

KENYA - CHOICES AND PRACTICES OF HAND WASHING WITH SOAP IN THE POST-COVID-19 PERIOD IN VIWANDANI INFORMAL SETTLEMENT, NAIROBI, KENYA, Post COVID-19 Hand Washing Project

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Overview

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Version

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PRODUCTION DATE

2025-07-22

NOTES

N/A

Overview

ABSTRACT

Abstract

Background: Hand washing with soap is crucial for infection transmission prevention. However, despite its effectiveness in reducing infections, globally the proportion of individuals who comply is low at only 19%, varying between developed (48-72%) and developing countries (5-25%). In Africa, basic hand washing facility coverage is at 15%, and in Kenya, the same is estimated at 18%. During the COVID-19 pandemic, awareness and hand washing practices increased globally including Kenya. However, hand-washing adoption often declines soon after crises/pandemics. Informal settlements, such as Viwandani, are harder hit by handwashing challenges because of limitations in access to water and handwashing facilities. Moreover, these communities are more vulnerable to other non-hygiene-related infectious diseases. Data on hand washing practices is sparse more so among populations living in informal settlements. Also, there is need to identify interventions for sustained hand washing with soap in these communities.

Objectives: To explore handwashing practice among the slum population, in a post-pandemic era. Specifically, the study 1) assessed adherence to and techniques of handwashing used in main hand washing hotspots in slum residents of Viwandani, Nairobi, 2) assessed perceptions, facilitators, and barriers to sustaining adherence to hand washing with soap after COVID-19 by slum residents in Viwandani, Nairobi, 3) explored the motivation and mechanism through which hand washing with soap can be sustained among some slum residents in Viwandani, Nairobi and 4) assessed availability and readiness of handwashing facilities at identified hand washing hotspots in Viwandani, Nairobi.

Methods: The study used direct observation, key informant interviews (KIIs), focus group discussions (FGDs), and in-depth interviews (IDIs) to collect information on adherence to and techniques of handwashing, perceptions, facilitators, and barriers to sustaining handwashing with soap, as well as the motivations and mechanisms through which handwashing with soap can be sustained including availability and readiness of handwashing facilities. The work concluded with a consultative workshop to propose a pilot concept for sustained hand washing with soap in Viwandani.

First, the research team, with the assistance of the community advisory committee (CAC) members, familiar with the local set up identified hot spots for handwashing. The CAC is a dedicated group that helps identify local health needs and develops ways to address those needs using community approach. The CAC is composed of members elected by respective constituent groups that they represent. The members represent government, local leaders/village leaders, the youth, women, older persons, school administrators, healthcare providers, faith-based organizations/community-based organizations/local non-governmental organizations, community health volunteers, media/education and entertainment organizations, religious groups and people living with disabilities.

Then, we conducted covert observations at the identified hotspots across Viwandani, focusing on both handwashing facilities and their users. Each hotspot had two observation sessions in which several individuals were observed, one session in the morning (9:00 AM to 1:00 PM) and another in the afternoon (1:00 PM to 5:00 PM). From each observation session, we purposively selected one individual for IDI, meaning that we conducted two (2) in-depth interviews from each observation

site. In addition, we engaged CAC members in FGDs to further explore the community motivation and the mechanisms for sustained hand washing with soap. We also gathered additional insights from KIIs drawn from individuals representing facilities in the hotspot list. These were institutional leaders or owners of these hotspots or focal persons who are well informed about hand washing with soap. Lastly, we convened a consultative workshop bringing together representatives from the County health officials, local administration, interview participants, CAC, and representatives of the facilities within the hotspots to collaboratively propose a pilot concept for sustained hand washing with soap in Viwandani. We conducted thematic analysis of the data.

Significance: In resource-constrained slum environments, where costly interventions like sanitation upgrades may not be feasible and the risk for transmission of infectious diseases is high, it is crucial to understand how existing resources are utilized for handwashing with soap. This project generated insights into current practices, identified factors that influence the use of available resources, and explored motivation mechanisms and assess availability and readiness of facilities for hand washing with soap in Viwandani. The findings inform the design or improvement of sustainable handwashing interventions, contributing to more effective disease prevention strategies.

Duration: 12 months (March 2024 to February 2025)

Budget: USD 10,000

Lay summary

Washing hands with soap is important for preventing the spread of pathogens. But not many people around the world do it regularly - only about 19%. This varies depending on where you live, with richer countries having higher rates (around 48-72%) and poorer countries having lower rates (about 5-25%). During the COVID-19 pandemic, governments including Kenyan, ran campaigns to get people to wash their hands more, and they set up lots of handwashing stations. More people started washing their hands because they feared getting sick. As a result, besides prevention of COVID-19 transmission, additional benefits were realized including reduction of diarrheal and other respiratory infections. But in the past, when there have been outbreaks of diseases, people start washing their hands more, but then they stop again soon after. A survey in Nairobi found that after six months, most of the handwashing stations were still working, and lots of people were using them properly. But a year later, fewer people were using them, and some of the stations were abandoned.

Through this study, we sought to understand how people in the slums of Viwandani in Nairobi were washing their hands after the COVID-19 pandemic. We worked with the community to come up with ways to encourage people to keep washing their hands regularly. Specifically, we engaged CAC members to identify hotspots for handwashing with soap in their community, then observed people in the identified hotspots to see how they washed their hands in places where they were supposed to. Out of those that we observed, we picked out some and talked to them to find out what they thought about washing their hands with soap and what made it hard for them to keep doing it, as well as what motivated some people to keep washing their hands and how we could help others do the same. Additionally, we held discussions with the CAC team that did the hotspot mapping to gather more information on the community perspective of hand washing with soap. We also talked to key informants to gather further insights. Finally, we held a workshop to bring together representatives from the County health officials, local administration, interview participants, the CAC, and representatives from the facilities in the hotspot list. They collaboratively proposed a pilot concept for Viwandani community that could encourage regular hand washing with soap. We analyzed the data to find common themes and insights.

This study appreciates that in poor areas like slums, it is not easy to do big things like upgrade sanitation systems. So, it is important to focus on simple things like washing hands with soap, which could help stop diseases from spreading. But even though washing hands is cheap and effective, not many people keep doing it regularly. This study helped us understand why and proposed ways to fix it, as suggested by the community itself.

The study lasted for 12 months, from March 2024 to March 2025.

The budget for the study is \$10,000.

UNITS OF ANALYSIS

The study observed handwashing practices, conditions of handwashing facilities, their availability and readiness in Viwandani after COVID-19. The study also assessed individual, institutional and administrative perceptions, facilitators and barriers to sustaining adherence to handwashing with soap as well as motivations and mechanisms through which handwashing with soap can be sustained among residents in Viwandani after COVID-19.

Scope

NOTES

Adherence to and techniques of handwashing used in handwashing hotspots

Availability and readiness of handwashing facilities

Perceptions, facilitators and barriers to sustaining adherence to handwashing with soap after COVID-19

Motivation and mechanism through which handwashing with soap can be sustained

Coverage

GEOGRAPHIC COVERAGE

County coverage, Urban informal settlement, Nairobi county (Viwandani informal settlement)

UNIVERSE

The study focuses on residents of Viwandani, leaders of institutions identified during hotspot mapping, health professionals, and local administrative leaders.

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

Name	Affiliation
Maurine Ng'oda, MPH	African Population and Health Research Center (APHRC)

OTHER PRODUCER(S)

Name	Affiliation	Role
Jane Osindo, MPH	African Population and Health Research Center (APHRC)	Co - Investigator
Sheillah Simiyu, PhD	African Population and Health Research Center (APHRC)	Co - Investigator

FUNDING

Name	Abbreviation	Role
African Population and Health Research Center	APHRC	Funder (Pipeline Idea)

OTHER ACKNOWLEDGEMENTS

Name	Affiliation	Role
Joshua Eliud	African Population and Health Research Center	Qualitative Team Leader/Data Documentation Specialist
Collins Omenda	African Population and Health Research Center	Research Officer
Bonface Ingumba	African Population and Health Research Center	Data Governance Officer

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
African Population and Health Research Center	APHRC		DDI Documentation

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Sampling

Sampling Procedure

A purposive sampling strategy was employed to recruit participants for in-depth interviews (IDIs), focus group discussions (FGDs), and key informant interviews (KIIs). This approach allowed for the deliberate selection of individuals and groups with relevant knowledge, experiences, and perspectives critical to achieving the study objectives.

The number of eligible hotspots identified during the mapping exercise informed the sampling design and sample size calculations for the observation component. Hotspot mapping identified 270 hotspots and associated handwashing facilities in the study area, all of which were assessed for eligibility based on the availability of both water and soap. Twenty-four (24) hotspots met the eligibility criteria and were included in the study. At the time of observation, three (3) hotspots were excluded because one provided water mixed with soap, while the other two did not have both water and soap available, resulting in 21 observed hotspots. Within each hotspot, individual users were selected using systematic sampling informed by a pilot observation conducted in three (3) hotspots, which estimated an average daily user flow of approximately 100 users per hotspot and an observation capacity of about 60 users. Accordingly, every second user was selected, with the first user in each observation session selected at random. An operational target of at least 25 users per hotspot was set to account for variation in user flow and incomplete observations, with sampling conducted across morning and afternoon sessions.

Deviations from Sample Design

For IDIs, a replacement procedure was used when an invited participant did not attend the scheduled interview. Data collectors returned to the same hotspot, conducted additional covert observations, and randomly selected another eligible participant for the IDI.

Response Rate

We intended to conduct 600 covert observations and completed 528 bringing the completion rate to 88%
We intended to conduct 50 in-depth interviews (IDIs) but completed 42 bringing the response rate to 84%
We planned for 10-15 key informant interviews (KIIs) and completed 11 bringing the response rate to 100%
We intended to conduct 2 focus group discussions (FGDs) and both were done bringing the response rate to 100%

Weighting

None

Questionnaires

Overview

Data were collected using a structured observation tool for covert observations, semi-structured interview guides for in-depth interviews (IDIs) and key informant interviews (KIIs), and a semi-structured focus group discussion (FGD) guide. The instruments were developed in English and translated into Kiswahili to support comprehension and inclusivity.

Data Collection

Data Collection Dates

Start	End	Cycle
2025-02-10	2025-03-06	N/A

Data Collection Mode

IDIs, FGDs, and KIIs: Face-to-face (f2f) interviews/discussions Observation component: Covert observations

Questionnaires

Data were collected using a structured observation tool for covert observations, semi-structured interview guides for in-depth interviews (IDIs) and key informant interviews (KIIs), and a semi-structured focus group discussion (FGD) guide. The instruments were developed in English and translated into Kiswahili to support comprehension and inclusivity.

Supervision

The field team consisted on 7 members; 5 recruited as field interviewers and 2 being part the core project team. The field team was led by a field supervisor who oversaw overall field activities and made sure all logistics necessary for data collection and field work were available. The field team stayed in contact with the PI and regularly shared feedback on the progress on a daily basis.

Data Processing

Data Editing

All observation data were collected electronically using handheld devices. There were no missing data for the facility- or individual-level variables included in the analysis; therefore, all eligible observations were included in the analyses, and no imputation or other methods for handling missing data were required.

The IDIs, KIs and FGDs were audio recorded and the recordings later uploaded on the shared.

The recordings were transcribed and uploaded to the shared drive

Other Processing

The transcripts were cleaned to ensure anonymization and rid personal identifiers

The deidentified observation data were further cleaned on excel before analysis to ensure data accuracy and uniformity

Data Appraisal

Estimates of Sampling Error

N/A

File Description

Variable List

handwashing_observation_cln_data_25Aug2026

Content

Cases 528

Variable(s) 17

Structure Type:
Keys: ()

Version

Producer

Missing Data

Variables

ID	NAME	LABEL	TYPE	FORMAT	QUESTION
V1	participant_id	Participant ID	discrete	character	
V2	hotspot_id	Hotspot ID	discrete	character	
V3	hotspot_type	Hotspot type	discrete	numeric	
V4	sex	Sex	discrete	numeric	
V5	age	Age	discrete	numeric	
V6	hw_facility_location	Handwashing facility location	discrete	numeric	
V7	type_of_facility	Type of facility	discrete	numeric	
V8	soap_container_type	Soap container type	discrete	numeric	
V9	soap_container_clean	Soap container cleanliness	discrete	numeric	
V10	facility_cleanliness	Facility cleanliness	discrete	numeric	
V11	presence_of_drainage	Presence of drainage	discrete	numeric	
V12	soap_type	Soap type	discrete	numeric	
V13	station_busy_morning	Station busy in the morning	discrete	numeric	
V14	station_busy_afternoon	Station busy in the afternoon	discrete	numeric	
V15	session	Observation session	discrete	numeric	
V16	observed_crowding	Crowding observed at any time during the day	discrete	numeric	
V17	soap_use	Participant used soap during handwashing	discrete	numeric	

Participant ID (participant_id)

File: handwashing_observation_cln_data_25Aug2026

Overview

Type: Discrete
Format: character
Width: 11

Valid cases: 528
Invalid: 0

Hotspot ID (hotspot_id)

File: handwashing_observation_cln_data_25Aug2026

Overview

Type: Discrete
Format: character
Width: 7

Valid cases: 528
Invalid: 0

Hotspot type (hotspot_type)

File: handwashing_observation_cln_data_25Aug2026

Overview

Type: Discrete
Format: numeric
Width: 21
Decimals: 0
Range: 0-5

Valid cases: 528
Invalid: 0

Sex (sex)

File: handwashing_observation_cln_data_25Aug2026

Overview

Type: Discrete
Format: numeric
Width: 9
Decimals: 0
Range: 0-1

Valid cases: 528
Invalid: 0

Age (age)

File: handwashing_observation_cln_data_25Aug2026

Overview

Type: Discrete
Format: numeric
Width: 25
Decimals: 0
Range: 0-2

Valid cases: 528
Invalid: 0

Handwashing facility location (hw_facility_location)

File: handwashing_observation_cln_data_25Aug2026

Overview

Type: Discrete
Format: numeric
Width: 15
Decimals: 0
Range: 0-2

Valid cases: 501
Invalid: 27

Type of facility (type_of_facility)

File: handwashing_observation_cln_data_25Aug2026

Overview

Type: Discrete
Format: numeric
Width: 49
Decimals: 0
Range: 0-2

Valid cases: 528
Invalid: 0

Soap container type (soap_container_type)

File: handwashing_observation_cln_data_25Aug2026

Overview

Type: Discrete
Format: numeric
Width: 46
Decimals: 0
Range: 0-4

Valid cases: 528
Invalid: 0

Soap container cleanliness (soap_container_clean)

File: handwashing_observation_cln_data_25Aug2026

Overview

Type: Discrete
Format: numeric
Width: 45
Decimals: 0
Range: 0-3

Valid cases: 528
Invalid: 0

Facility cleanliness (facility_cleanliness)

File: handwashing_observation_cln_data_25Aug2026

Overview

Type: Discrete
Format: numeric
Width: 10
Decimals: 0
Range: 0-2

Valid cases: 528
Invalid: 0

Presence of drainage (presence_of_drainage)

File: handwashing_observation_cln_data_25Aug2026

Overview

Type: Discrete
Format: numeric
Width: 10
Decimals: 0
Range: 0-2

Valid cases: 528
Invalid: 0

Soap type (soap_type)

File: handwashing_observation_cln_data_25Aug2026

Overview

Type: Discrete
Format: numeric
Width: 11
Decimals: 0
Range: 0-2

Valid cases: 528
Invalid: 0

Station busy in the morning (station_busy_morning)

File: handwashing_observation_cln_data_25Aug2026

Overview

Type: Discrete
Format: numeric
Width: 41
Decimals: 0
Range: 0-1

Valid cases: 528
Invalid: 0

Station busy in the afternoon (station_busy_afternoon)

File: handwashing_observation_cln_data_25Aug2026

Overview

Type: Discrete
Format: numeric
Width: 24
Decimals: 0
Range: 0-1

Valid cases: 528
Invalid: 0

Observation session (session)

File: handwashing_observation_cln_data_25Aug2026

Overview

Type: Discrete
Format: numeric
Width: 9
Decimals: 0
Range: 0-1

Valid cases: 528
Invalid: 0

Crowding observed at any time during the day (observed_crowding)

File: handwashing_observation_cln_data_25Aug2026

Overview

Type: Discrete
Format: numeric
Width: 9
Decimals: 0
Range: 0-1

Valid cases: 528
Invalid: 0

Participant used soap during handwashing (soap_use)

File: handwashing_observation_cln_data_25Aug2026

Overview

Type: Discrete
Format: numeric
Width: 9
Decimals: 0
Range: 0-1

Valid cases: 528
Invalid: 0

Documentation

Questionnaires

4a_ KII Guide.docx

Title	4a_ KII Guide.docx
Author(s)	African Population and Health Research Center (APHRC)
Date	28/08/2026
Country	Kenya
Language	ENGLISH and SWAHILI
Contributor(s)	Mourine Ng'oda, MPH
Publisher(s)	African Population and Health Research Center (APHRC)
Filename	4a_ KII Guide.docx

3b_FGD Guide_Kiswahili.docx

Title	3b_FGD Guide_Kiswahili.docx
Author(s)	African Population and Health Research Center (APHRC)
Date	28/08/2026
Country	Kenya
Language	SWAHILI
Contributor(s)	Mourine Ng'oda, MPH
Publisher(s)	African Population and Health Research Center (APHRC)
Filename	3b_FGD Guide_Kiswahili.docx

2a_IDI Guide_English.docx

Title	2a_IDI Guide_English.docx
Author(s)	African Population and Health Research Center (APHRC)
Date	28/08/2026
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Contributor(s)	Mourine Ng'oda, MPH
Publisher(s)	African Population and Health Research Center (APHRC)
Filename	2a_IDI Guide_English.docx

3a_FGD Guide_English.docx

Title	3a_FGD Guide_English.docx
Author(s)	African Population and Health Research Center (APHRC)
Date	28/08/2026
Country	Kenya
Language	ENGLISH
Contributor(s)	Mourine Ng'oda, MPH
Publisher(s)	African Population and Health Research Center (APHRC)
Filename	3a_FGD Guide_English.docx

Technical documents

1a_Observation Checklist_English_V1.docx

Title	1a_Observation Checklist_English_V1.docx
Author(s)	African Population and Health Research Center (APHRC)
Date	28/08/2026
Country	Kenya
Language	ENGLISH and SWAHILI
Contributor(s)	Mourine Ng'oda, MPH
Publisher(s)	African Population and Health Research Center (APHRC)
Filename	1a_Observation Checklist_English_V1.docx
