

Formative Research to inform design of a behaviour change intervention for the “F” and “E” of the SAFE strategy in Oromia, Ethiopia

What did the study involve?

Rationale

- Trachoma, caused by *Chlamydia trachomatis*, is the commonest cause of infectious blindness globally. Ethiopia has the highest trachoma burden of any country.
- Evidence around the “F” and “E” components of the SAFE strategy for trachoma control – Surgery, Antibiotics, Face washing and Environmental change – is lacking.
- To date there has been little targeted formative research to understand the factors that drive the hygiene and sanitation-related behaviours that are likely to be associated with trachoma transmission.
- Lack of information on these risk factors in a given setting limits the effective design of sustainable, contextually-relevant trachoma interventions and impedes progress towards the 2020 trachoma elimination target.

Research questions

- What are the current practices pertaining to water collection / priorities for use; face washing and wiping, handwashing and bathing; defecation and stool disposal; animal husbandry and faeces disposal; garbage disposal; fly control; sleeping arrangements; and laundry?
- Who carries out these behaviours, where, and using what?
- How do the social, physical and biological environment influence water use, personal and other hygiene practices, sanitation practices and sleeping arrangements?
- How do knowledge of trachoma, rational decision-making processes, different motivations and cues influence practice of the behaviours of interest?
- What are the opportunities for intervention, and are potential intervention strategies acceptable to the community and considered feasible?

Setting and timing

- The research was carried out in five *Kebeles* in the North Shewa Zone, Oromia in January 2016 near Gerba Guracha, a rural town with an active trachoma prevalence (TF) of 49.9% in children aged 1-9 years.



Images: Rural setting, variety of water sources

Methods

- Data were collected through: direct observation in households with young children (n=10); semi-structured interviews with caregivers of young children (n=10); focus groups with mothers of children under three years-of-age (n=3), grandmothers (n=1) and fathers (n=1) to explore behaviours, solutions and community perceptions; and interviews with key stakeholders within community and district structures (n=4).
- Methods and analysis were guided by theory about the drivers of behaviour using the *Evo-Eco Behaviour Determination Model* (see <http://ehg.lshtm.ac.uk/the-evo-eco-approach/> for further details).

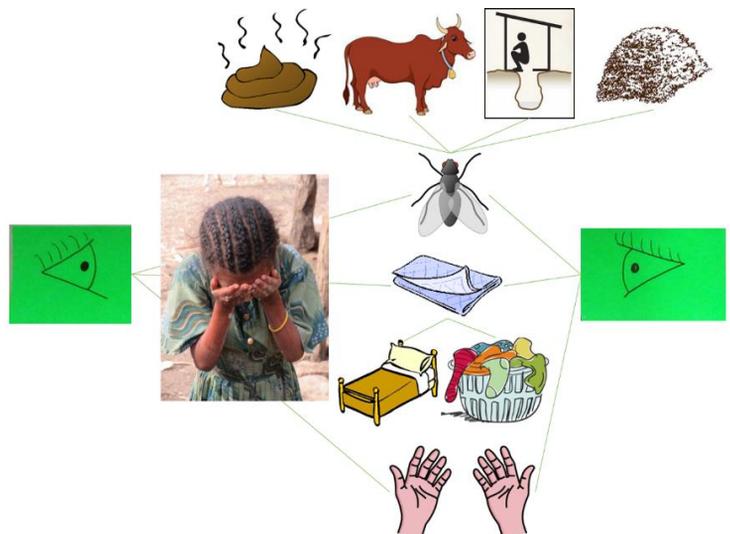


Figure: Illustrated diagram of trachoma transmission routes

What did the study find out about practices that are potential risk factors for trachoma?



	Behaviour	Factors enabling and constraining behaviour
Face washing	<ul style="list-style-type: none"> Faces were observed to be washed in a daily routine along with hands and feet, and occasionally in response to a cue (food or dirt). Faces were not dried after washing, but <i>Vaseline</i> was commonly put on faces once dry. Face washing differed within a household: only some individuals used soap and some did not wash at all. Family members assist each other with face washing. Infants have regular baths, children bathe weekly and adults monthly or less. There are no bathing places. 	<ul style="list-style-type: none"> People associated unclean faces with spread of disease. Water is prioritised for face washing. Washing a child's face is refreshing and can make children more comfortable and 'give a brighter mind.' However, children are responsible for their own personal hygiene from a young age (approximately 3 years) School children with dirty faces are judged / disciplined. No special objects (eg. different soap) are used for face washing. Vaseline use aims to repel flies - could it attract them?
Wiping & handwashing	<ul style="list-style-type: none"> Dirty faces with visible discharge were rarely wiped. When wiped, mothers used hands or clothing (theirs or the child's), and did not wash hands afterwards. Soap is rarely used when hands are washed. Parents and siblings are highly affectionate and often come into contact with discharge on faces of children. 	<ul style="list-style-type: none"> Mothers know the items they use to wipe faces are not clean, but feel that the 'ideal' behaviour is not attainable. Siblings caring for young children could also wipe faces. People feel that dirty faces attract flies and worry that flies landing on faces can spread disease. Faces of young children are washed to remove food or dirt, but not discharge, which is not disgusting enough to trigger the behaviour and its presence is hard to predict. No water or soap are available for use when in the fields meaning that these are the times when faces would need to be wiped not washed.
Sleeping and laundry	<ul style="list-style-type: none"> Families sleep together on mattresses or animal skins. Pillows and blankets are usually shared. Older children may sleep apart. Sleeping patterns can alter, e.g. following the birth of a child or when there are visitors. Bedding is usually washed at the river monthly (or less). Mattresses / skins are not washed but may be aired. Clothing is washed infrequently, except for babies clothes which are washed daily. 	<ul style="list-style-type: none"> Young children cry at night and therefore sleep near the mother. It is cold at night so people huddle together. The prohibitive cost of bedding limits what is purchased and causes people to sleep closely together. Extra, clean blankets are provided for guests. Water is limited so laundry is prioritised: mothers have been taught to prioritise washing their baby's clothing. Laundry is time consuming and inconvenient. Pillows are not washed or viewed necessary for children. Clothes and bedding are not thought to transmit germs.
Sanitation & flies	<ul style="list-style-type: none"> Sanitation infrastructure was poor: 3/5 communities had latrines, but they had been poorly constructed and were unhygienic. Open defecation was common and it was acceptable for young children to defecate in the home / compound. Human and animal faeces were found in compounds. Latrines at the school and health centres visited were well-constructed but extremely unhygienic. All households kept animals. Flies were found on animals and people's faces but not on inert garbage. 	<ul style="list-style-type: none"> Toilets had been promoted solely for health benefits, under the threat of a fine: demand was low. Poor maintenance of public facilities (eg. at schools and health centres) sets a bad example. Open defecation is the cultural and social norm. Human faeces is considered disgusting, but is tolerated. Flies are believed to be attracted by milk and cattle more than faeces.

What are the potential opportunities for intervention to prevent transmission?

	Potential solutions	Feasible?
Face washing	<ul style="list-style-type: none"> Add occasions for face washing by building on existing routines/ ritualising face washing. Make it a priority for all family members. Promote the creation of bathrooms so it is more convenient and nicer for women to bathe. Create shower like infrastructure to minimise water waste while bathing. Attempt to restrict use of Vaseline and see whether this reduces flies on faces. Make discharge more disgusting/visible. Create a face washing stand where soap and water can be kept. 	<ul style="list-style-type: none"> Yes Yes Possibly Yes Possibly
Wiping and handwashing	<ul style="list-style-type: none"> Attempt to improve face wiping behaviour throughout day using face wipes. Make handwashing with soap easy and observable by creating a place for handwashing where soap and water can be stored. Make handwashing with soap after wiping discharge a new handwashing moment. 	<ul style="list-style-type: none"> Possibly Possibly Yes
Sleeping and laundry	<ul style="list-style-type: none"> Promote use of separate blankets and/or pillows. Promote regular laundry of bedding and all adult and child clothing. Promote different sleeping arrangements for young children Promote use of pillow sacks which can be washed or wiped on a daily basis Encourage daily airing of all bedding in the sun. 	<ul style="list-style-type: none"> Possibly No No Possibly Yes
Sanitation and flies	<ul style="list-style-type: none"> Promote clean compounds as well as houses. Sanitation promotion (demand creation) using emotional drivers of behaviour Programme to improve hygienic use of sanitation in schools (potentially via role modelling or nudges) Keep animals further from the home to reduce flies. 	<ul style="list-style-type: none"> Possibly Yes Yes No

General factors for consideration in intervention design and delivery

- Instigating change that affects those at high risk of trachoma will require intervening at the community-level as well as in schools (current programmatic practice). This could be done by utilising existing structures such as 'one-to-five' groups or pregnant mothers groups.
- Literacy levels are extremely low (among mothers).
- Those working on trachoma should not see it as their sole responsibility to drive sanitation demand but rather use this as an opportunity collaborate with others in the WASH and health sectors.
- Community leadership and key structures already feel that health (and trachoma) are important - a helpful building block.
- Interventions may have to be sensitive to the cultural perception that behaviour is largely determined at birth.
- Concepts such as gossip or social judgement (affiliation motive), celebrity culture or role models (status motive) and the ideal mother character (nurture motive) are less salient in these communities and are likely to be a less useful basis for an intervention.
- Guests receive special treatment, with implications for bedding and sleep arrangements. This concept could be capitalised on.
- All households have mirrors and people are aware of their appearance and when they might be dirty.
- Communities in this area are quite highly structured at an administrative level, but these structures are associated with law enforcement and politics so this should not be a central component of a campaign.
- People are house proud and cleanliness is heightened during festivals so one option could be to promote 'Sunday cleaning'?

Next steps

- Convene a review meeting to explore the findings and explore potential intervention opportunities in more depth.
- Replication of some of these study methods in a) another setting with a high trachoma burden, b) in trachoma "cold spots" and c) in the same setting in other seasons (when hygiene behaviours are more readily compromised).
- Behaviour trials and/or concept development of feasible interventions.