Vaccine 36 (2018) 1055–1062

Contents lists available at ScienceDirect

Vaccine

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

Barriers to immunization among newcomers: A systematic review

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ARTICLE INFO

Article history:
Received 17 November 2017
Received in revised form 9 January 2018
Accepted 10 January 2018

Keywords:
Systematic review
Newcomers
Vaccination
Immigrants
Refugees
Immunization
Qualitative

ABSTRACT

Introduction: Currently, there is a lack of comprehensive evidence exploring vaccine decision-making among newcomers. We conducted a systematic review of qualitative studies aimed at identifying factors that influence newcomers' decision-making with regards to vaccination.
Methods: We conducted a search of MEDLINE, EMBASE, CINAHL and Cochrane Central. To be included, studies needed to employ a qualitative methodology and address newcomer attitudes, beliefs, and/or perceptions regarding vaccination. Two independent reviewers screened the articles for relevant information and applied a content analysis methodology to code the identified barriers.
Results: Twenty-one studies were included in this review, and four types of barriers were identified: cultural factors, knowledge barriers, insufficient access to healthcare, and vaccine hesitancy. Insufficient knowledge about vaccination and the virus being prevented and concerns about safety were the most commonly reported barriers. A sub-analysis of barriers specific to HPV indicated that cultural beliefs about sexuality and incomplete knowledge about the role of HPV in the development of cervical cancer are major barriers to vaccine uptake.
Conclusion: Strategies to improve vaccination uptake in newcomers should consider focusing on the barriers identified in this review while taking into account the unique opportunities for promoting uptake within newcomer populations.

1. Introduction

Rates of international migration have been on the rise around the world for the last several years, with the number of international migrants nearly doubling between 2000 and 2015 [1]. These newcomers primarily comprise either immigrants – individuals choosing to settle in a country other than the one in which they were born – or refugees, defined by the United Nations Refugee Agency as "someone who has been forced to flee his or her country because of persecution, war, or violence" [2]. However, newcomers also include migrant workers and students, as well as trafficked and undocumented migrants who would not be captured in official statistics. On their arrival in a new country, newcomers often experience difficulty accessing primary and specialized healthcare [3]. These issues can stem from a lack of familiarity with the healthcare system, language barriers, and an absence of culturally-appropriate care [3,4]. One particular area in which preventive healthcare is frequently lacking is with regards to immunization.

While many studies have documented the disparities in immunization coverage among newcomers compared to the general population [5], few qualitative studies have been conducted to explore the reasons behind these disparities. Previous research among various ethnic groups in Canada has indicated that newcomers may be more likely to accept vaccination than non-newcomers [6], suggesting that more effective engagement may help to increase vaccine uptake within newcomer populations. We conducted a systematic review of qualitative studies aimed at identifying factors that influence newcomers' decision-making with regards to vaccination.

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https://doi.org/10.1016/j.vaccine.2018.01.025
0264-410X/

2. Methods

The primary objective of this review was to identify and synthesize qualitative studies examining newcomers' beliefs, attitudes and perceptions with regards to immunization.

Our systematic review was guided by the PRISMA statement checklist [7] and the results of the review were synthesized according to the Enhancing Transparency in Reporting the Synthesis of Qualitative Research (ENTREQ) statement [8]. The ENTREQ statement facilitates the reporting and synthesis of qualitative research through a 21-item checklist. We employed inductive content analysis techniques [9], developing a coding framework iteratively so that the codes would be guided by the data rather than developed *ad hoc*.

2.1. Inclusion/Exclusion criteria

In consultation with a medical librarian, we conducted a comprehensive search of peer-reviewed literature. Studies were included if they employed a qualitative methodology and addressed newcomer attitudes, beliefs, and/or perceptions regarding vaccination. Studies were excluded if they addressed differences in coverage without assessing potential reasons for these discrepancies with newcomers directly. Studies that included the perspectives of both newcomers and people born in the country in which the study was conducted were excluded if the reviewers could not distinguish newcomers' narratives from those of non-newcomers. Case reports with a sample size of <2, presentations, and conference abstracts were also excluded. No language, publication date, or study design restrictions were applied.

2.2. Data sources

We searched four databases: MEDLINE, EMBASE, CINAHL and Cochrane Central. The last search was conducted in May 2017.

2.3. Search strategy

The search strategy was designed by a medical librarian using a combination of MeSH terms and keywords. The search strategy is presented in Table 1.

2.4. Screening process

We obtained the titles and abstracts of all studies resulting from the search conducted by the medical librarian. Titles, abstracts, and full text-articles were independently screened by two independent reviewers (LW and TRA) using DistillerSR (Evidence Partners, Ottawa, Canada). Titles were screened for perceived relevance. Abstracts were included for full-text review if they appeared to meet all inclusion criteria and none of the exclusion criteria. Study titles and abstracts needed only to be deemed potentially relevant by one reviewer in order to move on to the full-text screening stage. No disagreements arose at the final inclusion stage that necessitated a third reviewer.

2.5. Data abstraction

Using DistillerSR, study characteristics were entered into a data abstraction form. Data entries were reviewed for major disagreements and disputes were resolved by consensus.

2.6. Analytical approach

We used a content analysis approach in this review [9]. Codes were developed inductively and added as new themes emerged.

Table 1
Database search strategy.

No.	Keyword/MeSH term
1	Immunization/or immunization schedule/or immunization, secondary/
2	(immunization* or immunization*).tw,kw.
3	Vaccination/or mass vaccination/
4	(vaccination* or vaccine*).tw,kw.
5	**or/1–4**
6	Health Knowledge, Attitudes, Practice/
7	Attitude/
8	Perception/
9	(attitude* or belief or beliefs or knowledge or percept*).tw,kw.
10	Decision making/ or choice behavior/
11	Attitude to Health/
12	Intention/or intention*.tw,kw.
13	Communication Barriers/
14	(barrier* or facilitat*).tw,kw.
15	"Patient Acceptance of Health Care"/
16	(acceptance or acceptability or rejection or willingness).tw,kw.
17	**or/6–16**
18	**5 and 17**
19	Refugees/
20	(refugee* or migrant* or asylum seek*).tw,kw.
21	"Emigrants and Immigrants"/
22	Immigrant*.tw,kw.
23	"Transients and Migrants"/
24	**19 or 20 or 21 or 22 or 23**
25	**18 and 24**

Bold font indicates combined search terms.

An additional review of the studies was then conducted to determine which themes appeared in each study.

2.7. Study appraisal

We assessed study quality by employing the Critical Appraisal Skills Programme Qualitative Checklist [10]. This tool provides researchers with 10 questions and a number of prompts to critically appraise the studies' methodologies through two screening questions and eight additional appraisal questions. All of the studies met both of the screening questions: "Was there a clear statement of the aims of the research?" and "Is a qualitative methodology appropriate?". Consistent with the methodology of this tool, no attempt was made to provide an appraisal score to the studies.

3. Results

3.1. Study selection

Our literature search yielded 415 titles from four databases. Of these, 241 were included for abstract screening and 36 of these underwent full-text review. Of these 36 studies, 22 met the inclusion criteria and were included in our final review. Reviewer agreement was high for both abstract inclusion ($k = 0.89$) and full-text inclusion ($k = 0.97$). One study was excluded at the data abstraction phase due to issues of readability upon its translation [11]. This left 21 studies for analysis. A flowchart illustrating reasons for and stage of exclusion is presented in Fig. 1.

3.2. Study characteristics

Study characteristics are summarized in Table 2. Ten studies used semi-structured interviews (range: 10–55 participants, median: 23), 10 studies used focus groups (range: 12–90 participants, median: 28), and one study used both interviews and focus groups. The majority of studies (13/21) only included women (predominantly mothers). Studies addressed vaccine knowledge, attitudes, and beliefs (KAB) regarding vaccination for oneself (10/21) and