

Vaccine hesitancy in the antenatal period a cross-sectional survey ¹

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¹. Corben P, Leask J. Vaccine hesitancy in the antenatal period: a cross-sectional survey. *BMC Public Health* 2018, 18(1):566

"Vaccination Decision Journeys"

- Primary aim
 - To gain a better understanding of parents' experiences making childhood vaccination decisions during pregnancy and up until baby is 6 months old.
- Secondary aims:
 - describe antenatal vaccination attitudes, beliefs and intentions of expectant parents on the NSW North Coast
 - compare antenatal vaccination intentions and vaccination actions

Methods

- Women attending antenatal clinics in 6 north coast hospitals completed a 10-minute survey;
- 42 questions in survey including items seeking
 - vaccination attitudes, intentions and actions
 - vaccination hesitancy (item from PACV¹)
 - stage of decision-making (O'Connor)
 - decisional-conflict (O'Connor)
 - basic demographics
- For consented children, immunisation status assessed using AIR
- Approved by NSW North Coast HREC (LNR116)

Opel DJ et al. Development of a survey to identify vaccine-hesitant parents: The parent attitudes about childhood vaccines survey. *Human Vaccines* 2011, 7(4):419-425

Some definitions...

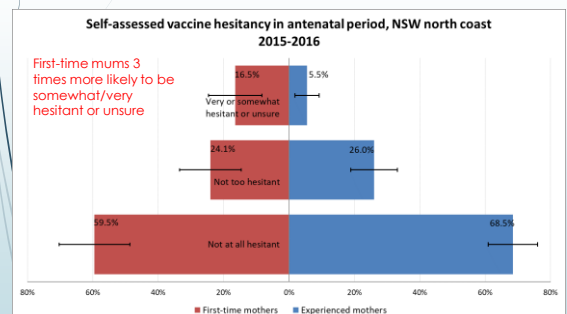
- Vaccine hesitancy (Larson et al¹)
 - "a delay in acceptance or refusal of vaccination despite availability of vaccination services"
- Decisional conflict (O'Connor²)
 - "a state of uncertainty about a course of action"
 - may be characterised by "verbalized uncertainty about choices, verbalization of the undesired consequences of alternatives; vacillation between choices, and delayed decision making."

1. Larson HJ et al. Measuring vaccine hesitancy: the development of a survey tool. *Vaccine*. 2015.
2. O'Connor AM. User Manual - Decisional Conflict Scale - (16 item statement format). 2010 Update ed. Ottawa: Ottawa Hospital Research Institute; © 1993; 2010.

Results: Attitudes, intentions, antenatal actions

- 231 respondents, (~5.9% of deliveries); 35% first-time mothers
- 80% strongly supported vaccination
- Vaccination intention: 95.1% planned to have all rec. vaccines:
 - 42.5% no concerns
 - 50.4% few or minor concerns
 - 2.2% lots concerns
- Hesitancy (5 point Likert scale – from PACV):
 - 65.3% 'not at all'; 25.3% 'not too hesitant';
 - 3.6% 'unsure', 3.6% 'somewhat' and 2.2% 'very hesitant'
- Experienced (multiparous) mothers
 - 7.5% ever delayed & 3.5% ever did not vaccinate for reasons other than allergy or illness

Vaccine hesitancy by parity



Vaccine hesitancy - impact

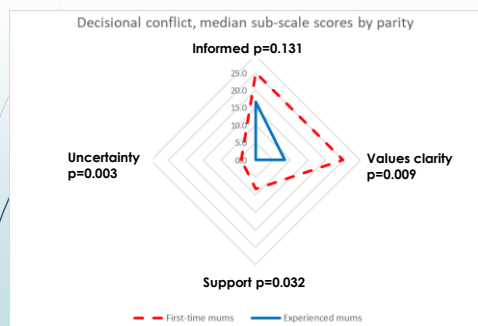
- "not too" hesitant mums were 8 times more likely than "not at all hesitant" mums to have a few or lots of concerns (amongst those who wanted bub to receive all vaccines)
- Hesitant experienced mums were 9 times more likely to have
 - ❖ ever delayed or
 - ❖ ever decided against having vaccine
- for reasons other than illness or allergy
- Any hesitancy → 45% lower odds of planning/having flu vaccination (OR=0.55, 0.32-0.95), but no difference for planning/having pertussis vaccination.

Decision-making

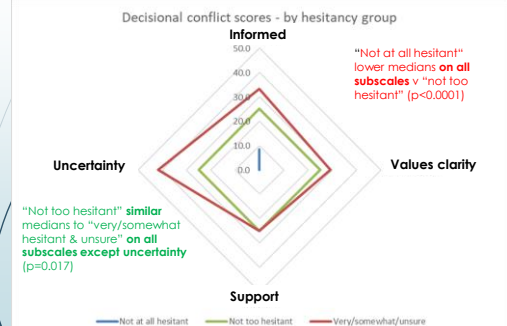
- Stage of decision (O'Connor*)
 - Overall 80.7% decided & unlikely to change
 - Plus 7.9% decided but willing to reconsider
- First-time mums
 - Less likely to have made a decision (77.5% v 94.5%, $p<0.001$)
 - T2 – 35.5% undecided vs 5.8% multiples ($p<0.002$)
 - T3 – 14.9% undecided vs 4.4% multiples ($p<0.009$)

* O'Connor AM: User Manual - Stage of Decision Making, vol. 2003.

Decisional conflict – by parity



Decisional conflict & hesitancy



Immunisation outcomes

- 100 women (43.7%) consented to follow-up
- 83.2% bubs fully vaccinated within 30 days of recommended date + further 12.1% fully vaccinated with minor delay
- No difference in timeliness on basis of parity or self-assessed hesitancy
- Those with no concerns or only a few minor concerns were > 8 times more likely to vaccinate on schedule than others (OR=8.7, 1.3 - 56.7)

Summary of findings

- **One-in-four** mums very or somewhat concerned about vaccine safety, about serious side effects, about effectiveness
- **35%** of all respondents had some level self-assessed hesitancy
- **Any** level of self-assessed hesitancy
 - 14 times more likely concerned about safety
 - 16 times more likely concerned about side-effects
 - 6 times more likely concerned about effectiveness
 - 9 times more likely to delay or refuse vaccine for reasons other than illness or allergy
- **First time mums...**
 - 15% still undecided in T3;
 - Significantly higher decisional conflict on 3 of 4 sub-scales
 - 5 times more likely to be unsure of balance of risks & benefits
 - 3 times more likely feel somewhat/very hesitant or unsure

Implications

- Unresolved concerns feed hesitancy & may result in vaccination delay or refusal
- Need robust & simple tools for use in busy clinical settings to **identify** hesitant parents & effective resources to **resolve** parents' concerns
- Study provides further strong justification to talk with women about vaccination during pregnancy where indicated, especially **first time mums**
- **key role for midwives** in engagement & education
 - Eg MumBubVax project led by Margie Danchin MCRI and Jane Frawley's work shared with COSSI network
- Further research - focus on **optimising** the timing, content and delivery style of perinatal interventions.

Acknowledgments

- Women who completed the survey and allowed us to follow their child's vaccinations
- Midwives and admin staff of north coast antenatal clinics who helped distribute and collect completed surveys
- Colleagues who stuffed envelopes and checked AIR records
- My co-author and PhD supervisor, Julie Leask