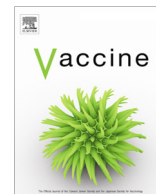




Contents lists available at ScienceDirect

Vaccine

journal homepage: www.elsevier.com/locate/vaccine

Measuring vaccine acceptance among Canadian parents: A survey of the Canadian Immunization Research Network

Eve Dubé^{a,b,c,*}, Dominique Gagnon^b, Manale Ouakki^b, Julie A. Bettinger^d, Holly O. Witteman^{e,f}, Shannon MacDonald^{g,h}, William Fisher^{i,j}, Vineet Saini^{k,l}, Devon Greyson^d, on behalf of the Canadian Immunization Research Network¹

^a Département de médecine sociale et préventive, Université Laval, Québec, Québec, Canada

^b Maladies infectieuses, Institut national de santé publique du Québec, Québec, Québec, Canada

^c Maladies infectieuses et immunitaires, Centre de recherche du CHU de Québec – Université Laval, Québec, Québec, Canada

^d Vaccine Evaluation Center, BC Children's Hospital, and University of British Columbia, Vancouver, British Columbia, Canada

^e Département de médecine familiale et de médecine d'urgence, Université Laval, Québec, Québec, Canada

^f Santé des populations et pratiques optimales en santé, Centre de recherche du CHU de Québec – Université Laval, Québec, Québec, Canada

^g Nursing Faculty, University of Alberta, Edmonton, Alberta, Canada

^h Department of Pediatrics, University of Calgary, Calgary, Alberta, Canada

ⁱ Department of Psychology, University of Western Ontario, London, Ontario, Canada

^j Department of Obstetrics and Gynaecology, University of Western Ontario, London, Ontario, Canada

^k Department of Production Animal Health, University of Calgary, Calgary, Alberta, Canada

^l Alberta Health Services, Calgary, Alberta, Canada

ARTICLE INFO

Article history:

Received 5 May 2017

Received in revised form 17 November 2017

Accepted 1 December 2017

Available online xxxx

Keywords:

Vaccination

Knowledge

Attitudes

Behaviours

Parents

Survey

ABSTRACT

Parental decision making about childhood vaccinations is complex and multidimensional. There is a perception that the number of parents having concerns regarding childhood vaccinations has been increasing in Canada. The aim of this study was to explore vaccine hesitancy among Canadian parents and to examine factors associated with a parent's intention to vaccinate his/her child. Informed by the Theory of Planned Behaviour (TPB) this study assesses potential associations between parents' knowledge, attitudes and beliefs toward vaccination and their intention to vaccinate their child in the future. A national sample of Canadian parents of children aged 24–59 months (N = 2013) was surveyed using an online survey methodology. Half of the surveyed parents strongly intended to have their child vaccinated in the future. Parents' information needs and searches as well as parents' trust in different institutions were associated with intention to vaccinate. Parents who reported having frequently looked for vaccine information, who considered that it was their role as parents to question vaccines, or who had previously experienced difficulty accessing vaccination services were less likely to strongly intend to vaccinate their child in the future. Parents who had a high level of trust in doctors and public health were most likely to strongly intend to vaccinate their child. Results of the multivariate analysis showed that positive attitudes (aOR = 8.0; 95% CI: 6.0, 10.4), higher perceived social support (aOR = 3.0; 95% CI: 2.3, 3.93), and higher perceived behavioural control (aOR = 1.8; 95% CI: 1.4, 2.43) were associated with parents' intention to vaccinate their child. Findings of this study suggest that trust-building interventions that promote pro-vaccine social norms and that address negative attitudes toward vaccination could enhance vaccine acceptance among Canadian parents.

© 2017 Published by Elsevier Ltd.

* Corresponding author at: 2400 d'Estimauville, Québec, Québec G1E 7G9, Canada.

E-mail address: eve.dube@inspq.qc.ca (E. Dubé).

¹ Membership of the Canadian Immunization Research Network is provided on the network's website.

1. Introduction

Vaccines are uniformly regarded as among the greatest public health achievements, yet an increasing number of parents are delaying vaccination or are refusing one, many, or all vaccines for their child [1,2]. The concept of “vaccine hesitancy” is now widely used in the scientific and medical literature. The Strategic Advisory

Group of Experts (SAGE) Working Group on Vaccine Hesitancy has defined vaccine hesitancy as being “delay in acceptance or refusal of vaccines despite availability of vaccine services. Vaccine hesitancy is complex and context specific varying across time, place and vaccines” [3]. While most Canadian parents choose to vaccinate their child against vaccine preventable diseases, recent surveys show that a proportion of them are sceptical about vaccine safety, are not convinced by the science of herd immunity and hesitate to have their child vaccinated [4,5].

In the absence of fully functional pan-Canadian immunization registry linked with data on knowledge, attitudes and beliefs, there is limited ability in Canada to assess the association between increased vaccine hesitancy and decreases in vaccine uptake rates [6]. Without validated measures of vaccine hesitancy, it will remain very challenging to identify vaccine-hesitant individuals, measure the prevalence of vaccine hesitancy, map the relation between vaccine hesitancy and vaccine uptake, and monitor the situation over time.

Effective strategies to address vaccine hesitancy are crucially needed to ensure and sustain the success of Canada’s vaccination programs [7]. Only with a better understanding of the underlying determinants of vaccine hesitancy and acceptance can we effectively design tailored interventions. In this context, we have surveyed a national sample of Canadian parents of children aged 24–59 months using an online survey to examine factors associated with parental intention to vaccinate. Our survey was informed by the Theory of Planned Behaviour (TPB). According to the TPB, intention is determined by positive attitudes toward a specific behaviour, the approval of significant others (subjective norms) and a perceived personal control over the behaviour (perceived behavioural control) [8]. The TPB (in its original version or in modified versions) has been shown to predict intention to adopt various health behaviours, including the intention to be vaccinated [9–14]. As discussed in Schmid et al. in their review of barriers of influenza vaccination intention and behaviour, the predictive power of TPB could be further increased by integrating concepts of risk perception, past behaviour, knowledge, and experience into the model [15].

2. Methods

2.1. Study population

The target population included all Canadian adults, able to read English or French, who were parents or caregivers of at least one child aged 24–59 months of age, had access to the Internet and agreed to participate in panel research. This group was targeted in order to assess immunization status at 24 months of age when all infant vaccines should have been received (the last visit is at 18 months of age in Canada), but prior to completion of the later childhood vaccines. To limit recall bias, only parents of children younger than 5 years of age were included. Participants completed the survey for their youngest child between 24 and 59 months of age. To obtain precise estimates ($\pm 2\%$) for each variable, sample size was estimated conservatively at 2100 parents.

2.2. Data collection

Data collection was facilitated by Leger, a market research and polling firm that maintains a national panel of 400,000 individuals across the 10 Canadian provinces (northern territories were excluded). Their panel is benchmarked to known Census targets, such as age, region, income, and education, to ensure a representative sample of the Canadian population. Their panel also includes people of diverse demographic profiles for all Canadian provinces, making it feasible to effectively target specific participants [16].

Leger panelists received a dollar incentive based on the number and length of each survey they complete. Data collection occurred from the 14th to 29th of March 2015. E-mail invitations and reminders to complete a ~15 min survey about childhood vaccination were sent until a sample proportional to the population of each province was achieved (quotas for the number of participants from each province were fixed before data collection). All participants gave informed consent prior to completing the survey. The research ethics committee at the *Centre de recherche du CHU de Québec – Université Laval* approved the study.

2.3. Survey measures

The survey included measures of the behavioural intention, attitudes, norm, and perceived behavioural control constructs informed by the TPB. Attitudes toward vaccination of one’s child were assessed with 4 items (Cronbach’s $\alpha = 0.90$). Assessment of perceived social support was based upon two items (Cronbach’s $\alpha = 0.70$). Perceived behavioural control over vaccination was assessed by two items (Cronbach’s $\alpha = 0.40$). Responses to all TPB items were based on a 7-point Likert scale with no neutral. The items were averaged within each construct to form a single score for each participant, with low scores (“1”) indicating very negative perceptions toward vaccination and high scores (“7”) indicating very positive perceptions. The mean score for each construct was dichotomized with a cut-off value of 6. A mean score of 6 or greater indicated very positive attitudes toward vaccinating one’s child (mean = 5.93 and median = 6.25), high perceived social support for vaccinating one’s child (mean = 5.96 and median = 6.0) and a greater degree of perceived behavioural control in performing this behaviour (mean = 5.92 and median = 6.0). Parents intention to vaccinate their child in the future was assessed by two items (Cronbach’s $\alpha = 0.90$), using a 7-point Likert scale ranging from “1” indicating no intention to “7” indicating strong intention. These two items were averaged to form a single intention score for each participant (mean = 6.12 and median = 7). For analysis, parental intention scores were dichotomized with a cut-off value of 7, indicating strong vaccination intention. The items and scale anchors for each TPB constructs are summarized in [Table 1](#).

To further explore parents’ perceptions regarding the TPB constructs, parents were asked 3 open-ended questions: 1 – “What are the good things about getting childhood vaccines, if any?”; 2 – “What are the bad things about getting childhood vaccines, if any?”; 3 – “What groups or people would benefit if you get your child vaccinated, if any?”. Parents’ responses to open-ended questions are shown in [Supplementary file 1](#).

Additional measures of beliefs, attitudes and practices concerning childhood vaccination were also collected. Ten items assessed parents’ perceived knowledge about vaccination, parents’ information searches and information needs, and parents’ level of trust in different institutions. Trust arises as an issue in numerous studies of why parents do and do not vaccinate their children [17–19]. It is known that parental vaccine decisions are heavily influenced by trust in vaccine information both in terms of content and source [20]. Based on previous research on trust and risk in healthcare [20–30], we intended to identify how trust in science (and the source of information) affects parents’ decision. Information about past vaccination for the child was collected using two items and four items measured parents’ perceptions regarding ease of access to vaccination services. Finally, standard socio-demographic information was collected (e.g., education, matrimonial status, province, religious/spiritual affiliations). Two items assessed the importance of religious or spiritual beliefs for parents in general and in making health decisions. Finally, two attention filter questions were included to identify and exclude unmotivated respondents. The complete list of items can be found in [Supplementary file 2](#).

Download English Version:

<https://daneshyari.com/en/article/8486170>

Download Persian Version:

<https://daneshyari.com/article/8486170>

[Daneshyari.com](https://daneshyari.com)