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Advancing a programme theory for community-level oral health promotion programmes for humanitarian migrants: a realist review protocol

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ABSTRACT

Introduction Humanitarian migrants often suffer from poor health, including oral health. Reasons for their oral health conditions include difficult migration trajectories, poor nutrition and limited financial resources. Oral health promotion is crucial for improving oral health-related quality of life of humanitarian migrants. While community-level oral health promotion programmes for humanitarian migrants have been implemented (eg, in host countries and refugee camps), there is scant literature evaluating their transferability or effectiveness. Given that these programmes yield unique context-specific outcomes, the purpose of this study is to understand how community-level oral health promotion programmes for humanitarian migrants work, in which contexts and why.

Methods and analysis Realist review, a theory-driven literature review methodology, incorporates a causal heuristic called context–mechanism–outcome configurations to explain how programmes work, for whom, and under which conditions. Using Pawson's five steps of realist review (clarifying scope and drafting an initial programme theory; identifying relevant studies; quality appraisal and data extraction; data synthesis; and dissemination of findings), we begin by developing an initial programme theory using the references of a scoping review on the oral health of refugees and asylum seekers and through hand searching in Google Scholar. Following stakeholder validation of our initial programme theory, we will locate additional evidence by searching in four databases (Ovid Medline, Ovid Embase, Cochrane Library and Cumulative Index to Nursing and Allied Health Literature (CINAHL)) to test and refine our initial programme theory into a middle-range realist programme theory. The resultant theory will explain how community-level oral health promotion programmes for humanitarian migrants work, for whom, in which contexts and why.

Ethics and dissemination Since this study is a review and no primary data collection will be involved, institutional ethics approval is not required. The findings of this study will be disseminated in peer-reviewed journals, local and international conferences, and via social media.

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Strengths and limitations of this study

- This study is the first using realist review to understand how community-level oral health promotion programmes for humanitarian migrants work, for whom, in which contexts and why.
- The programme theory resulting from this study can inform the design and implementation of successful and context-specific community-level oral health promotion programmes for humanitarian migrants.
- Our research team is interdisciplinary, and we will also consult stakeholders from various relevant fields to ensure that our programme theory transcends disciplines.
- Since this study is a review of existing literature, theory making is limited by the availability, richness and quality of available evidence.
- Only studies in English and French will be included, which might lead to the exclusion of potentially relevant literature available in other languages.

INTRODUCTION

Humanitarian migrants—a term we use to include refugees, asylum seekers and internally displaced persons—are people who forcibly move away from their place of habitual residence and are in vulnerable conditions needing urgent protection.[1] At the end of 2020, there were 82.4 million humanitarian migrants displaced worldwide due to human rights violations, conflict and persecution, including 48 million internally displaced persons, 26.4 million refugees, and 4.1 million asylum seekers.[2] Humanitarian migrants disproportionately suffer from diseases such as tuberculosis, HIV and mental disorders and thus have a compromised health-related quality of life.[3] In addition to poor health conditions, these populations often have compromised oral health conditions for reasons such as financial constraints, limited or no access to dental care, and the legacy of their difficult migration trajectories.[4 5] Poor

oral health further reduces the quality of life of humanitarian migrants.[6]

Good oral health enables individuals to speak, chew, breathe, taste, smile, socialise and enjoy life.[7] Poor oral health can cause pain and discomfort, social and psychological problems, and loss of effective school or work hours.[8] Oral diseases such as dental caries and periodontal diseases are associated with the risk of chronic diseases such as cardiovascular diseases and diabetes through sharing common risk factors.[9] Poor oral health can compromise quality of life by causing pain, impairment of craniofacial functions such as chewing and speaking, and reduced aesthetics, leading the individual to social exclusion and stigmatisation.[10] The negative sequelae of poor oral health are of the utmost importance for humanitarian migrants who are already vulnerable to fragile health, have limited finances and lack social support.[11 12] Enjoying good oral health is a fundamental human right; therefore, programmes and policies aiming to improve the oral health of humanitarian migrants are imperative.[13]

Many community-level oral health promotion programmes have been developed and implemented to address humanitarian migrants' oral health needs. These programmes intend to improve migrants' oral health via two main approaches: oral health education and dental service provision.[14] Oral health education programmes aim to increase oral health knowledge of humanitarian migrants and thereby instigating a change in oral health behaviour, potentially leading to improved oral health.[15–17] For example, an oral health education programme in the USA provided brochures for refugee children and their caregivers to increase their knowledge of the oral health of children.[18] Another example of oral health education programmes includes a programme providing a multilingual oral health education digital video disk (DVD) for refugees in Australia.[17]

Dental service provision programmes intend to improve the oral health of humanitarian migrant populations through provision of dental care, such as dental restorations or extractions, by volunteer or remunerated dentists, dental students and non-governmental organisations.[12 19 20] An example is the dental restoration programme for Dinka and Nuer refugees living in Nebraska, aiming to restore and replace the lower anterior teeth extracted during childhood following local cultural practices.[19] Some community-level oral health promotion programmes for humanitarian migrants incorporate both oral health education and dental service provision interventions for enhanced effectiveness. For instance, an oral health promotion programme for Chilean refugees in Sweden provided oral health instructional sessions as well as scaling and root planning at the baseline visit.[21]

Some programmes train humanitarian migrants to work as community oral health workers (COHWs) to provide oral health education and/or basic dental services for their own community.[22 23] COHW programmes aim to account for acute shortage of dental staff in settings with inadequate resources such as refugee camps, as well as to increase the cultural competency of the programme interventions.[16 20] For instance, a programme in Ghana tutored volunteers of the Liberian refugee camp 'Gomoa Buduburam' as COHWs to provide preventive oral healthcare and emergency dental treatment for the camp members.[22]

Notwithstanding the presumed importance of these programmes, there are scant evaluation data accompanying their descriptions in the literature. Community-level oral health promotion programmes for humanitarian migrants are necessarily complex interventions implemented in complex and ever-changing social situations.[24 25] Contrary to clinical treatments, which generally have a linear pathway of action,[24] public health programmes are not finite treatments or singular schemes; they include design, implementation, regulation and management of the services.[26] Further, the success of these programmes depends on client reasoning, behaviours and decision making, and how these elements unfold within the context of the specific programme, the clients' lives and the wider setting.[26 27] As a result, each programme will yield unique outcomes in each specific context.

Traditionally, evaluations of community programmes focus on effectiveness; that is, evaluating the effect of the intervention on its outcome. Such an approach, however, often misses the important role of contextual factors: that is, how the outcomes of a specific intervention are moderated by myriad elements within which the intervention is implemented, such as interpersonal relationships, legislations and the infrastructure of the delivered services.[28] To render community-level oral health promotion programmes most effective for humanitarian migrants, understanding the underlying causal pathways through which the contexts interact with the clients involved to produce programme outcomes is essential.[29]

The purpose of this study is to understand how community-level oral health promotion programmes for humanitarian migrants work, for whom, in which contexts and why.

METHODS

Methodology

Realist review, also referred to as 'realist synthesis,' is a theory-driven literature review methodology developed by Pawson *et al*[24] to inform evidence-based policy. It employs an explanatory approach to develop an understanding of how complex programmes work, for whom, under what circumstances and settings and why.[29] Using a causal heuristic called 'context–mechanism–outcome (CMO) configurations', realist reviews seek to explain how the context (particular aspects of the conditions within which a programme is implemented, such as individuals, culture, interpersonal relationships and legislations) can impact the mechanism (eg, participants' reasoning and responses to the programme resources, which will depend on their values, beliefs and cognition) through

which the outcome (intended or unintended) occurs.[27] During the review process, CMOs are constructed and refined through an iterative examination of peer-reviewed and grey literature that can shed light on how these programmes work.[28] These CMOs are then incorporated and synthesised into a programme theory, which explains how the programmes work, in what contexts, for what populations and why.[27 29]

A realist review begins with an initial 'rough' programme theory and ends with a refined realist programme theory.[24] The realist philosophy is premised on the idea that all programmes are 'theories incarnate'[30]; the implementation of a programme puts to test the theory about what can cause behaviour change in the target population.[31] A realist review thus begins by drafting an initial programme theory, which proposes hypotheses explaining how a programme works.[24 30] This initial programme theory can be drawn from existing relevant substantive theories or developed by theorising the programme into a theory of action (what a programme is expected to accomplish) or a theory of change (why a programme is expected to work),[28] preferably populated with realist elements of context, mechanism and outcome.[28 32] The initial programme theory is then tested and refined during the review process using the identified CMOs into a realist programme theory at the middle-range level; that is, a theory that is not too abstract to detach from the context of a programme and not too specific to pertain to only one programme.[27 33] The final programme theory can then serve as an evidence-based tool for designing and implementing context-specific programmes with optimised effectiveness.

Patient and public involvement

While patients or members of the public were not involved in the development of our protocol, we will consult and seek input from multiple stakeholders during the review process. Our stakeholders group is yet to be determined; however will include categories such as (1) internationally-renowned migrant oral health researcher, (2) community-level oral health promotion programme designer; (3) programme director; (4) service provider (oral health educator or dental service provider); (5) service user (humanitarian migrant); and (6) realist researcher. The involvement of the stakeholders is further explained in the methods and dissemination sections.

Objectives

1. To develop an initial programme theory explaining how community-level oral health promotion programmes for humanitarian migrants work. This initial programme theory will be shared with the stakeholders for feedback.
2. To conduct database and complementary searches to identify relevant data sources and elicit CMO configurations which will be used to test the initial programme theory.
3. To refine the initial programme theory using the CMOs into a realist programme theory at the middle-range level. The refined theory will be shared with the stakeholders for feedback.

Study design

This realist review protocol uses Pawson's five stages for conducting a realist review,[24] which are: (1) clarifying the purpose of the review and the research question and drafting an initial programme theory; (2) identifying relevant studies; (3) quality appraisal and data extraction (4); data synthesis; and (5) dissemination of findings. These steps are iterative, with the reviewers moving back and forth between stages.

Clarifying the scope of the review and drafting an initial program theory

Clarifying the scope of the review

This study contributes to th Migrant Oral Health Project (MOHP)'s programme of research funded by the Canadian Institutes of Health Research (CIHR) to advance an understanding of how community-level oral health promotion programmes can best help humanitarian migrants. Our team is interdisciplinary with expertise in both quantitative and qualitative methods, and includes the following domains: Dentistry, oral public health, social sciences, epidemiology and health services research. During our initial meeting, the team confirmed that by humanitarian migrants, we mean refugees, asylum seekers and internally displaced persons. Community-level oral health promotion programmes are those aiming to improve the oral health conditions of humanitarian migrants through delivering interventions at the community level (rather than the individual level). For example, an oral health education programme including presentations and group discussions delivered in a community organisation for newly arrived refugees can be considered a community-level oral health promotion programme.

The review will commence with this broad question: How do community-level oral health promotion programmes for humanitarian migrants work, for whom, in which circumstances and why? More specific questions to be answered in this review will include:

- How do community-level oral health promotion programmes for humanitarian migrants achieve their outcomes?
- Which contextual factors impact these programmes' outcomes and how?
- What mechanisms are triggered by these contextual factors and how do these mechanisms lead to the observed outcomes?

Drafting an initial program theory

The next step to our realist review will be to draft an initial programme theory explaining how community-level oral health promotion programmes for humanitarian migrant populations achieve their outcomes. For this aim, we will use the bibliographies of a recent scoping review on the

oral health of refugees and asylum seekers conducted by MOHP team members.[14] This review singles out a number of studies incorporating the common approaches of community-level oral health promotion programmes for humanitarian migrants, namely: oral health education, dental service provision and COHW programmes. Moreover, the reviewers will conduct hand searching in Google and Google Scholar to identify papers with more information about the pathways through which these programmes lead to their outcomes, how contexts may impact these pathways or how humanitarian migrants may respond to programme activities, including those published after our team's scoping review. A potential search strategy for these databases would be ("refugee" OR "internally displaced" OR "internal displacement" OR "asylum seeker" OR "refugee claimant" OR "migrant" OR "humanitarian migrant") AND ("oral health" OR "dental" OR "dentistry" OR "teeth" OR "tooth").

One reviewer will screen the articles' bibliographies with the assistance of another reviewer to identify studies potentially having more information about the three aforementioned types of programmes. The reviewers will read a minimum of 10 papers and will attempt to draft a theory of action and/or a theory of change for these programmes, which will then be populated by the CMO configurations identified in the papers. Following, the reviewers will look for substantive theories relating to the observed CMO patterns in the initial programme theory.

The drafted initial programme theory will then be shared with stakeholders for comments and feedback. We will consult with stakeholders regarding which CMOs to prioritise in our review and will ask for additional evidence. In accordance with our available time and resources for this project,[34] we will select up to 10 CMOs for testing in our realist review process. We will incorporate the comments and feedback received from the stakeholders to further complete and finalise our initial programme theory. This initial programme theory will serve as a framework for data collection and analysis during the review process.

Identifying relevant studies

Our searches at this stage will be guided by the initial programme theory and will aim to identify data sources to test the CMOs in the initial programme theory. With the advice and recommendations of a university-based librarian, we will conduct a systematic search of peer-reviewed and grey literature in five databases: Ovid Medline, Ovid Embase, CINAHL, ProQuest and PsychInfo. The developed search strategy for the Ovid Medline database is shown in box 1. The search strategy will be converted for use in the four additional databases. We will conduct all database searches on the same day. We will not include any date of publication restrictions in our searches. Language of studies will be restricted to English and French.

We will conduct searches in Google and Google Scholar to identify additional relevant resources for testing the initial programme theory. Some search strategies used at this stage are mentioned in table 1.

Box 1 Search strategy for the Ovid Medline database

1. exp Refugees/
2. refugee.tw,kf.
3. refugees.tw,kf.
4. exp "Transients and Migrants"/
5. exp "Emigrants and Immigrants"/
6. "Emigration and Immigration"/
7. exp Undocumented Immigrants/
8. humanit* migra*.tw,kf.
9. asylum seek*.tw,kf.
10. internal* displac*.tw,kf.
11. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10
12. exp Oral Health/
13. exp Dentistry/
14. oral healthcare.tw,kf.
15. exp Dental Health Services/
16. exp Fluorides, Topical/ or exp Fluorides/
17. exp Mouth Diseases/
18. exp Periodontal Diseases/
19. exp Dental Caries/
20. 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19
21. (oral* adj3 health*).tw,kf.
22. (dental* or dentist* or tooth or teeth or caries or carious or periodont*).tw,kf.
23. 20 or 21 or 22
24. 11 and 23

A search of the bibliographies and citations of retrieved peer-reviewed articles will also be conducted through reference searching and citation searching[35] to identify other pertinent studies that were not included in our initial database searches.

Based on the extensiveness and depth of the identified literature in our searches, the reviewers will decide about conducting additional searches (eg, with modified search terms and/or additional databases.) Additional searches will be conducted with the assistance of a librarian and will be aimed at identifying the specific elements of context, mechanism, outcome and their interactions mentioned in our initial programme theory to provide more detailed and specific explanations of our CMOs. In case there are insufficient data regarding oral health programmes for humanitarian migrants, we will draw on literature from other domains (eg, health) or other target populations (eg, immigrants) if we realise that they have the same mechanisms at play.[34]

Study selection and screening

The identified articles will be exported to EndNote reference manager[36] where duplicate articles will be removed. The remaining articles will then be uploaded to Covidence, an online tool for managing systematic reviews.[37] One reviewer will conduct title and abstract and full-text screening for the identified resources, which will be checked by a second reviewer.

Table 1 Complementary searches in Google and Google Scholar

Search type	Search aim	Example	Search strategy
Searches for relevant community-level oral health promotion programmes for humanitarian migrants	To identify relevant CMOs for testing the initial programme theory	Dental service provision programmes	("refugee" OR "internally displaced" OR "internal displacement" OR "asylum seeker" OR "refugee claimant" OR "migrant" OR "humanitarian migrant") AND ("oral health" OR "dental" OR "dentistry" OR "teeth" OR "tooth") AND ("service" OR "treatment" OR "restoration" OR "care" OR "examination" OR "prevention" OR "preventive" OR "dentist" OR "clinic")
Searches for specific CMOs	To identify more detailed descriptions of elements of context, mechanism, outcome and their interactions in a specific CMO	Context: experience of war	(("refugee" OR "internally displaced" OR "internal displacement" OR "asylum seeker" OR "refugee claimant" OR "migrant" OR "humanitarian migrant") AND ("oral health" OR "health" OR "dental" OR "dentistry" OR "teeth" OR "tooth") AND ("war" OR "conflict" OR "persecution" OR "violence" OR "trauma" OR "traumatic")
Searches for substantive theories	To identify substantive theories that support the refined CMOs, allowing them to be abstracted to the middle-range level	Self-efficacy	("self-efficacy" OR "empowerment" OR "empower" OR "confidence")

CMO, context–mechanism–outcome.

The inclusion criteria for the studies in title and abstract and full-text screening stages will be (1) relevance to the initial programme theory and its CMOs; and (2) containing information about contexts, mechanisms, outcomes and/or their interactions. Resources containing only descriptive information about outcomes will be excluded.

Unlike Cochrane systematic reviews, realist reviews do not aim to be comprehensive; rather, the aim is to establish an equilibrium between comprehensiveness and saturation.[28] Therefore, we will stop our searches when we have obtained enough evidence to support, refute or refine our initial programme theory.

Quality appraisal and data extraction

Quality appraisal

In realist reviews, the unit of analysis is not the entirety of a study but the evidentiary fragments in the study.[38] While the rigour of data is often based on the plausibility of the methods through which the data were generated,[28] in realist reviews, data can be drawn from any part of a paper, not just the results section.[27] Therefore, using standard checklists to make judgements about the rigour of the whole body of the paper may not be appropriate, as these checklists may only account for a small portion of the relevant data in the paper.[39] The most important decision to be made about data quality is the contribution each paper can make to the construction and refinement of the programme theory, usually stemming from the 'pieces' of data and not the entire body of the paper.[38]

Rigour in realist reviews refers to the credibility, plausibility and trustworthiness of the methods used to generate data and depends on two criteria: trustworthiness (how much the methods used to obtain data are plausible and can be trusted) and coherence (whether the data are consistent and logical with explanatory breadth.)[32 38] Since the information used in different parts of a paper will have been generated through specific means and methods serving specific purposes, assessing the rigour of the methods used to generate each data fragment might prove overwhelming or impossible and is not recommended by realist researchers.[32] Furthermore, sometimes circumstantial data identified in less rigorous data sources can contribute to constructing a convincing theory.[32 38] Therefore, instead of evaluating and rating data quality, we will attempt to identify sufficient data to construct plausible programme theories underpinned by coherent arguments.[32]

Data extraction

We will use MaxQDA,[40] a software used for qualitative data analysis for data extraction and analysis. This software will allow us to iteratively refine our codes.[41] One reviewer will read the included papers in full and extract parts of the data that can contribute to our theory development and refinement, which will be checked by a second reviewer. When confusion or concern arises (eg, lack of adequate information), the reviewers will contact the authors of the papers to request additional information or clarification.

We will indicate each paper's characteristics in a Microsoft Excel spreadsheet. The following information will be included: (1) bibliographic details: title, author, journal and year of publication; (2) study type and design; and (3) target population, intervention and type of programme.

Data analysis and synthesis

The data analysis process will involve identifying elements of context, mechanism, outcome and their

inter-relationships in the data fragments.[25] Both quantitative and qualitative data types can be used for identifying any of these elements.[42] For instance, to identify mechanisms, qualitative data obtained from interviews can be a pathway to identifying participants' reasoning, while a multiple-choice question in a questionnaire survey can be used for the same purpose.[25 42] Outcomes can be identified through quantitative data, while in certain cases, such as identifying unintended outcomes, qualitative data might prove useful.[25 42] Contexts can be identified using quantitative categorical variables or qualitative data such as participant quotes in interviews or the constant comparative technique.[42] While contexts are rarely the exact same as the categorical variables in quantitative studies or the theme titles in qualitative studies, they can provide clues for the reviewers and guide the inquiry regarding contexts.[42]

Underlying mechanisms are often implicit in data and may not necessarily appear at the empirical level.[27] For example, the participants' reasoning occurs in their minds and might not be explicit in the data. Therefore, mechanisms need to be identified using 'retroduction,' an analytic technique to uncover hidden causal factors lying behind the identified patterns and the changes to those patterns.[43] Retroduction encompasses unearthing causal mechanisms using induction (developing theories from empirical evidence), deduction (testing theories against evidence) and abduction (creative thinking).[43 44]

Identifying the interactions between the elements of context, mechanism and outcome is of the utmost importance in realist reviews and has been emphasised by realist researchers.[45] The accompaniment of terms relating to the elements of context, mechanism or outcome may indicate a possible interrelationship between them.[42] Conjunction terms such as 'and', 'so' and 'but' can also indicate a relationship between these elements.[42]

The identified CMOs will be used to test and refine the initial programme theory. Relevant formal theories supporting these CMOs will be sought to advance our realist programme theory at the middle-range level, allowing our findings to be transferable to similar contexts.[33 46]

We will consult our stakeholder group regarding the final programme theory; their comments and feedback will be applied to further improve and finalise the final realist programme theory.

ETHICS AND DISSEMINATION

Dissemination of findings

The findings of this review will be reported according to the principles of 'Realist And Meta-narrative Evidence Syntheses: Evolving Standards (RAMESES) publication standards for realist synthesis',[47] which outlines the key elements to include in the abstract, introduction, methods, results and discussion section of a realist review. With the advice and input from the stakeholders, we will make recommendations regarding how to implement community-level oral health promotion programmes for humanitarian migrants most effectively.

Two manuscripts will be written to report the findings of this study, one encompassing the initial programme theory, and another reporting the refined realist programme theory regarding how community-level oral health promotion programmes for humanitarian migrants work. The manuscripts will be submitted for publication in peer-reviewed journals. The findings of this review will also be presented in oral and poster format in scientific local and international conferences. Moreover, we will disseminate the findings of this review through the MOHP website and via social media.

Ethics approval

Since this study is a review and synthesis of the literature, and that our consultations with stakeholders will not include primary data collection, institutional ethics approval is not required.

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Contributors MEM and BN conceptualised the study. NE and NMN developed and piloted the search strategies. NE designed and drafted the realist review protocol, which was critically reviewed and revised by MEM, NMN and BN. All authors have approved the final version of the manuscript.

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