Factors influencing vaccination uptake

Workshop Report
*Current Australian research on the behavioural, social and demographic factors influencing immunisation, Royal Alexandra Hospital for Children, Sydney, March 1998**

Edited by Jill M Forrest, Margaret A Burgess and Peter B McIntyre
National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases, Royal Alexandra Hospital for Children, PO Box 3515, Westmead, New South Wales 2141

Abstract

Current Australian research on factors influencing vaccination was discussed at a workshop held at the Royal Alexandra Hospital for Children, Sydney, in March 1998, sponsored by the National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases (NCIRS). The application of decision making theory to vaccination behaviour, the expectations and experiences of mothers, and reasons why parents fail to vaccinate their children were considered. Mothers' perceptions of the risks of vaccines, preferences of parents and providers for the mode of vaccine delivery, and community and social factors were all found to be part of the framework within which vaccination is accepted in Australia. Consumer considerations, media influences and overseas comparisons were discussed. *Commun Dis Intell* 2000;24:51-53.

Keywords: vaccination, immunisation, uptake, social, behavioral, demographic

Introduction

As effective immunisation has led to the decline of many diseases,[1] people have become more aware of the side effects of vaccines. Most parents plan to have their children immunised; a recent Tasmanian study showed that newly delivered mothers were willing and eager to have their babies immunised, and that incomplete immunisation was primarily due to delay.[2] In industrialised countries lower vaccination uptake is associated with younger parents, single mothers, larger families, less exposure to the media, and lower socioeconomic status. In a Melbourne based study, reported barriers to vaccination included lack of detailed and balanced information, health providers not listening to or understanding mothers' concerns, service problems and concerns about minor side effects.[3] In an attempt to approach the issue of vaccination uptake in a broader way the influence of behavioural, social and demographic factors was discussed in this two-day workshop. The speakers and panel members, listed in Appendix 1, included a range of health professionals and consumers. This article summarises the key points arising from discussions at the meeting.

Discussion topics

Risk perception and decision making

Parents' beliefs influence their acceptance of vaccination, and the perception of risk is subjective. Many non-vaccinating parents believe the risk of disease is low, the risk of vaccine side effects is high, and/or vaccination is ineffective. The Melbourne based study, conducted in 1995 with 45 mothers, showed that 'complete immunisers' were fearful of the outcomes of unfamiliar diseases, and 'incomplete immunisers' considered vaccines less effective.[3] Specifically, many 'non-immunisers' were fearful of unknown/long-term side effects of vaccines, mistrusted the motives of health providers, and believed vaccination was a social experiment; they felt diet and building up general immunity were viable and safe alternatives.

Except for a few highly educated mothers who make a deliberate decision not to vaccinate, most people do not make decisions about health purely on the scientific evidence. Decision making is complex.[4] Focus group studies in western Sydney suggested that parental reactions to children's immediate distress are stronger than their feelings about later benefits from vaccination. It was proposed that this can be countered by strong commitments to vaccination, strong social support, and depictions of children suffering from diseases (for example, television advertisements of children with pertussis). In our society childhood vaccination is a cultural truism ('what every good mother does for her child') which many accept automatically, without thinking through the issues.

Parents' perception that the risk associated with vaccination could be increased when a child has a minor illness may delay vaccination. 'Overloading the child's immune system' is a common parental fear; many are concerned about the number and mix of vaccines, especially for vulnerable (for example, asthmatic) children. The perception that vaccines are dangerous, parents' belief that they can control a disease should it develop, doubts about vaccine effectiveness, and belief that doctors overstate the dangers of disease may all prevent or delay vaccination,[5] as may decisions made under conditions of uncertainty (if you are unsure of the outcome, you are less likely to make a decision).

* Detailed conference report available from authors at the above address.

Consent

Consent can be difficult, especially for overseas visitors or divided families, and the age of consent varies between States and Territories. Even if parents consent, children cannot be vaccinated unless they are willing. Adolescents are difficult to reach, and have a poor perception of risk.[6] Difficulties parents and vaccination providers have with consent forms are magnified in adolescents.

Improving uptake

Vaccination could be combined with other important preventive interventions for children. Flexible delivery modalities and the cultural appropriateness of the message are important, as is the relationship between vaccination and membership of ethnic communities. Health providers should listen to parents and treat their concerns seriously. In the past, minor illnesses were accepted as contraindications for vaccination; the change in policy and practice needs to be explained, and parents' wishes should be respected if they are not convinced that it is in the interests of their children to be vaccinated when they are sick.

Service provision

In Victoria, home vaccination of unvaccinated children identified through the Australian Childhood Immunisation Register (ACIR) was judged as cost-effective.[7] Melbourne mothers favoured maternal and child health nurses vaccinating during a well-child visit, vaccination at child-care centres and opportunistic vaccination by general practitioners and mobile vans, but opposed unspecified government incentives, or withholding some of the maternity allowance until children were fully vaccinated.[3] Tasmanian mothers felt that general practitioners should provide mother-friendly appointments and better information about procedures, benefits and reactions. Many favoured general practitioner based outreach programs, with home visits.[2]

Influence of providers

A western Sydney study found that, although parents and general practitioners preferred different regimens, 90% of parents were willing for their general practitioner to influence their decision.[8] Tasmanian[2] and Victorian[3] mothers expressed trust in health providers, whose influence has also been noted in overseas studies.[9]

Information for parents and providers

Melbourne parents felt that reliable information was one of their greatest needs, and that lack of suitable detailed information was a barrier to informed decision-making.[3] Recently, access to local publications about vaccination from the Commonwealth Department of Health and Aged Care have become more easily available on the Internet (http://immunise.health.com.au/). These are *The Australian immunisation handbook*, 6th edition (updated 7th edition available soon), *Understanding childhood immunisation*, and *Myths and realities* (which addresses specific allegations of the anti-vaccination lobby).

Most people's understanding of vaccines, vaccination and the diseases they prevent is gleaned from the printed media, but published anti-vaccination arguments may unduly influence them. However, in a review of 40 months of Australian print media coverage, only 115 of 2,440 (4.7%) articles and letters about childhood vaccination contained statements opposing vaccination.[10]

Incentives

It was found that financial incentives encouraged prenatal visits and childhood check-ups in France and Austria, and Britain used financial rewards to increase general practitioner vaccination rates.[11] In Australia, the General Practitioner Immunisation Incentive (GPII) Scheme aims to improve low vaccination rates by monetary rewards to general practitioners and by parental financial incentives.[12]

Conclusions

The Workshop's main conclusions were: (a) decision making theory suggests that people do not make scientifically rational decisions; (b) parents find difficulty assessing the risks of vaccines and the risks of diseases; (c) communication and services should be tailored to the needs of parents; (d) improving parenting skills could be combined with improving parents' health-related behaviour; (e) different strategies are required to reach adolescents and adults (rather than parents), especially high-risk adolescents; (f) incentives need evaluation; and (g) consumers must be informed about choices and services, and their views and rights should be respected.

Suggested interventions included: (a) targeting incompletely vaccinated children using the ACIR; (b) educating parents through their children; (c) providing a wider range of information packages; (d) overcoming barriers to access; (e) involving consumers; and (f) identifying gaps in behavioural research.

Overall it was agreed that people need to be able to make informed choices about health care and that some people make unusual choices, but compulsory vaccination is unacceptable. Taking account of the social context of people's lives is extremely relevant to the concerns of the health consumer movement, and extends and enriches the medical/scientific model of research, thinking and decision making. As stated in a recent study, 'It is essential that personalised strategies are developed to assist each mother to take advantage of immunisation for her child within the context of her personal socioeconomic status, cultural beliefs and life style.'[2]

Appendix 1

Workshop speakers and panel members

NCIRS: Dr Helen Achat, Mr Mark Bartlett, Professor Margaret Burgess, Dr Jill Forrest (for Dr Margaret Kilmartin, University of Tasmania), Dr Peter McIntyre

Research and Development Unit, University of Western Sydney, Macarthur: Dr Pat Bazeley, Ms Lyn Kemp

Centre for Adolescent Health, Royal Children's Hospital, Melbourne: Ms Lyndal Bond

Department of Public Health and Community Medicine, University of Sydney:
Associate Professor Simon Chapman

Centre for the Public Awareness of Science, Australian National University: Ms Cathy Frazer

Department of Evidence-Based Care and General Practice, Flinders University, South Australia:
Ms Anne Magarey

Health Issues Centre, Melbourne: Ms Merinda Northrop

Royal Alexandra Hospital for Children:
Professor Kim Oates

Australian Centre for Effective Healthcare, University of Sydney: Professor George Rubin

Parent and Family Support Centre, School of Psychology, University of Queensland:
Associate Professor Matthew Sanders

Population Health Unit, Territory Health Services, Northern Territory: Dr Sandra Thompson

Psychology Department, Flinders University, South Australia: Ms Kelly White.

References

1. Ball LK, Evans G, Bostrom A. Risky business: challenges in vaccine risk communication. *Pediatrics* 1998;101:453-458.
2. Kilmartin MR, Woodward DR, Blizzard CL, Turner K. Immunisation of babies—the mothers' perspective. *Aust Fam Physician* 1998;27Suppl1:S11-S14.
3. Bond L, Nolan T, Pattison P, Carlin J. Vaccine preventable diseases and immunisations: a qualitative study of mothers' perceptions of severity, susceptibility, benefits and barriers. *Aust NZ J Public Health* 1998;22:441-446.
4. Chen RT, Hibbs B. Vaccine safety: current and future challenges. *Pediatr Ann* 1998;27:445-455.
5. Meszaros JR, Asch DA, Baron J, Hershey JC, Kunreuther H, Schwartz-Buzaglo J. Cognitive processes and the decisions of some parents to forego pertussis vaccination for their children. *J Clin Epidemiol* 1996;49:697-703.
6. Thompson SC, Ogilvie EL, Veit FC, Crofts N. Juvenile offenders and hepatitis B: risk, vaccine uptake and vaccination status. *Med J Aust* 1998;169:306-309.
7. Bond LM, Nolan TM, Lester RA. Home vaccination for children behind in their immunisation schedule: a randomised controlled trial. *Med J Aust* 1998;168:487-490.
8. Bartlett MJ, Burgess MA, McIntyre PB, Heath TC. Parent and general practitioner preferences for infant immunisation: reactogenicity or multiple injections? *Aust Fam Physician* 1999;28 Suppl:S22-S27.
9. Taylor JA, Darden PM, Slora E, et al. The influence of provider behaviour, parental characteristics, and a public policy initiative on the immunization status followed by private pediatricians: a study from pediatric research in office settings. *Pediatrics* 1997;99:209-215.
10. Leask J-A, Chapman S. An attempt to swindle nature: press anti-immunisation reportage 1993-1997. *Aust NZ J Public Health* 1998;22:17-26.
11. Lynch ML. The uptake of childhood immunization and financial incentives to general practitioners. *Health Econ* 1994;3:117-125.
12. Achat H, McIntyre P, Burgess M. Health care incentives in immunisation. *Aust NZ J Public Health* 1999;23:285-288.