

# Immunisation education in the antenatal period

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## ABSTRACT

### Background

The antenatal period is known to be an important time for parents' decision-making around immunisation. Historically parents have discussed immunisation issues within the general practice environment. However with most antenatal and early postnatal care now occurring outside the general practice, many parents now have little contact with the general practice. Other antenatal avenues for education are now likely to be their only source of information. There is no definitive research on what information is being disseminated to parents on this topic.

### Aim

This study aimed to determine what immunisation literature is provided to parents in antenatal education classes in Central Auckland.

### Methods

This small study involved 40 parents recruited from visits to a large Auckland maternity hospital. They were asked a range of questions on what sources of immunisation information they were given in antenatal classes and on their decision-making processes.

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### Results

Thirty-four (85%) recalled receiving immunisation information during antenatal classes. Twenty-one parents (52%) did not feel they had enough information with which to make a decision, and of the identifiable sources of information given out, nearly half (7/15) included known anti-immunisation literature. Overall, two-thirds considered themselves very likely to immunise, but only one-third felt confident about their decision.

### Key Message

Immunisation education needs more focus in the antenatal education arena and provision of anti-immunisation material is inappropriate to support decision-making processes for parents, which needs to be based on reliable, quality information.

### Key words

Immunisation, parenting education, attitudes

(*NZFP 2004; 31: 303–306*)

## Background

New Zealand (NZ) children continue to suffer the effects of vaccine-preventable disease because immunisation coverage rates remain insufficient to effectively control disease outbreaks, particularly of pertussis disease.<sup>1,2</sup>

Education alone is unlikely to improve immunisation uptake. However, it is frequently cited as a key element in an overall strategy to improve immunisation coverage.<sup>3,4</sup> International evidence cites critical barriers to immunisation uptake. Strategies to overcome this include support for families to ensure they

are aware of the importance of vaccines, parents' knowledge of when immunisations are due and the importance of the timing of vaccinations.<sup>5</sup> Also, the knowledge of health professionals on immunisation has a significant impact on immunisation uptake among their patients.<sup>4,6–9</sup>

Recent NZ research highlights considerable gaps in both the public<sup>10</sup> and professional knowledge bases,<sup>11</sup> particularly those working in the antenatal arena.<sup>6</sup> Fear of immunisation is also a big concern for NZ parents.<sup>12</sup> Historically, lack of understanding of science within the community has

translated into loss of confidence in immunisation programmes and poor uptake of vaccines. Graphic examples of this are when the media takes up a specific issue leading to sudden loss of confidence and resultant epidemic outbreaks. This was tragically shown in the 1980s with the whooping cough outbreaks internationally<sup>13</sup> and, more recently with the MMR vaccine/autism fears and measles and mumps outbreaks in the United Kingdom.<sup>14</sup>

The decisions around immunisation can be extremely difficult for parents. With a wide range of frequently conflicting information now

available through multimedia sources, the antenatal period is a critical time for parental decision-making processes. NZ data has shown that nearly 90% of mothers make their decision on immunisation in the antenatal period.<sup>15</sup>

In the past, parents are likely to have discussed immunisation issues within the general practice. Significant changes in the way antenatal services are purchased since 1996 has resulted in the majority of pregnant women now having little, if any, contact with their general practice team in the antenatal period. Now the majority of parents receive their antenatal information via their Lead Maternity Carer (LMC) who is usually a midwife or an obstetrician, and via antenatal education classes. Traditionally, these groups have not been involved in immunisation service delivery, and have not been targeted in immunisation education programmes. Very little is known about antenatal education classes and the role these may or may not play in the imparting of appropriate immunisation education. There is no legislative requirement for antenatal classes to include teaching around immunisation.

There are widespread anecdotal concerns that, at times, parents have received misleading and inaccurate information at antenatal classes.

Parents attending antenatal classes are more likely to be first-time parents. The aim of this small study was to explore both the feasibility of recruiting parents during pregnancy and to ascertain what information they were given during antenatal education classes in the central Auckland region.

## Methods

Participants were parents, who had attended antenatal classes through any provider, attending a tour of the maternity unit at National Women's Hospital in Auckland. Tours are held three times a week and parents expecting to deliver at this unit are invited to attend a tour and talk about the facilities. At a convenient point during this session, the nurse educator leading the tour introduced the researcher and handed the attendees over to her. The researcher approached the group and invited parents to consent to a short telephone survey about the nature of immunisation information received during

their antenatal classes. Consenting parents were followed up within a month of their tour and a telephone questionnaire was administered.

The questionnaire was brief and consisted primarily of questions asking what information was received, whether it was enough to make a decision with, whether it was positive, negative or neutral, likelihood of immunising baby and some demographics. This study piloted the questionnaire including its ease of use over the telephone.

This study had Auckland Ethics Committee approval.

## Results

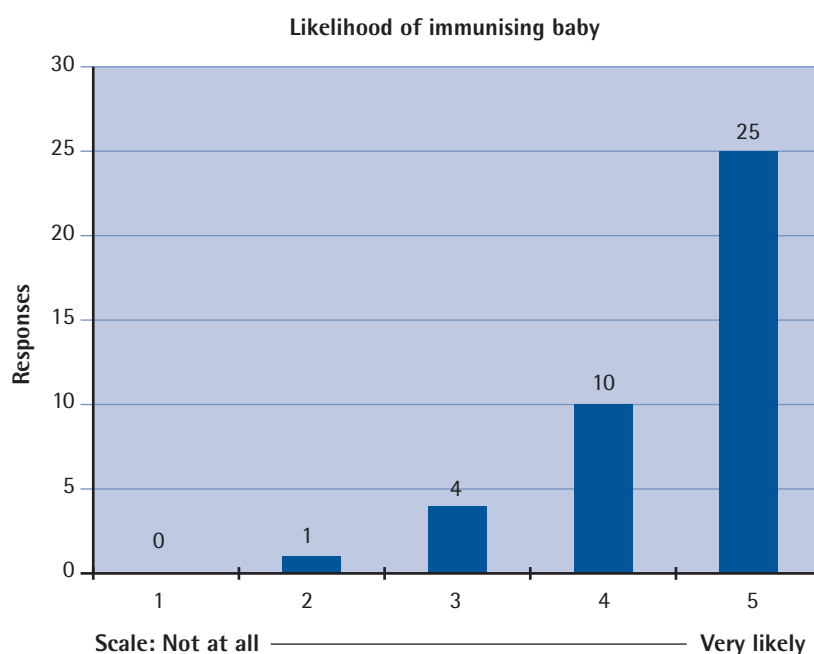
Forty-five interviewees were recruited over nine visits by the researcher. Class size varied from approximately six to 20, which included partners/support persons. Five were unable to complete the interview process due to: Hospital admission (one) and, for the other four, misunderstanding the requirement that participants needed to have attended antenatal classes (this was mainly due to English not being their first language). There were one to two refusals per group.

There were variable numbers recruited from each visit and this was in part correlated with the variable way the researcher and her purpose was presented to the group by the different educators giving the tour.

Most respondents identified as being NZ European 31 (77.5%), two (5%) were NZ Maori, seven (18%) were Pacific, Asian, Indian or UK European. No respondents were under 20 years of age, two were 20–25, thirteen (33%) were 26–30, twenty-three (57.5%) were 31–35 and two were 36–40. None were over 40 years of age. Eight (20%) had a general practitioner obstetrician, four (10%) had a hospital midwife, twenty-one (53%) had an independent midwife and seven (18%) were under a specialist obstetrician for their lead maternity care.

There was a variation in the antenatal classes attended and who ran them. Providers were Birthcare (n=10),

Figure 1. Participants stated likelihood of immunising their baby.



National Women's Hospital (n=13) and four different Parents Centres in the Auckland region (n=13). Four had attended private classes. Parents Centre and other private classes are organised by parent volunteers or by organisations that are independent of the hospitals. These may be recommended to patients by their LMC.

Thirty-four (85%) recalled receiving immunisation information during antenatal classes.

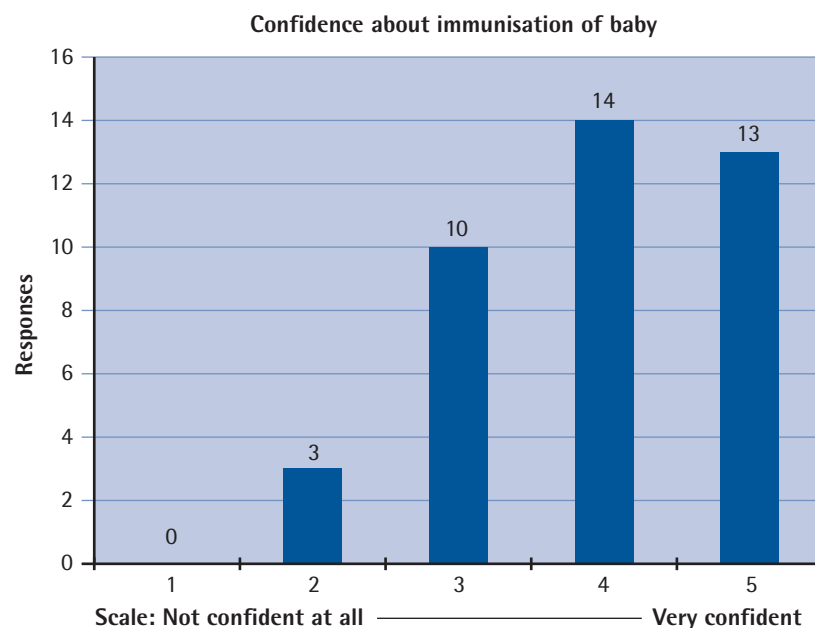
When asked whether this information was written, verbal or both: Twenty-four (60% of whole sample or 71% of sample who had received immunisation information) received both written and verbal information. Ten received written information only.

If written, respondents were asked if they could recall what they were given. There seemed to be many who found this question difficult to answer 'don't recall', 'can't remember' – and in some cases leafing through their folders to see what it was they were actually given. Ten didn't recall what they were given, eight were given Ministry of Health pamphlets only, one was given the Immunisation Awareness Society pamphlet (anti-immunisation literature) only and six were given both Ministry of Health and Immunisation Awareness material. One was given Ministry of Health plus other material, seven were given other material (not Ministry of Health or Immunisation Awareness Society) and for seven, the question was not applicable.

Participants were asked whether they felt the information they had been given was enough for them to make a decision. Nineteen respondents (48%) felt that they had been given adequate information about immunisation to make an informed choice for their baby. Twenty-one respondents (52%) felt they had not enough information with which to make a decision, (16 of these did not think they had received enough and five received nothing).

They were also asked if they felt the information received was (a) positive, (b) negative or (c) neutral to-

Figure 2. Participants stated level of confidence about immunising their baby



wards immunisation. Twelve (30%) felt that the information received was (only) positive towards immunisation. No one felt that the information was (only) negative towards immunisation. Twenty-one (53%) felt that the information received was neutral towards immunisation.

On a Likert scale from 1 (not at all) to 5 (very likely) participants ranked their likelihood of immunising their baby. No participants responded 'not at all', one respondent replied '2', four replied '3', ten replied '4' and twenty-five (63%) replied '5' very likely to immunise (Figure 1).

Confidence in immunisation was measured on a similar scale from '1' not confident at all to '5' very confident. No participants replied not all, three responded '2', ten responded '3', fourteen responded '4' and thirteen (32.5%) responded '5' – very confident about immunising their baby (Figure 2).

There was a statistically significant difference in the responses to these two questions. Although 63% of participants were very likely to immunise their baby, only 33% were very confident about it (Yates corrected ( $2=6.07$ ,  $P=0.014$ ).

## Discussion

It is difficult for many parents to make fully informed decisions around immunisation. Despite extensive scientific evidence supporting the benefits of the national scheduled immunisation programme, literature is frequently presented in the public domain that is not based around the scientific evidence and includes 'scare stories' and personal opinion. How the literature is presented around immunisation is likely to make a considerable difference to the parent's decision-making processes.

There has been concern for some time in New Zealand regarding the information about immunisation given to expectant parents during the antenatal period. Anecdotal evidence suggested anti-immunisation literature was being distributed either in combination with, or instead of, evidence-based resources. One of the problems in assessing the validity of these claims is the accessibility of parents during the antenatal period when they are attending childbirth education classes. Approaching the classes themselves would severely bias the results. We chose to recruit participants into this study through a tour of the maternity unit of a major ma-

ternity hospital where many of them were likely to be first time parents and to have attended antenatal classes through various providers.

This was a small study and the results may not be generalisable to other NZ regions, and some population groups. The study did not have sufficient numbers to compare ethnic differences or age differences and was limited to English-speaking parents with a telephone. However we recruited parents who attended classes through a range of antenatal education providers in the area under study.

Recruitment was relatively straightforward, although the researcher reported that the attitude of the individual educator giving the tour appeared to make a difference in the number of participants recruited at each visit. There are a number of staff at the hospital who give these tours and it is important to have the support of them all when undertaking this type of survey.

Not all parents had received information. Of the 34 (85%) who did, 15 (44%) had literature that was identifiable such as Ministry of Health

pamphlets and of these, seven (20%) had received literature known to be anti-immunisation either as well as Ministry pamphlets or alone. Over half of those surveyed did not feel they had been given adequate information with which to make a decision.

There was also an important difference between the likelihood of immunising and the level of confidence in immunising baby. This finding is supported by studies that identify parental fear as an important factor in both parent views on immunisation and immunisation uptake, even among parents who fully immunise their baby.<sup>10,12</sup>

While numbers from this study are small the key findings are concerning.

As it is known that immunisation decision-making occurs, in most instances, in the antenatal arena and parents have a great deal of fear and concerns around the decision, it is urgent and timely to focus more resources and attention on antenatal education. During the antenatal period, there is information provided to parents on a variety of subjects that are important once the baby is born, such as modes

of feeding, vitamin K and immunisation. However, this period and shortly after birth are the only opportunities to present information on immunisation issues before the six-week check.

Parents may perceive that literature received from a health professional containing opposing statements is balanced and has equal scientific validity. Furthermore, as immunisation decision-making needs to be based on rigorous science it is unacceptable that education programmes include information that is both misleading and inaccurate.<sup>16</sup> Education programmes need to conform to high standards of quality material to give parents a fair chance of making genuinely informed decisions.

Based on the findings from this small study we recommend further research in this area.

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### References

- Grant CC. Controlling pertussis in New Zealand by improving our immunisation rate. *New Zealand Medical Journal* 2000; 113(1111):228–30.
- Sneyd E and Baker M. Infectious diseases in New Zealand: 2002 Annual surveillance summary. Wellington: Environmental Science and Research Ltd (ESR); 2003.
- Turner N et al. Improving immunisation coverage: what needs to be done. *New Zealand Public Health Report*, 2000. 7(3/4): p. 11–14.
- Briss PA, Rodewald LE, Hinman AR, Shefer AM, Strikas RA, Bernier RR, Carandekulis VG, Yusuf HR, Ndiaye SM, Williams SM. Reviews of evidence regarding interventions to improve vaccination coverage in children, adolescents, and adults. *American Journal of Preventive Medicine* 2000; 18(1):97–140.
- Anonymous. Strategies to sustain success in childhood immunisations. The National Vaccine Advisory Committee. *Jama* 1999; 282(4):363–70.
- Jellyman T and Ure A. Attitudes to immunisation: a survey of health professionals in the Rotorua District. *New Zealand Medical Journal* 2004; 117(1189).
- Smith SW et al. Immunization practices and beliefs of physicians in suburban Cook County, Illinois. *Journal of Community Health* 1999; 24(1):1–11.
- Zimmerman RK et al. Barriers to measles and pertussis immunisation: the knowledge and attitudes of Pennsylvania primary care physicians. *American Journal of Preventive Medicine* 1997; 13(2):89–97.
- Zimmerman RK et al. A national survey to understand why physicians defer childhood immunisations.[comment]. *Archives of Pediatrics and Adolescent Medicine* 1997; 151(7):657–64.
- Petousis-Harris H, Turner N and Kerse N. New Zealand mothers' knowledge of and attitudes towards immunisation. *NZFP* 2002; 29 (August 2002):240–246.
- Petousis-Harris H et al. Family physician perspectives on barriers to childhood immunisation. *Vaccine*. In press.
- Petousis-Harris H et al. Barriers to childhood immunisation among New Zealand mothers. *NZFP* 2002; 29(6):396–401.
- Gangarosa EJ, GA, Wolfe CR, Phillips LM, Gangarosa RE, Miller E, Chen RT. Impact of anti-vaccine movements on pertussis control: the untold story. *The Lancet* 1998; 351(January 31):356–360.
- Jefferson T. Real or perceived adverse effects of vaccines and the media – a tale of our times. *Epidemiol Community Health* 2000; 54:402–403.
- Wroe AL, Turner N and Salkovskis PM. Understanding and predicting decisions about early childhood immunisations. *Health Psychology*. In press.
- Petousis-Harris H. A critique by the Immunisation Advisory Centre (IMAC) of the Immunisation Awareness Society pamphlet: 'What's all the fuss about?' in Immunisation Advisory Centre. Auckland; 2003.