

BMJ Open Intervention studies to encourage vaccination using narrative: a systematic scoping review protocol

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ABSTRACT

Introduction Vaccine hesitancy is a global problem, impeding uptake of vaccines against measles, mumps, and rubella and those against human papillomavirus and COVID-19. Effective communication strategy is needed to address vaccine hesitancy. To guide the development of research in the field and the development of effective strategies for vaccine communication, this scoping review aims to analyse studies of interventions using narrative to encourage vaccination.

Methods and analysis We will search the following databases: MEDLINE, CINAHL, PsycINFO and PsycARTICLES. We will identify additional literature by searching the reference lists of eligible studies. Eligible studies will be those that quantitatively examined the persuasiveness of narrative to encourage vaccination. Two independent reviewers will screen the titles, abstracts and full texts of all studies identified. Two independent reviewers will share the responsibility for data extraction and verification. Discrepancies will be resolved through consensus. Data such as study characteristics, participant characteristics, methodology, main results and theoretical foundation will be extracted. The findings will be synthesised in a descriptive and a narrative review.

Ethics and dissemination This work does not warrant any ethical or safety concerns. This scoping review will be presented at a relevant conference and published in a peer-reviewed journal.

INTRODUCTION

Vaccines have long been lauded as one of the most important public health achievements of the past century. In the past decade, however, a growing number of individuals have begun to perceive vaccination as risky. Vaccine hesitancy, defined as ‘delay in acceptance or refusal of vaccines despite availability of vaccination service’, is a problem attracting growing attention and concern.¹ Vaccine hesitancy impeding uptake of vaccines against measles, mumps, and rubella and COVID-19 vaccines is a global problem.^{2–5} Communication can be an effective tool, if used in a planned and integrated strategy, to counteract vaccine hesitancy and promote optimal vaccine uptake.⁶

Strengths and limitations of this study

- We use the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews checklist, the most current guidance on conducting scoping reviews, in order to ensure a systematic approach to searching, screening and reporting.
- As this is a scoping review, formal quality assessment and risk of bias assessment will not be conducted.
- This review may miss important literature published in languages other than English.

Using narrative to motivate health behaviour is an emerging form of persuasion in public health communication.^{7,8} Narrative refers to the use of case stories or examples to support the argument offered by the communicator,⁸ such as ‘I suffered greatly from the COVID-19. Therefore, I recommend you receive the COVID-19 vaccine to prevent severe illness due to infection’. Especially in vaccination promotion, using narrative is proposed to counter antivaccination messages in mass media and on the internet, which propagate doubt, fear and opposition to vaccination.⁹ These antivaccination messages often use an emotional narrative of alleged victims of a vaccine’s side effects.¹⁰ Scholars of vaccine communication have recently directed their interest to using narrative effectively as well, such as describing people feeling secure at recognising that they and their loved ones are protected by vaccination, or describing an experience of a person whose health suffered because of a preventable disease.^{11,12}

However, health-related narrative persuasion research is still emerging. Published studies remain relatively small in number, and few studies have measured health-behaviour outcomes in non-student participants.¹³ To our knowledge, no study has reviewed previous studies of interventions aimed at encouraging vaccination using narrative to



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determine which vaccines have been targeted, what study designs have been adopted (eg, participant background, sample size, randomisation), and what outcomes have been measured (eg, vaccination behaviour, behavioural intentions, attitudes). Reviewing them will be important for developing the field of study to encourage vaccination using narrative, for critically examining the results of previous studies, and for applying them to vaccine communication practice.

Recent studies on vaccine communication have shown that narrative messages that recount personal experiences with disease increase an audience's perception of the risk of developing disease, intention to vaccinate and likelihood of changing behaviour to prevent infectious disease, compared with didactic messages.¹⁴ However, communication scholars have not yet reached consensus regarding the persuasiveness of narrative versus didactic messages, and the optimal usage thereof.¹⁵ No studies have reviewed what form of intervention (eg, statistics) previous studies have adopted to quantify the persuasiveness of narrative to encourage vaccination, and what results those studies have shown.

Although theoretical developments in understanding the mechanisms and processes involved in narrative persuasion remain limited,¹⁶ several theoretical perspectives have been proposed to explain how and why narrative communication may contribute to attitudinal and behavioural changes. The earliest studies applied models of behaviour change—the most representative being social cognitive theory.¹⁷ Then, theories of persuasion in psychology—the most representative being the extended elaboration likelihood model¹⁸ and the transportation-imagery model¹⁹—were proposed and evaluated. However, no studies have reviewed which theories and models formed the basis for previous intervention studies of encouraging vaccination using narrative.

The objective of this review is to create an overview of studies of interventions aimed at encouraging vaccination using narrative, and to identify the content and gaps in these studies. This scoping review will serve as a useful reference for researchers who plan future intervention studies on vaccine communication using narrative, speeding up their research and helping them to conduct better-designed intervention studies. This work will be useful in guiding the development of research in the field and the development of effective strategies for vaccine communication and addressing vaccine hesitancy. Our research questions will be as follows. These wide review objectives and questions will be best achieved and answered through a scoping review.

RQ1: What study designs have previous intervention studies adopted to examine the persuasiveness of narrative approaches in encouraging vaccination?

RQ2: What outcomes have previous intervention studies measured to examine the persuasiveness of narrative approaches in encouraging vaccination?

RQ3: What forms of intervention other than using narrative have previous intervention studies adopted to

compare and combine with the persuasiveness of narrative in encouraging vaccination?

RQ4: What results have previous intervention studies shown about the persuasiveness of narrative approaches in encouraging vaccination including comparisons and combinations with other forms of intervention than using narrative?

RQ5: Which theories and models have been used in previous intervention studies to explain the persuasiveness of narrative in encouraging vaccination?

METHODS AND ANALYSIS

This systematic scoping review protocol is prepared according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews checklist (see online supplemental file 1).²⁰ The planned start date for the study is 1 April 2022, and the planned end date is 31 March 2023.

Literature search

Using the EBSCOhost Search Platform, we will search the following databases: MEDLINE, Cumulative Index to Nursing and Allied Health Literature (CINAHL), PsycINFO, PsycARTICLES. We will search the abstracts using the combination of keywords: (vaccine OR vaccination OR immunization) AND (narrative OR story OR storytelling). We will search the reference lists of identified eligible studies to identify any additional potentially eligible literature.

Eligibility criteria

We seek to include all intervention studies in these databases that quantitatively examined the persuasiveness of narrative to encourage vaccination, both experimental (eg, randomised controlled trials, quasi-randomised controlled trials, non-randomised trials) and quasi-experimental research (eg, pretest–post-test design, post-test design). All comparators will be eligible (ie, any forms of intervention other than using narrative). Studies without a comparator will also be eligible. Grey literature (information produced outside of traditional publishing and distribution channels, such as conference proceedings) will be included if it provides enough information to assess its eligibility. Qualitative studies will be excluded.

Studies assessing any outcomes such as behaviour, behavioural intention and attitude will be eligible, as will studies of any kind of vaccination. Studies on participants of any age, gender, ethnicity and countries will be eligible, and we will not filter by year. Only papers written in English will be included; studies not published in full text will be excluded.

Study selection

Two independent reviewers including the first author (TO) will screen the titles and abstracts of all studies initially identified, according to the eligibility criteria. Disagreements will be resolved by consensus; the opinion of a third reviewer will be sought if necessary. The full text

versions of potentially relevant studies will be retrieved and screened independently by two reviewers including the first author (TO). Consensus will be reached through discussion, and if no consensus can be reached on any study, a third reviewer will arbitrate. All studies not meeting the eligibility criteria will be excluded. The results will be displayed in a Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram.

Data extraction and reporting the results

A customised data extraction form will be created to extract all relevant data from each study. The data extraction form will be piloted in a sample of the eligible studies to assess its reliability in extracting the targeted study data. The first author (TO) will conduct data extraction, and another author will check the extracted data against the full texts of the studies to ensure that there are no omissions or errors. Consensus will be reached through discussion, and if no consensus can be reached on any study, a third reviewer will arbitrate. The following data will be extracted: study characteristics (author, year of publication, type of paper and country), participant characteristics (student or non-student, gender, age and other demographic information), methodology (study design, sample size and outcome), comparators and combinations (forms of intervention other than using narrative), main results of the intervention including comparison and combination with other forms of intervention than using narrative, and theoretical foundation of the intervention. The findings will be summarised in a concise table and synthesised in a descriptive and narrative review. We will discuss the findings and their implications for future research and practice as we answer each of the research questions.

Patient and public involvement

Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

ETHICS AND DISSEMINATION

This work does not warrant any ethical or safety concerns. We intend to present the results of this review at a relevant conference and publish them in a peer-reviewed journal.

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Contributors All authors have made substantive intellectual contributions to the development of this protocol. TO was involved in conceptualising this review and in writing this protocol. HO, EG and TK commented critically on several drafts of the manuscript.

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