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Perceptions of oral cholera vaccine and reasons for full, partial and non-acceptance during a humanitarian crisis in South Sudan

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ABSTRACT

Oral cholera vaccination (OCV) campaigns were conducted from February to April 2014 among internally displaced persons (IDPs) in the midst of a humanitarian crisis in Juba, South Sudan. IDPs were predominantly members of the Nuer ethnic group who had taken refuge in United Nations bases following the eruption of violence in December 2013. The OCV campaigns, which were conducted by United Nations and non-governmental organizations (NGOs) at the request of the Ministry of Health, reached an estimated 85–96% of the target population. As no previous studies on OCV acceptance have been conducted in the context of an on-going humanitarian crisis, semi-structured interviews were completed with 49 IDPs in the months after the campaigns to better understand perceptions of cholera and reasons for full, partial or non-acceptance of the OCV. Heightened fears of disease and political danger contributed to camp residents' perception of cholera as a serious illness and increased trust in United Nations and NGOs providing the vaccine to IDPs. Reasons for partial and non-acceptance of the vaccination included lack of time and fear of side effects, similar to reasons found in OCV campaigns in non-crisis settings. In addition, distrust in national institutions in a context of fears of ethnic persecution was an important reason for hesitancy and refusal. Other reasons included fear of taking the vaccine alongside other medication or with alcohol. The findings highlight the importance of considering the target populations' perceptions of institutions in the delivery of OCV interventions in humanitarian contexts. They also suggest a need for better communication about the vaccine, its side effects and interactions with other substances.

1. Introduction

Cholera remains a significant public health problem in South Sudan where an ongoing political crisis has led to over half a million refugees and 1.5 million internally displaced persons (IDPs) [1]. In 2010, WHO recommended that oral cholera vaccination (OCV) be used in conjunction with other cholera prevention and control measures [2]. Three years later, 2013, a global OCV stockpile was created to improve access to the vaccine in event of outbreaks and humanitarian emergencies. Two United Nations bases in Juba became protection of civilian areas (PoC), housing over 30,000 IDPs, after the onset of violence in December 2013. An assessment indicated that PoC residents were at high risk of cholera given the density of population, inadequate water and sanitation facilities and imminent onset of seasonal rains. OCV campaigns were conducted in both PoCs following a request for stockpiled vaccines by the Ministry of Health [3].

Cholera outbreaks are often associated with humanitarian emergencies but the use of OCV in humanitarian crises represents a new public health intervention. Only 7 countries have documented experiences with OCV campaigns and reasons influencing vaccine acceptance, three of which included humanitarian actors [4]. In Guinea and Haiti, non-vaccination was mostly attributed to being absent during the time of the campaign [5,6]. The greatest barrier to OCV uptake in Tanzania was described as an extended absence from home because of competing obligations or priorities in relation to work, education or visiting relatives. This was

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followed by lack of information about the campaign, sickness and fear of possible side effects [7]. OCV campaigns in Haiti, Guinea and Thailand indicated a lower level of acceptance among adult men [5,6].

No studies of OCV acceptance have been conducted in the context of an on-going humanitarian crisis characterized by violence as found in South Sudan. This context presents unique circumstances with respect to the relationships between the affected population, and the national and international organizations governing access to care. This paper presents the results of an in-depth study of reasons for full, partial and non-acceptance of the OCV among IDPs in South Sudan.

2. Methodology

2.1. Study setting and population

This study was set in two PoC sites (Tomping and UN House) in Juba, South Sudan. PoCs were established as safe havens for people who sought protection in United Nation bases from the effects of violence. Due to the ethnic nature of the conflict, these PoCs came to be predominantly occupied by Nuer peoples. The security of PoCs is maintained by peacekeeping forces under the United Nation's Mission in South Sudan (UNMISS), while health, food and education services are provided by various non-governmental organizations (NGOs). Although the government of the Republic of South Sudan (RoSS) does not provide services in the PoCs, they serve a gatekeeping role by determining which NGOs can operate in the country.

OCV vaccination campaigns were conducted among IDPs in both PoCs from February to April 2014. Population estimates of Tomping and UN House at the time of the campaigns were 19,000 and 12,000 respectively [3]. The campaigns were pre-emptive as no cases of cholera had occurred in the PoCs at the time of vaccination. The WHO pre-qualified OCV Shanchol was used, which has a two dose regimen given two weeks apart for complete vaccination. In preparation for the campaign, PoC residents were provided with health education messages on cholera, its prevention and treatment and the planned vaccination campaign. OCVs were given to all >1 year old who presented at designated stations within each PoC, excluding pregnant women. Paper cards documenting the date and dose of the vaccination were provided to all recipients. WHO estimates that 85–96% of the target population in each PoC received one or two doses of OCV as based on self-reporting or evidence from vaccination cards [3,8]. Complaints concerning the taste of the vaccine and physical symptoms such as nausea, diarrhoea and stomach pains were reported [3]. Turnout among men was lower than that of women and children in both PoCs [3].

2.2. Study design

This qualitative study took place four months after the OCV campaigns. Semi-structured interviews were conducted with adult residents of both PoCs. Respondents were purposively selected on the basis of their vaccination status: fully vaccinated (received both doses of the vaccine), partially vaccinated (received one dose) and refused vaccination (received no dose). Vaccine doses were validated by presentation of vaccine cards. Respondents were found by walking through different sections of the PoC and approaching people for interviews. Potential respondents were approached in their homes and told about the study. If they expressed interest in participation, then they were screened for eligibility and taken through the process of informed consent. Respondent selection also prioritized gender balance and those living with young children. PoC residents who were health workers (including health and hygiene promoters and medical assistants) were excluded from participation in the study.

Interviews occurred in and around respondents' homes at times convenient for them and lasted between 30 and 45 min. Interviews were conducted by trained research assistants from the PoC populations in the Nuer language. All interviews were recorded and simultaneously translated and transcribed immediately after interviews. A subset of transcripts and recordings were given to research assistants from the other PoC to check for accuracy of translations. Informed consent was obtained in writing from each participant after the nature and possible consequences of the study had been fully explained.

2.3. Data analysis

Data analysis began during interviews with reviews and clarifications of transcripts with research assistants. Quotes were edited only as needed to improve readability while maintaining the structure and intention of the language. The results of discussion of cultural relevance of various phrases and ideas were documented with notes. Transcripts were then sorted in Nvivo 10. After a second reading of all transcripts, coding began under the main themes covered in the interview guide. Themes included perceptions of cholera, perceptions of the cholera vaccine and reasons for full, partial and non-vaccination. A validation of coding structures took place through two open-coding seminar sessions during which a subset of transcripts was shared with colleagues to generate and discuss themes. This iterative process allowed for additional themes to emerge which were later reorganized as sub-themes after additional reading of transcripts by DP.

3. Results

3.1. Characteristics of respondents

A total of 49 interviews were conducted – 25 from Tomping and 24 from UN House (see Table 1). All respondents were Nuer who were 7–10 months into their residence in the PoCs. The average age of respondents was 33 years (range 20–56 years). Less than half of the respondents had any primary schooling. With the exception of one person, all respondents were from the immediate vicinity of Juba. All respondents reported using the communal tap stands and latrines as their sole basis of hygiene activity. Hand washing facilities with water and soap were observed in most homes.

3.2. Perceptions of cholera

All respondents perceived cholera as a very serious illness. Cholera was consistently named along with malaria, typhoid and HIV/AIDS as the worst illnesses facing residents. Although malaria

Table 1
Vaccination status of study respondents.

		Tomping PoC	UN House PoC	Total
Study respondents	Fully vaccinated	(8 males; 5 females)	(4 males; 2 females)	19
	Partially vaccinated	(3 males; 4 females)	(5 males; 6 females)	18
	Not vaccinated	(4 males; 1 female)	(5 males; 2 females)	12
	Totals	25	24	49

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