

Knowledge, attitudes and practices regarding influenza vaccination among parents of infants hospitalised for acute respiratory infection in Australia

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Introduction

Parental vaccination behaviours are generally established in their child's first 6 months of life.¹ This age is also when children have greatest risk of influenza hospitalisation, followed by those aged 6–23 months.² Influenza vaccination during pregnancy provides partial protection to infants up to age 6 months, from which time it is recommended they receive influenza vaccination. However, in 2019, only 40% of children aged 6–59 months received an influenza vaccine, despite fully funded state-based programs across Australia.³ We sought to examine knowledge, attitudes and practices among the parents of infants hospitalised with acute respiratory infection regarding influenza vaccination and disease. Doing so highlights where strategies could be implemented to prepare parents for influenza vaccination when their child reaches the age at which they are eligible.

Methods

Invited participants comprised parents of 297 children younger than 6 months hospitalised in 2019 for acute respiratory infection (\pm laboratory-confirmed influenza) in five sites in the Paediatric Active Enhanced Disease Surveillance (PAEDS) national network.⁴ The five sites were in New South Wales, Northern Territory, Queensland, South Australia and Western Australia. We sent parents an SMS invitation to an online KAP (Knowledge, Attitudes and Practices) survey that we developed⁵; questions were guided by in-depth interviews with a similar cohort.⁶

Ethics

This study was approved by the Sydney Children's Hospital Network Human Research Ethics Committee (HREC/18/SCHN/207) and the Northern Territory Department of Health and Menzies School of Health Research (HREC-2017-2775).

Results

Of the parents invited to take part, 99 responded (33%) and 88% (87/99) of those completed the survey. Only one survey was completed during the child's hospitalisation; the median number of days after hospital discharge that parents participated in the survey was 15.

Sixty percent (52/87) were aged 18–35 years, 70% (61/87) had 1–2 children, 59% (51/87) were university educated, and 32% (28/87) resided in the two least disadvantaged postcode deciles. English was spoken in 84% (73/87) of homes. Most participants (93%) were the children's mothers (81/87), followed by fathers (6%, 5/87) and one legal guardian (1%). Eighty-three percent (72/87) of children did not have pre-existing medical conditions, and 43% (37/87) were laboratory-confirmed influenza-positive.

In their most recent pregnancy, 54% of mothers (44/81) self-reported receiving influenza vaccine and 89% (72/81) pertussis vaccine. Furthermore, in their most recent pregnancy, 57% (46/81) of mothers reported asking friends and family to get vaccinated against influenza, and 80% (65/81) asked friends and family to be up to date with pertussis vaccination.

Parents were less hesitant about childhood vaccination in general compared with influenza vaccination of children, with 69% (60/87) being "not at all hesitant" about childhood vaccination in general compared to 52% (45/87) being "not at all hesitant" about influenza vaccination of children (Table 1). Although 79% (69/87) were supportive of influenza vaccination of children, some parents held concerns about influenza vaccine safety, necessity and efficacy (Table 1).

Children's personal health record books, known as the 'Blue Book' in some states, were the most cited (40/87, 46%) resource used for vaccine information. To our knowledge, only two out of all eight Australian jurisdictions' books in 2019 indicated that influenza vaccination was recommended for children aged 6 months and older.

Parents were trusting of authorities: 82% trusted government intentions, 77% trusted pharmaceutical company intentions, 95% follow their doctor's advice and 87% trusted that their healthcare provider (HCP) would advise about influenza vaccination (Table 1). Twenty percent (17/87) had already received an influenza vaccination recommendation from an HCP prior to their child's hospitalisation and thus prior to their child being age-eligible for vaccination (≥ 6 months), however only 36% (31/87) had received an HCP recommendation

Table 1. Knowledge, attitudes and support regarding influenza disease and vaccination, among parents of children aged <6 months hospitalised for acute respiratory infection ($N = 87$)

Knowledge, attitude or practice	<i>n</i>	%
Degree of hesitancy about influenza vaccination of children		
Very hesitant	2	2
Somewhat hesitant	10	11
Not too hesitant	30	34
Not at all hesitant	45	52
Degree of hesitancy about childhood vaccination in general		
Very hesitant	1	1
Somewhat hesitant	3	3
Not too hesitant	23	26
Not at all hesitant	60	69
Level of support for influenza vaccination of children		
Oppose	4	5
Neutral	14	16
Support	69	79
Level of support for childhood vaccination in general		
Oppose	2	2
Neutral	4	5
Support	81	93
Believes that influenza vaccination protects children from influenza disease		
No	3	3
Neutral	12	14
Yes	72	83
Believes that influenza vaccination can cause influenza in some people		
No	35	40
Neutral	19	22
Yes	33	38
Is concerned about the influenza vaccine ingredients		
No	44	51
Neutral	24	28
Yes	19	22
Believes the need for influenza vaccination is reduced if children have healthy diet/lifestyle		
No	58	67
Neutral	13	15
Yes	16	18
Believes that having the influenza vaccine is more of a risk for children than influenza disease		
No	64	74
Neutral	15	17
Yes	8	9

Table 1 (cont.) Knowledge, attitudes and support regarding influenza disease and vaccination, among parents of children aged <6 months hospitalised for acute respiratory infection (N = 87)

Knowledge, attitude or practice	n	%
Perception of how severe influenza disease is in children		
Slightly severe	2	2
Moderately severe	13	15
Very severe	25	29
Extremely severe	47	54
Trusts that governments make decisions in children's best interest with respect to what vaccines are provided		
No	6	7
Neutral	10	11
Yes	71	82
Trusts that pharmaceutical companies care about children's health		
No	7	8
Neutral	13	15
Yes	67	77
Generally follows doctor's recommendations		
No	2	2
Neutral	2	2
Yes	83	95
Trusts that healthcare providers will advise about influenza vaccination		
No	3	3
Neutral	8	9
Yes	76	87
Received an influenza vaccination recommendation from an HCP prior to child's hospitalisation		
Yes	17	20
No	70	80
Received an HCP recommendation for future influenza vaccination during or following child's hospitalisation		
Yes	31	36
No	56	64

HCP = Healthcare professional including general practitioner, nurse, medical specialist or pharmacist

for future influenza vaccination during or following their child's hospitalisation. This is a missed opportunity for encouraging parents to vaccinate their at-risk children when they become age-eligible for the vaccine.

Discussion and conclusion

Although our study has some limitations, mostly in relation to representativeness as well as a low response rate, our

results emphasise the need for HCPs to advise parents when they attend consultations for antenatal or early infant vaccines that children aged 6 months and older can receive influenza vaccines. There are competing priorities to discuss in these consultations, however not all parents have decided about childhood vaccination by the time their child is born.⁷ Therefore, the period from birth to 6 months is vital to help parents understand the importance of influenza vaccination. Furthermore, given that parents had concerns about influenza vaccination, and were more hesitant about influenza vaccination than routine vaccination, provision of more specific information is warranted. It has been previously suggested that parents may be more hesitant about influenza vaccination due to concerns about vaccine effectiveness, rather than the safety profile.⁸ Information tailored to address concerns specifically about child influenza vaccination could be included in the child's personal health record book, alongside the update in national policy as of 2020 that all children aged 6–59 months can receive a free annual influenza vaccine through the National Immunisation Program.⁹

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Peer review and provenance

Externally peer reviewed, not commissioned.

Competing interests

None declared.

Author contributions

SC, JL and KM were responsible for the study design. SC was responsible for data acquisition, data and drafting of the manuscript. All authors contributed to the interpretation of data and reviewing the manuscript.

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