Hepatitis A vaccination of child care workers in Victoria: are recommendations being implemented?

Abstract

This study examined the self-reported hepatitis A and B immunisation status of child care workers, the level of awareness among child care workers of the NHMRC recommendation for immunisation against hep. A and centre practices.

A confidential mail survey was conducted in June 1996 with workers and co-ordinators from 113 randomly selected child care centres. Co-ordinators completed a questionnaire on the centre's characteristics and immunisation policy. Child care workers completed a second questionnaire on their immunisation knowledge or beliefs and immunisation status.

Ninety-five centres (85%) and 607 (74%) workers participated. Only 11% of workers were vaccinated against hep. A, although the majority of child care worker respondents believed their occupation placed them at increased risk. Those vaccinated were more likely to be aware of the availability of hep. A vaccine, of the NHMRC recommendation for hep. A vaccination, and to have been vaccinated for hep. B. Centres in which co-ordinators perceived hep. A vaccination as important, and those which recorded staff immunisation, particularly hep. A, were more likely to have child care workers who were vaccinated against hep. A. In contrast, nearly two-thirds of child care workers reported that they were vaccinated against hep. B, although hep. B is not routinely recommended by the NHMRC for child care workers

These findings show a need for further policy and educational initiatives in the implementation of an immunisation strategy for child care workers.

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Correspondence to:
Dr Sandra C. Thompson, Population Health Unit, Territory Health Services, PO Box 721, Alice Springs NT 0871. Fax: (08) 8951 7900; e-mail: sandra.thompson@nt.gov.au

Jennifer A. Thomson

Epidemiology and Social Research Unit, Macfarlane Burnet Centre for Medical Research, Victoria

Robert Kennedy

Department of Oncology, St Vincent's Hospital, Victoria

Sandra C. Thompson

Epidemiology and Social Research Unit, Macfarlane Burnet Centre for Medical Research, Victoria

Control of the spread of communicable disease in the child care setting remains an important public health issue. Immunisation of child care staff is an important control strategy.

The National Health and Medical Research Council (NHMRC) has produced recommendations for child care centre management and workers in the publication 'Staying healthy in childcare'.[1] Specifically, in 1994 the NHMRC recommended that child care workers caring for children under two years of age should be vaccinated against hepatitis A.[2] In contrast, the NHMRC does not routinely recommend hepatitis B vaccination of child care workers as hepatitis B is not considered to be an occupational hazard in the child care setting.[2]

Examination of the attitudes and practices of staff and management in the area of control for hepatitis A and hepatitis B is timely and relevant to current practice. This study examines the self-reported immunisation status of child care workers in relation to hepatitis A and hepatitis B, the level of awareness among child care workers of the NHMRC recommendation for hepatitis A immunisation, and factors such as a centre's policies and co-ordinator's beliefs that may affect staff awareness of immunisation issues.

Methods

The study was approved by the Ethics Committee of the Department of Human Services Victoria. In June 1996, questionnaires were sent to a random sample of 113 from a list of 800 registered child care centres in Victoria stratified by class of child care centre.

Two types of questionnaires were sent to each child care centre. The questionnaire for the child care centre co-ordinator solicited information about characteristics of the centre and its immunisation policies and practices. The questionnaire for child care centre staff was distributed by the co-ordinator to all staff with responsibility for hands-on care of children, including casual or relief staff. This questionnaire collected information regarding immunisation issues and the respondent's immunisation status. Questions on risk were recorded on a Likert scale.

Completed questionnaires were anonymous and confidential, although all questionnaires sent to a single centre were coded so that the responses from each centre could be linked.

Data entry and analysis was conducted with Epi Info 6.02.[3] Statistical analysis included calculation of odds ratios and chi square test where a p value of less than 0.01 was considered as significant.

Results

The response rate of child care centre co-ordinators was 85% (95/113). A minimum estimate of the response rate for child care workers was 74% (607/823) based upon the total number of 823 staff (452 full-time,

Table 1: Child care workers: perceived risk of the average unvaccinated child care workers catching disease compared to the ordinary person.

Perceived risk of catching disease	Percentage % Hepatitis A	(n=607) Hepatitis B
Much more likely	29.8	32.1
More likely	44.3	44.6
About the same	20.3	18.9
Less likely	2.6	2.6
Much less likely	0.5	0.2
Missing	2.5	1.5

Table 2: Child care co-ordinators: importance attributed to vaccination of child care staff.

Importance attached to staff vaccination	Percentage % Hepatitis A	(n=95) Hepatitis B
Very important	15.3	55.1
Important	23.5	20.4
Somewhat important	28.6	17.3
Not at all important	24.5	6.1
Missing	8.2	1.0

193 part-time and 178 casual staff) reported in the co-ordinators' questionnaires.

The 607 child care workers surveyed were predominantly female (99.5%), mostly Australian born (86%) with an average age of 32 years. Twenty-one per cent usually worked with children under the age of two years and a further 38% usually worked with a mixed group (0-5 years). In total, 78% reported changing nappies on at least a weekly or daily basis.

Self-reported awareness of the occupational risks of infection for hepatitis A and hepatitis B among child care workers were similar as shown in Table 1: 70%-75% reported a perceived increased risk of catching the disease due to their occupation.

There was a difference in the proportion of child care workers aware of the availability of hepatitis B vaccine (94%) compared with hepatitis A vaccine (62%). Only 29% of child care workers were specifically aware of the NHMRC recommendation on vaccination of child care workers against hepatitis A. Overall, there was a substantial difference in the proportion of child care workers reporting vaccination for hepatitis A and hepatitis B: 11% reported vaccination for hepatitis A compared with 62% for hepatitis B.

Child care workers vaccinated for hepatitis A were more likely to be aware of the availability of hepatitis A vaccine (OR 23.4; 95% CI 5.5-141, n=582), of the NHMRC recommendation for hepatitis A immunisation of child care workers (OR 5.7, 95% CI 3.2-10.4, n=570) and to be vaccinated against hepatitis B (OR 5.1, 95% CI 2.2-12.7, n=576). Hepatitis A vaccination was not significantly associated with age, awareness of the risk of hepatitis A or attendance at outside educational activities.

From child care centre co-ordinators' responses, only 14% (13/95) of child care centres had an immunisation policy. Only 17% (16/95) recorded the immunisation status of their staff, and these records were generally not updated. Of those which did record staff immunisation, 57% recorded hepatitis A immunisation and 100% hepatitis B immunisation. Co-ordinators responses to the importance of vaccination against hepatitis A and hepatitis B are shown in Table 2.

Hepatitis A vaccination of child care workers was significantly associated with the importance that the centre co-ordinator attributed to hepatitis A vaccination ($p<0.0001$), and with centres which recorded staff immunisation status (OR 4.9, 95% CI 2.6-9.0, n=550), especially those which specifically recorded hepatitis A vaccination (OR 47.4, 95% CI 5.9-1029, n=81). There was no association with the type of centre (private or public), the location of the centre and the class of centre.

Discussion

This study of a random sample of registered child care centres identified concerning aspects of immunisation behaviour and knowledge in the child care setting and showed a need for further policy and educational initiatives in the child care setting. Given the good response rates of child care centres and child care workers, these findings are likely to be representative.

The low level of reported hepatitis A vaccination among child care workers was of concern. The existing NHMRC recommendations state child care workers caring for children under two years of age should be vaccinated against hepatitis A,[2] and the occupational risk through care of non-toilet trained children is well recognised in the literature. A number of outbreaks of hepatitis A in Australia have been associated with child care centres,[4-7] and it has been established that child care workers who change nappies, have a four to five fold increased risk of hepatitis A.[7] Consistent with this information, most child care workers perceived that their occupation placed them at increased risk compared to the community and many were aware of the availability of hepatitis A vaccine. The major determinant of hepatitis A vaccination of child care workers was found to be the attitude and practice of the centre co-ordinator. Therefore, these findings must raise doubt as to the effectiveness of dissemination of the NHMRC recommendations and their influence on child care policy. Cost was not identified as a barrier to hepatitis A vaccination, but this may change once awareness of hepatitis A vaccination increases.

In contrast to the low levels of child care workers vaccinated for hepatitis A, nearly two-thirds of child care workers reported that they were vaccinated against hepatitis B. The higher rate of hepatitis B vaccination may reflect the perception by child care workers that their occupation places them at increased risk or it may reflect the importance attributed to hepatitis B vaccination by co-ordinators and the arrangements made by many employers for hepatitis B vaccination of their staff. Hepatitis B is not routinely recommended by the NHMRC for child care workers and the literature suggests that the transmission of hepatitis B in the child care setting is a rare occurrence.[8-11]

The discrepancy between hepatitis A and hepatitis B vaccination uptake suggest that NHMRC recommendations are poorly reflected in the management of occupational risks in a child care setting, perhaps due to the recency of the recommendations and lack of dissemination. An alternative explanation for the discrepancy is that there may be genuine confusion between the risks and consequences of hepatitis A and hepatitis B infection.

The risk of contracting infections in the workplace may be regarded as an occupational health and safety issue for child care workers.[9] It is clear that there is a need to improve the dissemination and uptake of NHMRC recommendations in relation to immunisation in the child care setting. This may require a number of complementary measures: education of staff and the development of informed policy in combination with supportive legislation and financial support.

Education and development of child care centre policy need to be consistent with the NHMRC recommendations. Child care centre policy should include careful checking, recording and updating of staff immunisation status, as hepatitis A vaccination was clearly shown to be associated with such practices. Education of child care co-ordinators may also be crucial, as the major determinant of hepatitis A vaccination of child care workers was the attitude and practice of the centre co-ordinator.

Complementary to policy and management change is education of child care workers. Given the awareness of child care staff of occupational risk and availability of hepatitis A vaccine, the emphasis may need to be on the provision of opportunities for vaccination, as well as education and training on hygienic child care practices, exclusion policies and children's vaccination requirements.

The development of supportive legislation including a process of accreditation of child care centres may educate and encourage better performance.[12,13] Accreditation may include audits for the presence of a centre immunisation policy that reflects current guidelines for vaccination, and for evidence of implementation such as the frequency and comprehensiveness of checking or updating records of immunisation status of both children and staff. In addition, financial support will be important in assisting employers in providing education and policy practices in relation to immunisation of child care workers, as well as meeting the cost of hepatitis A vaccination for their employees.

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