actually offered the measles–mumps–rubella vaccine, of whom 349 (95%) accepted. The proportion of children immunized with measles–mumps–rubella rather than measles vaccine has steadily increased since the combined vaccine was first introduced in May 1987. At that time 527 immunized children (95%) received measles–mumps–rubella and 5% (18 children) measles vaccine. By January and February 1988 when 677 children in their second year of life were immunized, 672 (99%) received measles–mumps–rubella and only five (1%) measles vaccine.

Of 4308 children who enrolled at primary school in 1987, 3443 (80%) accepted measles–mumps–rubella immunization.

Discussion

Measles vaccine uptake nationally is still only around 70% almost 20 years after its introduction in the UK. This level is too low to prevent epidemics and cannot be tolerated for the combined vaccine as there would be a danger of an epidemiological shift to older age groups and a consequent rebound increase in complication rates, including congenital rubella syndrome and mumps orchitis in future years.

If we are to avoid these problems every barrier to high vaccine uptake must be identified and a comprehensive educational programme developed to overcome as many of the barriers as possible. This study has shown that obstacles to high uptake can be overcome by such an approach and reservations about the possibility of low uptake of the measles–mumps–rubella vaccine may therefore be unfounded. However, the Fife health board places a higher priority on immunization than many other authorities and as a consequence there may have been a higher than average uptake. Nevertheless, what has been achieved in one area should be possible in all.

Most general practitioners felt that measles and mumps were worth preventing and that the rubella immunization policy was worth augmenting with universal childhood immunization with the measles–mumps–rubella vaccine. However, it should be noted that although 15% of doctors did not consider mumps worth preventing, this did not appear to be a barrier to recommending measles–mumps–rubella vaccination. Interestingly, general practitioners did not see their own opinions as potential barriers to a high uptake, a view not shared by everyone, although they did regard reservations on the part of parents as a problem.

The 91% uptake of measles–mumps–rubella vaccine among two-year-olds one year after the introduction of the combined vaccine is encouraging and the high uptake of immunization at school entry confirms the practicality of a catch-up exercise. The steady decline in the use of measles vaccine relative to the measles–mumps–rubella vaccine is also encouraging and it is anticipated that the use of measles vaccine in Fife will soon cease altogether. On the basis of our experience in this and previous campaigns, we attribute our success to intensive professional education, which does not need to be of high profile to ensure success, rather than to public campaigns.

There is much support for the view that the mistakes made when measles vaccine was introduced nationally must not be repeated with the measles–mumps–rubella vaccine. With commitment from government, health authorities and general practitioners, the findings of this study suggest that uptake rates above 90% are a realistic prospect. The eradication of measles, mumps and rubella within the next 10 years is a goal well worth that commitment.

References


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