ARE LETTERS AN EFFECTIVE MEANS OF COMMUNICATING GUIDELINES ABOUT PROPHYLACTIC ANTIBIOTICS FOR MENINGOCOCCAL MENINGITIS TO CLOSE CONTACTS AT A CHILD CARE CENTRE?

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This paper reports on the results of a survey of the effect of letters sent to close contacts of a meningitis case: staff and parents of children at a hospital child care centre. All respondents (72 per cent) complied with the advice that they approach a doctor, usually their general practitioner, for prescription of a prophylactic antibiotic.

During September 1996 a staff member of a child care centre developed clinical signs of meningococcal meningitis. Because meningococcal meningitis is a notifiable disease in NSW, staff of the Northern Sydney Area Health Service Public Health Unit investigated the case[1]. The child care centre operated within the grounds of a teaching hospital in the Area, and many of the parents worked as health professionals in the hospital or other health care facilities.

The NSW Health Department's guidelines state that all close contacts of an index case should be advised to take a prophylactic antibiotic[2]. The objective of the survey was to ascertain whether staff and parents had comprehended and acted on the letters of advice they had received.

METHOD

All the centre's staff and enrolled children met the criteria of the NSW Health Department's guidelines of being close contacts of the index case[2].

Public Health Unit staff distributed letters of advice simultaneously to all child care centre staff and parents of the children attending the centre. The first letter, addressed to parents and centre staff, contained information about the need for close contacts to be prescribed a prophylactic antibiotic. The second letter, to be taken to the recipient's GP, contained information about the need for close contacts to have a prophylactic antibiotic (rifampicin) prescribed, its dosage and possible side-effects. Both letters were based on sample letters contained in guidelines for the control of meningococcal disease and were therefore considered to be understandable and not complex[3]. The ethnic composition of the recipients did not require the use of letters translated into languages other than English.

One week after the distribution of these letters, all parents and centre staff were asked to fill in an anonymous questionnaire and return it in a reply-paid envelope to the PHU.

RESULTS

The questionnaire was received by 120 parents and staff, and 72 per cent (86/120) responded; of these, 88 per cent (14/16) were staff and 71 per cent (72/104) were parents. Of the respondents, 88 per cent found the letter to be helpful or very helpful, and only 12 per cent thought it was very unhelpful or not at all helpful. All respondents were compliant with the recommendation to take their child or themselves to see a doctor to have rifampicin prescribed.

A sensitivity analysis showed that if none of the non-respondents sought medical attention, then 72 per cent (86/120) of all people sought medical attention, whereas if 50 per cent of non-respondents sought attention the overall proportion was 86 per cent (103/120). Seventy-nine per cent of respondents were seen by their usual doctor or another general practitioner, and the remainder used hospital facilities such as an emergency department or a staff health clinic.

TABLE 4

SURVEY OF COMPLIANCE WITH ADVICE ABOUT PROPHYLAXIS FOR MENINGOCOCCAL MENINGITIS

Comment	*n*
Wanted more specific advice on dose of rifampicin	8
Wanted rifampicin supplied by an Area Health Service organisation	7
Families distressed by the child's exposure to meningococcal disease	2
Rifampicin was expensive to purchase	1

Of the 86 respondents, 95 per cent were prescribed rifampicin and 92 per cent reported that the prescribing doctor discussed the recognised side-effects of the drug with them; 81 per cent reported that rifampicin had common side-effects, such as a change in the colour of body fluids and mild gastrointestinal upset; 66 per cent indicated that the full two-day course had been completed; six of the respondents stated that side-effects (unspecified) were the reason for their not completing the course. Fifty-one per cent had had difficulty in obtaining supplies of rifampicin, with the most common problem being the lack of supply at local community pharmacies. Ninety-eight per cent of respondents had received rifampicin within two days of receiving the letter, and the remainder (three respondents) had had to wait three days.

The free comments section of the questionnaire highlighted other issues (Table 4).

DISCUSSION

In Australia meningococcal disease affects mainly children under five years of age and adolescents. A survey in 1995 recorded a 7 per cent mortality rate[4]. Such statistics may explain the considerable public concern and media interest in the disease. According to a recent National Health and Medical Research Council report, PHUs have a role in implementing guidelines to prevent the spread of meningococcal disease[5]. Compliance has been defined as the proportion of the target population who follow the recommendations of the health care provider[6]. The 100 per cent compliance by respondents to our letter's recommendation to seek medical advice may have been a result of concern about the disease as well as the high proportion of our parents who were health professionals. The high level of community concern makes it reasonable to assume (from the sensitivity analysis) that more than 50 per cent of non-responders would have sought medical attention, which means that more than 86 per cent of all people sought medical attention as a result of the letter. The worst-case scenario of none of the non-responders seeking medical attention produces a 72 per cent compliance rate – better than the best response rate of 63 per cent in a report of a mammographic screening program in which GPs sent

personalised invitations to women in the target risk group[7]. This indicates that a letter is an acceptable method of communication for close contacts, although the respondents in our survey were a highly selected group and the results may not be fully transferable to other populations.

We were concerned by the survey's finding of a delay for some respondents of up to three days before obtaining rifampicin. Current guidelines indicate that close contacts should take a prophylactic antibiotic as soon as possible, owing to the relatively short incubation period of meningococcal disease[3]. Such delays may have occurred because rifampicin is not commonly prescribed by most hospital or community pharmacies, particularly in its paediatric liquid format which has a relatively short shelf life. This issue has been dealt with locally by our arranging for two of the public hospital emergency departments in the Northern Sydney Area to supply liquid and tablet rifampicin on a 24-hour basis.

We were also concerned with the finding that one-third of respondents failed to comply with the recommendation to complete the full two-day course of rifampicin, although the survey indicated that the side-effects of rifampicin may have been the reason in some cases. As a result, we recommend that doctors consider prescribing a single-dose antibiotic, such as ciprofloxacin, for older children and adults, particularly when compliance may be a problem. Further research is needed to ascertain why compliance with taking a full course of rifampicin is a problem.

Getting local doctors to prescribe rifampicin was found by the survey to be an acceptable method of distribution, with less than 10 per cent of respondents commenting that the antibiotic should be distributed from a central supply. Local doctors have available the medical records of individual patients, and provide a more personal approach to prescribing, which may include discussion about contraindications and possible side-effects and follow-up. Further research would help decide whether letters or, say, personal communication from a member of a PHU is the most effective method of ensuring that close contacts obtain prophylactic antibiotics and that the complete course is taken.

Conclusions

1. Letters about the risks of the meningococcal disease and the need for close contacts to receive prophylactic antibiotics were found to be an acceptable method of communicating information to close contacts and local doctors. Those surveyed were well-informed health professionals and therefore the results may not be fully transferable to other populations.
2. Doctors should prescribe an alternative (single-dose) prophylactic antibiotic if compliance may be a problem.
3. Measures are being taken to ensure that prophylactic antibiotics for meningococcal disease are readily available to close contacts at all times.

1. *Notification of diseases under the Public Health Act.* Circular no. 95/46, 23 June. Sydney: NSW Health Department, 1995.
2. *Infectious diseases manual.* 5th edition. Sydney: AIDS/Infectious Diseases Branch, NSW Health Department, 1995.
3. National Health and Medical Research Council. *Guidelines for the control of meningococcal disease in Australia.* Canberra: AGPS, 1997.
4. National Neisseria Network. Meningococcal isolate surveillance, Australia, 1995. *Commun Dis Intell* 1996; 20:422-424.
5. Patel MS, Collignon PJ, Watson CR et al. New guidelines for management and prevention of meningococcal disease in Australia. *Med J Aust* 1997; 166:598-601.
6. Ronis DL. Conditional health threats: health beliefs, decisions and behaviours among adults. *Health Psychol* 1992; 11:127-134.
7. Australian Health Ministers' Advisory Council Breast Screening Evaluation Steering Committee. *Breast cancer screening in Australia: future directions.* Australian Institute of Health Prevention Program series no. 1. Canberra: Australian Government Publishing Service, 1990.

New focus on lead

Health care professionals will receive the first in a new series of five booklets promoting awareness about lead hazards in the environment.

The NSW Minister for the Environment, Ms Pam Allan, announced the publication of the booklet at the launch of the *Lead Education Program*. The Statewide education program is designed to raise awareness of where lead exists in the environment and provide information on how to minimise the community's exposure to lead hazards.

"The first booklet is designed specifically to assist health care professionals in their understanding of lead hazards in the environment, and identify possible cases of lead poisoning," Ms Allan said. "The next four booklets will focus on specific risk groups, including parents, do-it-yourself renovators, the building and construction industry and parents of children with elevated blood lead levels."

Ms Allan said lead hazards are an issue for the environment and public health right across NSW – wherever older housing still has paint with high lead levels. "Lead stays in the environment in ceiling and house dust particles, in the soils and in the many products which are made with lead. It's not just an issue confined to areas which have well known lead hazards such as Broken Hill and Port Kembla," she said.

The Lead Reference Centre which is coordinating the *Lead Education Program* is equally co-funded by NSW Health, the Environment Protection Authority (EPA), Department of Public Works and Services, Department of Housing, the Roads and Traffic Authority and WorkCover.

For more information call the Lead Reference Centre on (02) 9879 4988, or the EPA's Pollution Line on 131 555.