Vaccine xxx (2017) xxx–xxx

Contents lists available at ScienceDirect

Vaccine

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

A rapid qualitative assessment of oral cholera vaccine anticipated acceptability in a context of resistance towards cholera intervention in Nampula, Mozambique

Rachel Démolis [a,*], Carlos Botão [b], Léonard W. Heyerdahl [c], Bradford D. Gessner [a], Philippe Cavailler [a], Celestino Sinai [b], Amílcar Magaço [b], Jean-Bernard Le Gargasson [a], Martin Mengel [a], Elise Guillermet [a]

[a] Agence de Médecine Préventive, Bât. JB Say, 4e étage, aile A, 13 chemin du Levant, 01210 Ferney-Voltaire, France
[b] Instituto Nacional de Saúde, Avenido Eduardo Mundlane/Salvador Allende, Maputo, Mozambique
[c] Agence de Médecine Préventive, Abidjan, Cote d'Ivoire

ARTICLE INFO

Article history:
Available online xxxx

Keywords:
Anthropology
Cholera vaccines
Public health
Attitude to health
Politics
Mozambique

ABSTRACT

Introduction: While planning an immunization campaign in settings where public health interventions are subject to politically motivated resistance, designing context-based social mobilization strategies is critical to ensure community acceptability. In preparation for an Oral Cholera Vaccine campaign implemented in Nampula, Mozambique, in November 2016, we assessed potential barriers and levers for vaccine acceptability.

Methods: Questionnaires, in-depth interviews, and focus group discussions, as well as observations, were conducted before the campaign. The participants included central and district level government informants (national immunization program, logistics officers, public health directors, and others), community leaders and representatives, and community members.

Results: During previous well chlorination interventions, some government representatives and health agents were attacked, because they were believed to be responsible for spreading cholera instead of purifying the wells. Politically motivated resistance to cholera interventions resurfaced when an OCV campaign was considered. Respondents also reported vaccine hesitancy related to experiences of problems during school-based vaccine introduction, rumors related to vaccine safety, and negative experiences following routine childhood immunization. Despite major suspicions associated with the OCV campaign, respondents' perceived vulnerability to cholera and its perceived severity seem to override potential anticipated OCV vaccine hesitancy.

Discussion: Potential hesitancy towards the OCV campaign is grounded in global insecurity, social disequilibrium, and perceived institutional negligence, which reinforces a representation of estrangement from the central government, triggering suspicions on its intentions in implementing the OCV campaign. Recommendations include a strong involvement of community leaders, which is important for successful social mobilization; representatives of different political parties should be equally involved in social mobilization efforts, before and during campaigns; and public health officials should promote other planned interventions to mitigate the lack of trust associated with perceived institutional negligence. Successful past initiatives include public intake of purified water or newly introduced medication by social mobilizers, teachers or credible leaders.

1. Introduction

Mozambique has experienced several large cholera outbreaks over the past four decades [1] with 2536 cases reported between September 2015 and July 2016 alone. Half of all cholera cases (50.9%) were reported in Nampula City, the third largest city in Mozambique, situated in the north of the country [2] (Fig. 1). Two-thirds of these cases (66%) originated from six neighborhoods, which are characterized by poor sanitation (i.e., open defecation practices, poor waste collection, and degradation of the environment) and limited access to safe water.

The political context in Mozambique has changed over time, which may influence social determinants for the acceptability of

* Corresponding author.
E-mail address: rdemolis@aamp.org (R. Démolis).

https://doi.org/10.1016/j.vaccine.2017.10.087
0264-410X/

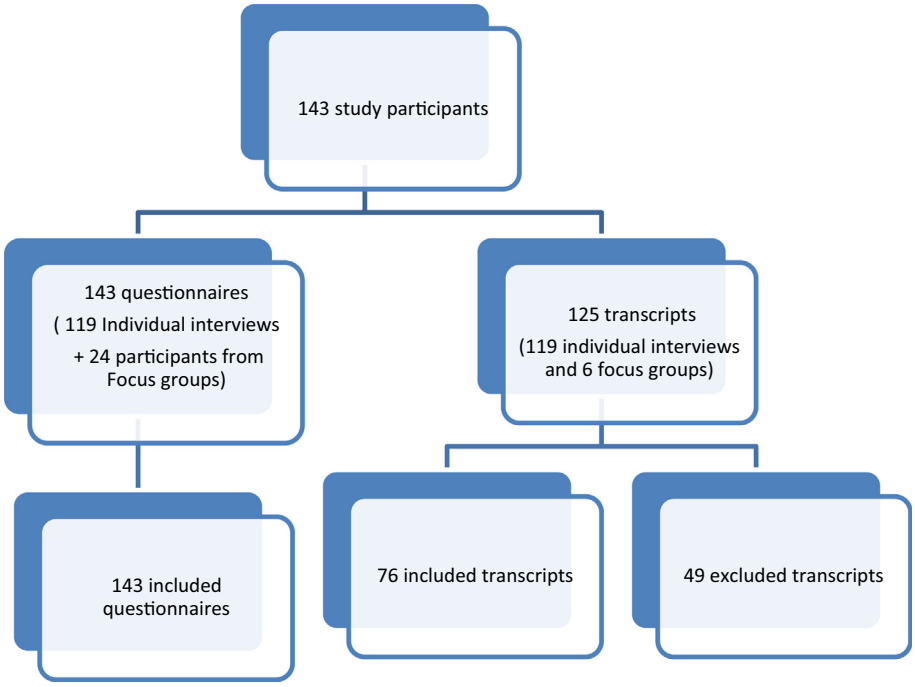

Fig. 1. Flowchart of study participants included in the quantitative and qualitative analyses, pre-campaign assessment, June 2016, Nampula, Mozambique.

health interventions. From 1976 to 1992, a civil war divided the country, with the Frelimo Government pitted against the opposition party, Renamo. Following a peace agreement and democratic elections during 1992, Frelimo continued to run the provincial and municipal governments in Nampula, until 2014. Currently, while the Mozambican Democratic Movement (MDM) runs the Nampula municipal government, Frelimo controls the national and provincial governments. It can be argued that politically motivated resistance impacts the acceptability of cholera preventive interventions.

In addition to curative interventions during cholera outbreaks, the country introduced preventive strategies in the 1980s, including campaigns for water chlorination, education, and information about cholera. In Nampula, episodes of violence occurred among the population during protests against water source-chlorination response teams. In 2009, 16 people were killed [3,4] after having been accused of spreading cholera instead of preventing it [5].

Oral cholera vaccine (OCV) can prevent cholera in the short to medium term, while awaiting the longer term solution of improvements to water and sanitation infrastructures [6]. A pilot mass OCV immunization campaign was conducted in 2003 in Beira, using 40,000 doses [7]. In 2016, the Mozambique Ministry of Health (MoH) ordered 425,486 doses of Shanchol™ vaccine from the International Coordinating Group (ICG) – one of the three OCVs prequalified by the World Health Organization [8,9] – to implement a two-dose OCV campaign in Nampula city.

Formative studies on vaccine acceptability, knowledge, and practices related to cholera are essential for the success of OCV campaigns [10–12]. Several studies also concluded on the importance of designing context-based strategies (for vaccine delivery, communication, and social mobilization) with the purpose of improving vaccine coverage [13] and preventing cholera more effectively [14].

We conducted a rapid anthropological assessment, in a community where resistance to cholera interventions has been reported, to evaluate potential barriers and levers for OCV acceptability, and to establish appropriate vaccination campaign and social mobilization strategies.

2. Methods

This rapid anthropological assessment was designed to investigate predefined topics (Table 1), using semi-structured interviews or focus groups and to allow the emergence of open (unexpected) answers based on the interviewees' experiences.

In addition, all study participants were asked to fill in short close-ended questionnaires to obtain quantitative data on circumscribed topics such as cholera experience and vaccine acceptability.

In-depth interviews and focus groups were tape-recorded when possible, and then transcribed. We excluded interviews if: (1) we were not allowed to record the interview and our notes were insufficient to produce comprehensive information, (2) the recorded sound quality was poor or (3) interviews were too short (less than 15 min) with no clear answers from the interviewees (Fig. 1, Flowchart of Study participants included in the quantitative and qualitative analyses). Qualitative data were analyzed using NVivo Software (Version 11) to perform thematic coding.

Questionnaires were anonymized and entered using the "Open Data Kit" platform. Data analyses were performed using the R software (R Project for Statistical Computing - Version 3.3.1). Quantitative results were derived from questionnaires to provide complementary information to support the interpretation of qualitative data. The sampling techniques used in this assessment were not designed to be representative of the study population and the results cannot be generalized to a broader population.

2.1. Study participants

Neighborhoods were selected for the OCV campaign from epidemiological records, based on higher cholera incidence between 2011 and 2016. Six of the 33 neighborhoods in Nampula City, cumulating 66% of the total number of cholera cases reported in Nampula City, were selected for the OCV campaign. Study participants were selected in three of these six neighborhoods that were most affected by cholera (Mutauanhana, Murrapaniwa and Muatala districts) (Fig. 2). We interviewed 143 persons, either through

Please cite this article in press as: Démolis R et al. A rapid qualitative assessment of oral cholera vaccine anticipated acceptability in a context of resistance towards cholera intervention in Nampula, Mozambique. Vaccine (2017), https://doi.org/10.1016/j.vaccine.2017.10.087