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Improving HABIT study: households, attitudes, and behaviours to increase toilet use

Submission date	Recruitment status	[ ] Prospectively registered
24/02/2021	No longer recruiting	[ ] Protocol
Registration date	**Overall study status**	[ ] Statistical analysis plan
02/11/2023	Completed	[ ] Results
Last Edited	**Condition category**	[ ] Individual participant data
02/11/2023	Other	[ ] Record updated in last year

Plain English summary of protocol

Background and study aims
This study will test the impact of a program to increase intent, and habit, of toilet use amongst toilet-owning households in rural Bihar. The program involves a set of community meetings and follow-up household visits and uses a set of activities and tools to promote toilet use. The lessons from this study will be important in developing solutions to increase the rate of toilet use in rural Bihar, and consequently important in improving sanitation outcomes across the country.

The program aims to overcome barriers, both with regard to deciding to or developing an intention to use the toilet, as well as developing the habit, amongst households that own a functional toilet but continue to have household members who defecate in the open.

Who can participate?
Adult household members of households that have functional twin-pit toilets in Bihar

What does the study involve?
Adult household members will be contacted to complete the surveys about toilet habits at the start and end of the program. The program will last between July 2018 and November 2018 and involves the following activities:
1. As part of the card game during household and community meetings, family members are asked to guess the correct time taken for the twin-pit toilet to fill up for different household sizes. As part of the French Drain Model, household members are shown a transparent plastic bucket to demonstrate seepage. This was aimed to address the barrier related to people feeling that their pit fills up quickly, affecting their intention to use the toilet.
2. Faecal matter that had decomposed was shown to households during household and community meetings. In addition, households were given a poster with information on the potential date of filling and emptying their twin pit. These interventions aimed at addressing pit emptying as a barrier to toilet use.
3. Household members will be able to take a pledge during a community meeting to stop open defaecation and start regular use of the toilet. Also, a toilet champion, who manages a calendar

tracking toilet usage by members and puts in INR 5 a week in a lockbox towards toilet cleaning and maintenance, will be appointed in each household during household meetings. These were aimed to address habituation to open defecation

What are the possible benefits and risks of participating?
Participants taking part in the study will receive a calendar and a lockbox as part of the intervention. There are no anticipated risks to participants taking part in the study.

Where is the study run from?
Villages in Jamui, Khagaria, Madhepura, Nalanda, Nawada, and Saharsa district (India)

When is the study starting and how long is it expected to run for?
From December 2017 to January 2019

Who is funding the study?
The International Initiative for Impact Evaluation (USA)

Who is the main contact?
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Additional identifiers

Protocol serial number
RIDIE-STUDY-ID-5afade94f1da7

Study information

Scientific Title
Evaluating a Behavioural Intervention to improve toilet use amongst toilet owning households in rural Bihar

Acronym
Improving HABIT

Study objectives
The intervention will increase toilet use amongst treated households, increase the number of members within treated households who regularly use toilets, and increase toilet use amongst adult male and female members within treated households.

Ethics approval required
Old ethics approval format

Ethics approval(s)
1. Approved 17/12/2017, IFMR Human Subjects Review (24, Kothari Road, Nungambakkam, Chennai, Tamil Nadu 600034 India; no telephone number available; no email address available), ref: IRB00007107; FWA00014616; IORG0005894
2. Approved 31/01/2018, Sigma Institutional Review Board Sigma-IRB (C 23, South Extension I, First Floor, New Delhi-110049 India; (+ 91 11) 4619 5555; www.sigma-india.in), ref: 10047/IRB/D /17-18

Primary study design
Interventional

Study design
Randomized controlled trial

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Behavioral intervention on toilet use to improve sanitation

Interventions
The study intervention involved the following activities:
1. As part of the card game during household and community meetings, family members are asked to guess the correct time taken for the twin-pit toilet to fill up for different household sizes. As part of the French Drain Model, household members are shown a transparent plastic

bucket to demonstrate seepage. This was aimed to address the barrier related to people feeling that their pit fills up quickly, affecting their intention to use the toilet.
2. Faecal matter that had decomposed was shown to households during household and community meetings. In addition, households were given a poster with information on the potential date of filling and emptying their twin pit. These interventions aimed at addressing pit emptying as a barrier to toilet use.
3. Household members will be able to take a pledge during a community meeting to stop open defaecation and start regular use of the toilet. Also a toilet champion, who manages a calendar tracking toilet usage by members and puts in INR 5 a week in a lockbox towards toilet cleaning and maintenance, will be appointed in each household during household meetings. These were aimed to address habituation to open defecation

Adult household members will be contacted to complete the surveys about toilet habits at baseline (04/07/2018) and endline (31/11/2018). One adult woman respondent in each sample household was interviewed. Some modules were preferentially administered to adult males (around specifics of toilet construction like materials used, money spent etc.) if one was available during the interview. During the endline, efforts were made to interview the same respondent that was interviewed at baseline. Where this was not possible, another adult woman from the household was interviewed

A three-stage sampling procedure was used to achieve a representative sample of households to be interviewed:
1. Treatment and control villages will beselected using simple random sampling from the list of all villages where WVI has a presence. 43 treatment and 43 control villages will be selected for panel data collection across the baseline and endline surveys.
2. 45 treatment and 45 control wards will be selected using Probability Proportional to Size (PPS) sampling from the list of all wards in the randomly selected treatment (and control) villages. Prior to sampling, very large wards will be broken up into smaller units. Out of the selected wards, small wards will be combined with nearby non-selected wards to ensure that each survey cluster has roughly 30 eligible households. In the absence of suitable wards to combine with, two treatment wards with less than 30 eligible households and two control wards with less than 30 eligible households will be combined.
3. Eligible households in the selected wards will be identified through a comprehensive household listing exercise. A sample of 12 households (and a replacement sample of 5 households) will be selected using simple random sampling and interviewed from each cluster.

Intervention Type
Behavioural

Primary outcome(s)
1. Toilet use at each household (households in which all members regularly use the toilet) measured using surveys at baseline and 5 months
2. Toilet use by each individual (members of the household using the toilet regularly, disaggregated by gender) measured using surveys at baseline and 5 months

Key secondary outcome(s)
1. Receipt of the information on the correct rates of pit filling rates measured using surveys at baseline and 5 months
2. Correct knowledge of pit filling rates measured using surveys at baseline and 5 months
3. Perceived ease of pit emptying reducing aversion to risk measured using surveys at baseline and 5 months

4. Use of money in the lockbox for maintenance and repair of toilets measured using surveys at baseline and 5 months
5. Use of calendar to mark toilet use measured using surveys at baseline and 5 months

Completion date
24/02/2019

Eligibility

Key inclusion criteria
1. Households that have functional twin-pit toilets where the following are true:
1.1. Pan is not cracked/ broken
1.2. Pan is not blocked
1.3. Latrine has a completed pit (can be defined as a covered pit)
1.4. Link between the pan and pit is not broken
2. Households in villages in Jamui, Khagaria, Madhepura, Nalanda, Nawada, and Saharsa district where WVI has a presence

Participant type(s)
Healthy volunteer

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Total final enrolment
5166

Key exclusion criteria
Does not meet inclusion criteria

Date of first enrolment
06/02/2018

Date of final enrolment
22/03/2018

Locations

Countries of recruitment
India

Study participating centre

Villages in Jamui, Khagaria, Madhepura, Nalanda, Nawada, and Saharsa district
Bihar
Patna
India
110049

Sponsor information

Organisation
International Initiative for Impact Evaluation

ROR
https://ror.org/02frad208

Funder(s)

Funder type
Research organisation

Funder Name
International Initiative for Impact Evaluation

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study will be stored in a publically available repository. The details of the repository are as follows: https://doi.org/10.7910/DVN/JAXDLU

IPD sharing plan summary
Stored in repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Study website	Study website	11/11/2025	11/11/2025	No	Yes