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Why do we not want to recommend influenza vaccination to young children? A qualitative study of Australian parents and primary care providers

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ABSTRACT

Introduction: Influenza vaccination has been shown to be safe and effective against influenza and in the prevention of complicating secondary respiratory illnesses. However, its uptake in young children remains low. This study explored the views, attitudes and practices of parents and primary care providers (PCPs) on their knowledge and acceptance of influenza vaccination in children under 5.

Methods: Using a cross-sectional qualitative research design, we conducted 30 in-depth interviews with PCPs (i.e., general practitioners, practice nurses, maternal and child health nurses, and pharmacists) and five focus groups with parents (n = 50) between June 2014 and July 2015 in Melbourne, Australia. Data were thematically analysed.

Results: Parents thought the vaccine could cause influenza, and influenza vaccination was not necessary for their children as they needed to build their own 'immunity'. Parents said that they would consider vaccinating their children if recommended by their GP and if the influenza vaccine was part of the immunisation schedule. PCPs also expressed concerns regarding the efficacy of the vaccine as well as out-of-pocket costs incurred by families, and uncertainty regarding the mortality and morbidity of influenza in otherwise healthy children. However, they said they would recommend the vaccine to high-risk groups (e.g. children with chronic disease(s), and asthma).

Conclusion: Despite the established safety of influenza vaccines, barriers to uptake include concerns regarding the iatrogenic effects of vaccination, its administration schedule, and knowledge of influenza severity. Updated information on influenza and the efficacy of the vaccine, and incorporating influenza vaccination into the immunisation schedule may overcome some of these barriers to increase influenza vaccination in this vulnerable cohort.

1. Introduction

Globally, influenza is associated with up to 500,000 deaths annually [1] and young children (those <5 years) are particularly vulnerable. In Australia, the highest influenza notification rates occur in the age group of 0–4 years (98 per 100,000 population compared with a total rate of 39 per 100,000 population for all notifications) [2], and cause substantial burden on paediatric hospital services [3,4]. A recent study in England found that healthy children <5 had the highest influenza hospital admission rate of 1.9 per 1000, in particular, infants under 6 months had the highest consultation and admission rates of influenza [5]. Despite the higher rates of influenza reported in children, expert consensus is that this figure is an underestimate as virological confirmation is not universally performed in young children [6].

Influenza vaccines have been shown to be effective against seasonal influenza [7–11] and to reduce overall healthcare costs [12]. However, a study in Western Australia (WA) showed a significant decrease in the uptake of influenza vaccine in the <5 cohort in recent years (42% in 2008–2009 to 7.1% in 2010–2014) [10]. Arguably one of the biggest setbacks to the promotion and uptake

Abbreviations: COM-B, Capability, Opportunity, Motivation – Behaviour; FG, focus group; GP, general practitioner; MCHN, maternal and child health nurse; PCP, primary care provider; PN, practice nurse; RTIs, respiratory tract infections; TDF, theoretical domains framework; WA, Western Australia.

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of influenza vaccination in young children in Australia occurred in 2010 when the Therapeutic Goods Administration (TGA) received 123 reports of convulsions in children following their flu injection from WA [13]. Although neither severe morbidity nor mortality was associated with this incident, there was widespread negative media coverage leading to confusion over the efficacy and side effects of influenza vaccines in the <5 age group [14]. Moreover, the WA incident underscored that complications associated with vaccines cannot be downplayed as experiencing these iatrogenic effects can be a traumatic experience for parents of young children and a key barrier to the uptake of the influenza vaccination [14].

In addition to negative publicity and community uncertainty around influenza vaccination, cost of vaccination maybe an issue, because Australia is one of few developed countries where influenza vaccination is only publicly funded for children with co-existing risk factors (i.e. chronic diseases and asthma). However, other countries where influenza vaccination is publicly funded for all children have showed that influenza vaccination in this cohort is still less than optimal [15–17]. Overseas research from countries including the United States and in Europe and the United Kingdom, have reported many barriers to vaccination uptake including; fear of vaccine side-effects [18], missed opportunities (e.g. vaccine-eligible children seen by a physician but no vaccine being administered) [19–21], physicians not recommending the vaccines [22,23], parental beliefs that influenza vaccination causes the disease [24,25], parental concerns that vaccinations are painful, distrust of those advocating vaccines, beliefs that vaccination is not needed when it is only a minor illness [26–28], poor communication between health care professionals, and parents' lack of awareness of the vaccination schedule [26].

Interventions can play an important role in facilitating the increased uptake of the influenza vaccine in this cohort, both for parents and primary care providers (PCPs). However, the views of PCPs and parents in Australia regarding influenza vaccines remain unclear. A clear understanding of the factors that influence PCPs' decisions to recommend influenza vaccination and parents' barriers to the uptake of influenza vaccination may facilitate the design of more robust interventions and overcome existing barriers. Therefore, the aim of our study was to examine the views, attitudes and practices of PCPs and parents of young children regarding influenza vaccination for children <5.

2. Materials and methods

2.1. Study design

We utilised a qualitative cross-sectional design comprising semi-structured interviews with 30 PCPs and focus group discussions with 50 parents and carers of young children to explore their views, knowledge and attitudes towards influenza vaccination in children <5 years of age. The Theoretical Domains Framework (TDF) [29] and its derivative, the Capability, Opportunity and Motivation (COM-B) model [30] were used to guide interviews and discussions, and informed the analysis of the study, as reported in a previous study [31]. Questions regarding knowledge, uptake, understanding of influenza and the vaccine, advice on recommending influenza vaccine to children <5 and the barriers and enablers to uptake of influenza vaccine reflected the domains in the TDF (Table 1). For validity, interview questions were piloted with two general practitioners (GPs), one practice nurse (PN), one maternal and child health nurse (MCHN) and one pharmacist, and focus group questions were piloted with two parents of children <5. Data from the pilot were not included in the final analysis.

2.1.1. PCP interviews

PCPs were recruited across metropolitan Melbourne, Australia. The contact details of GPs and PNs were generated from an existing general practice database at Monash University (Melbourne, Australia). Contact details for MCHNs and pharmacists were generated from the Maternal Child Health services website [32] and the local business directory, respectively. Recruitment was limited to one PCP per practice site.

Interviews (approximately 1 h long) were conducted between June 2014 and January 2015 by RB at the PCPs' work place or at a place convenient to the PCP during practice hours. All participants gave written consent before the interview commenced, and were provided with a gift voucher valued at AUD$120 upon completion.

2.1.2. Parent focus groups

Five focus groups were conducted across metropolitan Melbourne, Australia. Advertisements for the study with contact details of the researcher were sent to playgroups and mothers' groups to recruit parents and carers. For validity of the focus group, a minimum of six parents and carers were recruited per focus group.

Focus groups (approximately 1 h long) were conducted between October 2014 and July 2015 by RB at the play group centres or at the scheduled mothers' group meetings. All participants gave written consent and completed a brief questionnaire on current knowledge and management of respiratory tract infections in young children before focus group discussions began and were provided with a gift voucher (AUD$40) upon completion.

2.2. Data analysis

Interviews and the focus group discussions were digitally recorded and transcribed verbatim. Data were analysed using a thematic approach [33] to provide a flexible approach to identify, analyse and report themes or patterns within the data. Initially, two researchers (RB and BB) read three transcripts independently to generate initial codes and themes, which were then compared and refined until consensus was reached. A further three transcripts were coded using the schemata and this process was repeated, three transcripts at a time, to incorporate emerging themes, until all transcripts were coded. Data were matched to the domains within the TDF and mapped to the COM-B system. Data were managed using NVivo10. Study approval was obtained from the Monash University Human Research Ethics Committee (CF14/1384 – 2014000648).

3. Results

A total of 30 PCPs comprising 20 GPs, two PNs, three MCHNs and five pharmacists, and 50 parents and carers participated in the study. Participant characteristics are presented in Tables 2 and 3. PCP interviews and parents focus groups were analysed and results have been presented together where similar, with differences highlighted where present.

Themes were broken down into capability, opportunity and motivation aligning with the TDF/COM-B model (Fig. 1). In terms of capability, understanding and having the knowledge about influenza and influenza vaccination was an important factor as to whether PCPs and parents would consider recommending influenza vaccination in this cohort. Environmental constraints such as lack of consultation time to discuss influenza vaccination, and the cost of the vaccine were factors that limited opportunities for vaccine uptake. Social influences such as negative publicity were additional opportunity constraints. Finally, emotional decisions

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