Formative Research On Behavioral Determinants of Stunting

Ghotki, Khaipur and Nosheroferoze districts, Sindh Province
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<td>ACF</td>
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Acknowledgements:
Technical guidance: Gloria Lihemo, C4D Specialist, UNICEF Pakistan, UNICEF Pakistan WASH and Nutrition staff.

Field research:
UNICEF Implementing partners: ACF, HANDS, HELP, NRSP, PLAN, and SAFWCO, and Gulfam Baghoor, White Rice Communications’ head of field research and his team, Asia Korai, Moomal Soomro, Naseem Ahmed, Noureen Sial, Sajida Sial, Samna Arain, Sana Sarwar, Sareena Naz, and Sumera Arain.

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This report presents the process, findings and analysis of a qualitative research conducted in 3 districts - Ghotki, Khairpur and Nosheroferoze - of Sindh Province. The research explored underlying factors that determine nutrition and hygiene behaviors of mothers and caregivers of children under 2 years of age.

The research was commissioned by UNICEF Pakistan as part of the UN Maternal and Child Stunting Reduction Programme - a USAID funded initiative that aims to contribute to Sindh government’s efforts towards reducing stunting within the first 1,000 days of children’s lives. Through this initiative, UNICEF is implementing Water, Sanitation and Hygiene (WASH) related interventions under Pakistan's Approach to Total Sanitation (PATS) to complement nutrition specific interventions. Insights gained from this research informed the design and development of an integrated SBCC initiative.

Despite a wide array of emerging global and regional evidence on successful integrated SBCC interventions, the dearth of concrete local evidence necessitated the need for a formative research. A comprehensive desk review of integrated SBCC interventions in the region was conducted which informed the process of selection of methodology, instruments, behaviors, and channels to be used in the design of the formative research.

Using the Social Ecological Model, the formative research explored psychological, social, and ecological factors that determine behaviors at multiple levels of influence; that of mothers and caregivers at individual level, that of fathers and grandmothers at interpersonal level, and the interaction between both male and female frontline workers and their community at societal level.
KEY INSIGHTS AND RECOMMENDATIONS:

High message recall but not translating into action. Mothers, fathers and grandmothers are aware of key Infant and Young Child Feeding (IYCF) and hygiene practices owing to social and community mobilization efforts supported by the government, donors, and NGOs. The research showed that awareness was not translating into practice of desired behaviors. Key individual factors behind this lack of transference were: lack of understanding of the rationale behind a suggested practice, lack of planning or coping strategies in the event that they are unable to practice the behavior. All of which speak to the need for more assistance is needed to improve understanding, ability, and sharing of local best practices for mothers and caregivers.

Narrow focus on health motivation. Most interventions are focused on motivating mothers and caregivers to change their behaviors without taking into consideration their environmental constraints and limitations in performing desired behaviors. As a result, the motivation to practice the behaviors is not sustained. The proposed SBCC approach would need to put emphasis on rendering desired behaviors easier for caregivers.

Communication is instructional and sporadic to influence change in behaviors. Current SBCC initiatives including community sessions conducted by both male and female outreach workers and home visits are mostly instructional, brief, and one-sided designed for reach, not depth. Most are conducted without the use of communication materials. There is a dearth of platforms especially those targeting mothers and other female groups at the village level that could keep useful conversations going. Although mother to mother support groups exist they need further strengthening. Current platforms including home visits, group sessions and committee meetings need to evolve to allow consultations, problem-solving, and best practice-sharing with a clear linkage to and accountability for behavior change at the community level.
Frontline workers (FLWs) engagement with participant groups is too one-dimensional to be engaging. The approach and communications materials for engaging communities by male and female outreach workers is healthcentric, dry and visually unappealing. Most interactions have a pedantic tone and are limited to health related problems. At the same time, mothers in the community aspire not just for health changes but for lifestyle changes too. However important the health message maybe, benefits usually accumulate in the long term. Therefore, the immediate interaction between FLWs and mothers and caregivers needs to be attractive enough to sustain attention. It is advised that interactions with mothers should be designed to speak to the whole person and not to their one particular role (that of being a mother) and should align well with their aspirations for themselves and their families. Fathers have a key role to play in deciding the future of their families, and should be supported to encourage their wives and other family members to adopt model behaviors, as well as sharing the workload around the house to ease the burden on mothers.
Stunting is a direct result of varied factors of which nutrition specific causes are only one small part. Among the non-nutrition interventions that affect stunting, lack of access to clean water and poor or absence of sanitation facilities means that already malnourished mothers and children suffer repeated episodes of infections further exacerbating the risk of morbidity and mortality. Ineffective and inadequate Infant and Young Child Feeding (IYCF) practices like late initiation of breastfeeding with non-exclusive breast feeding practices and inadequate complementary feeding (low quality food, quantity and/or unsafe foods) contribute to stunting. Food hygiene, domestic hygiene and personal hygiene all play a role in making complementary feeding ineffective.

STUNTING IN PAKISTAN

About 44% of Pakistani children under the age of five are stunted with boys bearing the bigger chunk of this figure. In Sindh, Pakistan’s second largest province, stunting prevalence has deteriorated from 36.3% to 48.9% over the last two decades.

UNDERLYING CAUSES OF STUNTING

Among the determinants of stunting are a complex interaction of household, environmental, socioeconomic and cultural influences. Action to reduce stunting requires improvements in food and nutrition security, education, WASH, health, poverty reduction and the status of women, as highlighted in Figure 1 below.

Evidence indicates that improvements in access to sanitation (from 48% to acceptable standards) will lead to a reduction in clinical and sub-clinical infections which enhances nutritional and overall health status. As part of the UN Maternal and Child Stunting Reduction Program efforts, UNICEF initiated WASH related interventions to align with nutrition-specific interventions in three districts in Sindh Province.
INTRODUCTION

WASH interventions focus on reducing the incidence and severity of infection in children while controlling environmental enteropathy and its potential negative impact on children’s linear growth. This encompasses efforts to maintain an adequate water supply, both in terms of quality and quantity, sufficient means of sanitation (encouraging community-based approaches for ‘total sanitation’ that seek washing with soap).

Nutrition interventions aim to address the immediate causes of undernutrition by emphasizing actions that improve the nutritional status of children, mothers and pregnant/lactating women, including improving breastfeeding practices while continuing to improve the quality of complementary foods for children aged 6-23 months, improving women’s nutritional status by focusing on preventing micronutrient deficiencies among pregnant and lactating mothers. Improving early detection and treatment of severe wasting in young children.

Figure 1: WHO conceptual framework on childhood stunting. Source Steward et al. 2013.
METHODOLOGY

RESEARCH OBJECTIVES

The formative research is premised on the following objectives:

• Identify current practices of mothers, other family members and community workers related to six selected behaviors in order to inform an SBCC strategy to address them

• Investigate the determinants of current practices and the context within which they occur, in order to understand how social change may be catalyzed

• Explore diverse channels through which mothers receive information to identify influencer groups including the role husbands and grandmothers play as well as mothers preferred communication channels
RESEARCH DESIGN
The following principles form the basis of the research design:

Behaviors:
In order to select specific behaviors to study, a list of “accelerator behaviors” was consulted. These six behaviors were prioritized as having demonstrated the highest potential to hasten the decline of child and maternal deaths worldwide.

1. All infants younger than six months old are exclusively breastfed
2. Caregivers regularly wash their hands with soap at two critical times: after coming in contact with feces and before eating/feeding a child
3. Caregivers feed adequate amounts of nutritious, age-appropriate food to children from 6 to 24 months of age, while continuing to breastfeed
4. Family members safely dispose of human feces
5. Family treats and stores water safely
6. All infants are breastfed for the first time within the first hour after birth

The study also delves into behaviors of community outreach workers including Lady Health Workers (LHWs) and Community Resource Persons (CRPs). It posits that community outreach workers need to display behaviors consistent with the need to “counsel and support mothers (primary caregivers), and fathers and grandmothers (secondary caregivers) in a professional, methodological, effective, and accountable manner.”

Framework:
The research is guided by the Social Ecological Model (SEM) of Social and Behavior Change (Figure 2). The model integrates determinants of behaviors based on diverse behavior change theories while providing a multi-dimensional framework for investigating and hypothesizing the pathway to change. SEM posits that for behavior change to occur the person must:

- Have formed a strong positive intention to act
- Have no environmental constraints for the behavior to occur
- Have needed skills to perform the behavior
- Believe the advantages/benefits outweigh disadvantages of performing the behavior
- Perceive more social pressure to perform than not to perform the behavior
- Perceive that the behavior is consistent with self-image and personal standards
- React emotionally more positively than negatively to performing the behavior
- Believe that he/she can execute the behavior (self-efficacy)
Approach:

The following methodologies were employed in the research:

- In-context: Observations of mothers, husbands and families at their homes including their interactions with community workers
- Near-context: In-depth interviews with mothers
- Out-of-context: FGDs with mothers, fathers, grandmothers and community workers

“Data collected under circumstances closer to the conditions under which the behavior is normally produced to be of higher quality. This is because it is more likely to be ‘true’ evidence of the processes that potentially need changing. (In an interview, a person can report that they regularly perform the behavior and that it is habitual to them when in fact they don’t engage in the behavior at all. This is why self-report data is so often at odds with that resulting from observation.)” [A Guide to Behaviour Centred Design, Aunger et al.]
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Sampling:
A purposive sample was selected to ensure that findings had potential for up-scaling. This meant engaging respondents who would be considered the “typical case” which in this case is characterized as rural, mostly illiterate, low-income families, with at least one child under the age of 2 years. Respondents were from locations where UNICEF is implementing integrated Nutrition and WASH activities.

Hypothesis:
The hypothesis posits that by using the above-mentioned principles, the research would be able to:
• Identify the actual and claimed behaviors of typical caregivers and community workers
• Understand where caregivers and community workers stand on key precursors of behavior

Change:
Determinants including intention, environmental constraints (including gender constraints), skills, pros/cons, social pressure, self-image, emotions, and self-efficacy would need to be measured to understand conditions that influence change.

Scope:
Nine local enumerators (eight female and one male) were trained during a three-day workshop. All research instruments were translated from English to Urdu prior to training and discussed in detail during the training. A session on documenting behaviors and the surroundings using basic smartphones was also conducted to enable field researchers to visually record their observations. Representatives of UNICEF’s implementing partners were briefed on the research’s objectives and methodology and their assistance sought in selecting respondents. Consent was sought from respondents prior to engaging in the research activities.
## METHODOLOGY

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<tr>
<th>METHODOLOGY</th>
<th>TARGET GROUP</th>
<th>GHOTKI</th>
<th>KHAIRPUR</th>
<th>NOSHEROFEROZE</th>
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**METHODOLOGY**

**Mothers:**

**Observations:** Female field researchers observed 30 mothers at their homes for more than five hours each and recorded actual practices related to the selected behaviors. They also observed the surrounding, support provided to mothers by their families, as well as the family and gender dynamics.

**Interviews:** Female field researchers interviewed 18 mothers at their homes for over an hour and investigated key precursors for behavior change as presented by the Socio-Ecological Model.

**FGDs:** Female field researchers conducted 12 FGDs with mothers. The FGDs used a projection method, where mothers were asked to discuss their concept of a model mother while the researcher drew key elements of their description on a chart.

**Fathers:**

Six FGDs were conducted with fathers. The participants were presented with six sets of stunting related scenarios that a fictional father had to deal with and their advice sought to help the character deal with the situations. Fathers were asked to advise on:

1. How to prepare for delivery day?
2. What to do to make it easy for a mother to breastfeed her 3-month old baby?
3. How to ensure that a family uses their newly constructed toilet?
4. What to tell someone who is serving food without washing their hands?
5. What age should semi-solids be initiated for children?
6. How to treat water that is not safe for drinking?
**Grandmothers:**
Six FGDs were conducted with grandmothers. Participants were presented with a set of scenarios facing a fictional mother-in-law or grandmother and their advice sought to help the character deal with the situations. Grandmothers were asked to advise on:

1. How to prepare for delivery day?
2. What to do to make it easy for a mother to breastfeed her 3-month old baby?
3. How to ensure that a family uses their newly constructed toilet?
4. What to tell someone who is serving food without washing their hands?
5. What age should semi-solids be initiated for children?
6. How to treat water that is not safe for drinking?

**Community Workers:**

**Observations:** Researchers observed 12 LHWs and 12 CRPs during their group sessions and home visits in the community.

**FGDs:** Six FGDs were conducted with LHWs and six with CRPs.
METHODOLOGY

BEHAVIORAL DETERMINANTS OF STUNTING IN SINDH PROVINCE

Figure 3: Data Collection Activities
RESULTS & RECOMMENDATIONS

Considering the range of behaviors explored, the different respondents involved, and the variety of methods used, research results are presented by behavior category. Under each behavior category, the key parameters of the social ecological model—intention, environmental constraints, skills, pros/cons, social pressure, self-image, emotions, and self-efficacy—are evaluated for that particular behavior and subsequent recommendations are made to influence those parameters.

Recommendations drew heavily from the BJ Fogg’s Behavior Model to explain, apply, and organize most of the insights generated.

The BJ Fogg’s Behavior Model asserts that for a person to perform a target behavior, he or she must (1) be sufficiently motivated, (2) have the ability to perform the behavior, and (3) be triggered to perform the behavior. These three factors must occur at the same moment, otherwise the behavior will not happen.
Research revealed that many mothers did not frequently or consistently practice their caregiving behaviours of children under the age of 2 years.

Despite having the knowledge:

- Motivation to adopt the target behaviors appeared to be low (most mothers aspired to be like “educated” mothers but did not associate strong negative emotions to undesirable behaviors or have strong fear of consequences)
- Their ability to cope with workload, advice by elders, and limiting gender norms remained inadequate (most mothers did not have the skills to negotiate with their elders, or the self-efficacy to continue with desired behaviors when compliance became difficult)
- There was an absence of triggers in the environment to remind or encourage adoption of desired behaviors (most mothers didn’t find their husbands to be encouraging of their caregiving efforts)

Similar barriers existed at other levels of influence (interpersonal and community) and the model was found to be equally applicable there.
EARLY INITIATION OF BREASTFEEDING

DESIRED BEHAVIOR:
ALL INFANTS ARE BREASTFED FOR THE FIRST TIME WITHIN THE FIRST HOUR AFTER BIRTH.

A majority of mothers said that they improved their diet as they approached delivery by consuming more fruits, desi ghee, juices, butter, mutton, and vegetables. The rest said they did not make any changes to their diet prior to delivery because they were already maintaining a good diet. About half of the mothers said that they delivered their last baby at home, the rest either at a government or private hospital. The choice of where to deliver was mostly decided by their elders (fathers-in-law, mothers-in-law, and mothers) and husbands.
Most mothers reported breastfeeding their babies on the day of delivery, but only after an hour or more had elapsed because of a set post-delivery family routine: where the babies were held by elders, cleaned, received a reciting of the Azaan (call to prayer), and fed honey as ghattee (first dose to the new-born as a tradition). Some said they did not have enough breast milk at the time of delivery until a few days later. Only a few mentioned breastfeeding their babies within the first hour. About one-third considered colostrum to be hazardous for the baby and said they did not feed it to the baby.

**Pros/cons:** Mothers admitted to knowing that initiating early breastfeeding was good for both the baby and the mother, but their knowledge seemed limited as to the benefits of doing it. Fathers on the other hand did not seem to be aware of the behavior’s importance.

**Intention:** Mothers claimed that they would feed their next baby within the first hour of delivery, but had not done so in the past. A clear indicator of the gap between awareness and practice.

**Environmental constraints:** Mothers said that the post-delivery routine and mother’s inability to breastfeed - not having enough milk, being too weak or sick/unstable, and having gone through a C-section - had contributed to their decision not to initiate early breastfeeding.

**Social pressure:** Mothers said that a common set of practices advised by their mothers and mothers-in-law was for the child to be held by elders, bathed, and fed honey as ghattee all of which delayed their first breastfeeding.

**Self-efficacy, Skills:** Mothers in general believed in their ability to feed their babies within the first hour.

**Self-image, emotion:** Mothers did not feel any sense of guilt for not feeding their babies immediately.
Recommendations

Most mothers were somewhat aware that initiating early breastfeeding was a good behavior to adopt. However, in many cases, the desired behavior was not exercised: generally babies were not fed within the first hour of their birth.

Key recommendations:

- **Intention, self-efficacy**: Focus should not be on merely instructing mothers, but advising them on how best they can cope with real impediments to early breastfeeding: C-section, feeling of weakness, inadequate breast milk flow. Engage them in an open discussion about the criticality of the behavior and the importance of colostrum.

- **Environmental constraints, social pressures**: Address a mother’s environmental constraints by ensuring that elders and husbands become supportive of early breastfeeding while they are deciding on the arrangements for delivery, which they often do in great detail.

- **Self-image, emotion**: Focus on the nurturing nature of the act of breastfeeding, the mother-baby bond, and mother’s aspirations to be a well-informed, modern mother.
EXCLUSIVE BREASTFEEDING

DESIRRED BEHAVIOR:
ALL INFANTS ARE EXCLUSIVELY BREASTFED FOR THE FIRST SIX MONTHS OF LIFE.

Only a few mothers reported that they breastfed their babies under 6 months exclusively, while most supplemented breastfeeding with water and soft foods and some gave routine food cooked for the whole family. Observations confirmed this practice.

All mothers were seen breastfeeding their babies under the age of 6 months. However, the practice was often not exclusive.

12/18 mothers breastfed their babies responsively; while 6/18 mothers said they breastfed after every hour. The most common supplementary solid food mentioned by mothers included banana, rice pudding (kheer), lentils (daal), boiled potatoes, porridge (dalya), cow milk, biscuits dipped in tea, and water - given to babies with the aim of helping them overcome observed weakness or following elders’ advice.
Pros/cons: Mothers knew that exclusively breastfeeding their babies for the first six months of life was important as it kept them healthy and made them less prone to illnesses. Some mentioned having learnt that from LHWs, some from their mothers, mothers-in-laws and doctors. However, most mothers did not appreciate the need for strong adherence to the 6-month window.

Self-efficacy: Mothers generally claimed that they had no problem breastfeeding their babies exclusively. However, it was observed that most had a hard time balancing chores with breastfeeding. Most would return to the next household chore immediately after they had fed their baby. Some rushed and left the baby unsatisfied implying mothers had no support system when it comes to caregiving.

Environmental constraints: In general, mothers mentioned that their own poor diet and constant household chores limited their ability to exclusively breastfeed. Some had to leave their babies with grandmothers or maternal aunts to go work in the fields, in which case the secondary caregivers would feed the babies formula milk. On their part, grandmothers were of the view that mothers should take breaks from their schedule in the fields and come back to breastfeed; while fathers reported that alternate arrangements (such as hiring someone else to work in the field) needed to be made to free up the mothers.

Skills: Mothers in general believed in their ability to breastfeed exclusively for 6 months. Some mothers tried to put their babies to bed right after the feed. However, most got busy with other chores. A large majority fed their babies responsively, while a few tried to force-feed, mostly in order to attend to household chores. Breastfeeding was either done while sitting on the ground or on chaarpai (bed made from jute).

Social pressure: Mothers said that supplementing breastmilk with soft foods as early as 4 months was a common practice advised by their mothers and mothers-in-laws.

Self-image: Mothers considered feeding the baby as their responsibility, while sisters-in-law and mothers-in-law helped with household chores in order to free up their time for feeding.
Emotion: Mothers reported not compromising on the health of their children and preferred to get advice from professionals like doctors.

Intention: Mothers didn’t seem to have a strong conviction to exclusively breastfeed their babies throughout the first six months. Some mentioned trying soft foods as early as four months. They said they started early following elders advise or because they themselves had observed that the baby was not growing fast enough, was hungry at the end of a feed, cried, and seemed to want to eat what others were eating.

Recommendations

Most mothers, fathers and grandmothers are well aware of the benefits of exclusive breastfeeding for the first six months as a principle. However, this was not the practice in many households, and most mothers would start complementing breastfeeding with other food earlier than the six-month mark. the following recommendations are offered to promote this behavior:

- Intention, self-efficacy, social pressure: Make it easier for mothers to continue exclusive breastfeeding by addressing the particular concerns/beliefs mothers, fathers, and grandmothers have: breast milk is inadequate in satisfying the hunger of crying babies or in meeting their growth needs. More than instruction, consulting and discussing with them to allay their fears is required.

- Environmental constraints, skills: Address a mother’s environmental constraints (too many chores, going out to work in the field, a lack of support, lack of decision-making authority and pigeonholing due to gender) by constantly encouraging and enabling them to find solutions that work within their community.

- Social pressure: Ensure that fathers and grandmothers actively encourage mothers to follow the six-month rule especially around months four and five and that they also share some of mothers’ myriad responsibilities include strategies where fathers and other household members also contribute to the caregiving role to ease mother’s burden.
COMPLEMENTARY FEEDING

DESIRED BEHAVIOR:
CAREGIVERS FEED ADEQUATE AMOUNTS OF NUTRITIOUS, AGE-APPROPRIATE FOODS TO CHILDREN OF AGES SIX TO 24 MONTHS, WHILE CONTINUING TO BREASTFEED.

8/18 mothers interviewed knew that soft foods should only be introduced when the baby was more than six months old. However, 5/18 admitted to starting as early as four months and 5/18 as late as eight months.

Mothers said that they fed their children boiled potatoes, porridge (dalya), cow milk, goat milk, wheat, halwa (traditional confection), biscuits, roti, rice, fish, butter, and lentil and rice (daal chaawal).

Observations showed most mothers feeding children broth, potatoes, porridge (dalya), Cerelac, buffalo milk, eggs, lassi, biscuits, curry, spinach, and rice. However, the most common practice was to feed children of age 6-24 months whatever other members of the family ate, after softening or diluting it to make it digestible for younger children.

Grandmothers were in agreement that solids should be started at six months. They suggested butter, buns, biscuits, potatoes, porridge (dalya), bananas, custard, Cerelac, formula milk, rice, yogurt, peas, chicken, and fish. Fathers largely agreed that solids should only be started at six months and not before, though some mentioned 3-4 months as well. The food they listed included: bananas, rice-lentil mixture (khichri), porridge (dalya), biscuits, potatoes, Cerelac, rice pudding (kheer), water, and cow milk.
**Pros/cons:** Most mothers knew that complementary feeding was supposed to start at six months and had the following benefits: the child remains healthy, does not fall ill, and is satisfied as breast milk alone is not sufficient at this age. However, their knowledge on what constituted a balanced or healthy diet for children of age 6-24 months was inadequate and prioritized commonly used or traditional food.

**Environmental constraints:** Poverty, large families, and lack of diversity of local produce limits the quality and quantity of food.

**Skills:** Mothers in general believe in their ability to start appropriate, soft foods at six months. However, upon probing and observation, it became evident that their culinary skills were limited to traditional cooking and children were not being fed special food.

**Social pressure:** Mothers do not feel any social pressure to adopt the desired behavior. However, they were often advised by their mothers and mothers-in-law on feeding practices.

**Self-image:** Mothers believe feeding the children is theirs and their sisters-in-law’s responsibility while mothers-in-law helped them with household chores and taking care of their children in order to free up their time for feeding.

**Self-efficacy:** Mothers generally claim that they had no problems feeding their children. However, a few said they exclusively breastfeed their babies for longer than six months because they were poor and breastfeeding was free.

**Emotion:** Mothers reported that they did not compromise on the health of their children and preferred to take advice from professionals like doctors.

**Intention:** Mothers didn’t seem to have a strong conviction to diversifying the meals they offered to their children. They relied on traditional strength-inducing (“taaqat waala”) food: halwas, khitchri, and milk.
Recommendations

Most mothers were somewhat aware that initiating early breastfeeding was a good behavior to adopt. However, in many cases, the desired behavior was not exercised: generally babies were not fed within the first hour of their birth. There are several possibilities of intervention here in order to improve the practice.

• Intention, self-efficacy: Focus should not be on merely instructing mothers, but advising them on how best they can cope with real impediments to early breastfeeding: C-section, feeling of weakness, inadequate breast milk flow. Engage them in an open discussion about the criticality of the behavior and the importance of colostrum and their feelings about it.

• Environmental constraints, social pressures: Address a mother’s environmental constraints by ensuring that elders and husbands become supportive of early breastfeeding while they are deciding on the arrangements for delivery, which they often do in great detail.

• Self-image, emotion: Focus on the nurturing nature of the act of breastfeeding, the mother-baby bond, and mother’s aspirations to be a well-informed, modern mother.
HANDWASHING WITH SOAP

DESIRED BEHAVIOR:
CAREGIVERS REGULARLY WASH THEIR HANDS AT TWO CRITICAL TIMES: AFTER COMING IN CONTACT WITH FECES AND BEFORE EATING/FEEDING THE CHILD.

Mothers claimed that they washed hands regularly with soap (up-to two to eight times daily), especially before eating/feeding the child and after using the toilet. Other instances mentioned included: before going to bed at night, after getting up in the morning, after dusting, after washing utensils, and before cooking. Most of them mentioned that they adopted handwashing as a habit during their childhood. About half said that they never forgot to wash their hands with soap. A large majority claimed that their whole family washed their hands with soap.

However, observations showed that 25/30 mothers washed their hands more than once during the observation. 8/30 mothers were observed washing their hands with soap after using the toilet and before feeding their babies. They did not necessarily use the prescribed technique for handwashing and dried their hands by wiping them on their clothes. At least five mothers were observed not washing their hands at all. The rest were irregular in their use of soap. It is noteworthy that mothers washed their hands more frequently than other family members.
**Intention:** Most mothers reported willingness to practice regular handwashing with soap.

**Environmental constraints:** In general, mothers didn’t find any impediments to handwashing with soap. However, some mentioned general lack of hygienic conditions in their environment (no proper sewage system) and the fact that some of their chores put them in contact with filth - as impediments to regular hand washing with soap. Only a very few mothers mentioned the cost of soap to be a barrier to their regular use.

Most homes observed had a handwashing area; however, none was exclusively used for handwashing, but served as a multipurpose cleaning area where a hand pump was installed. In addition to handwashing, it was used for bathing, cleaning utensils, laundry, and fetching water for drinking.

**Skills:** Mothers in general believed in their ability to wash their hands regularly, to help their children to do so, and to persuade everyone in the family to follow suit. However, observation revealed that most did not instruct older children or remind adults to wash their hands with soap and had not developed the habit of washing hands themselves.

**Social pressure:** Mothers did not identify any social pressure or sanctions. However, they said that more and more people were using soap.

**Self-image:** Mothers in general believed that people who practiced handwashing with soap were conscious about their families’ health, were educated, kept their house neat, had proper drainage systems and were influenced by LHWs, NGOs and TV. Observations revealed that mothers took great care to bathe their children (especially the younger ones), dress them properly in clean clothes, put kajol (kohl) in their eyes, and get them ready for the day; but thereafter, they did not follow suit to ensure that the children remained clean nor did they wash the baby’s hands on a regular basis.
**Self-efficacy:** Mothers believed they didn’t need anyone else’s help to wash hands with soap and that it was their responsibility as a home-maker. They also believed that affordability was not an issue, estimating that a bar of soap cost the family PKR 20-40, and adding that they would have to spend much more on transport, medicines, and doctor’s fees if they became sick due to lack of soap use.

Observations showed presence of soap at 24/30 households. The most ubiquitous brand of soap was Lux. Other brands were Lifebuoy, Safeguard, and soap provided and supplied by UNICEF. Some families were seen keeping the Gaay laundry soap for handwashing.

**Emotions:** Mothers said that without handwashing they would feel dirty and that handwashing with soap made them feel good, clean, and like they were taking care of their families. However, observations revealed that in reality, most mothers were fine not using soap to wash their hands (probably, because it got rid of the more obvious issues: dirt, filth, and smell).
**Recommendations**

Most mothers, fathers and grandmothers are aware of the benefits of handwashing with soap in principle. However, in many households, the practice was absent or inconsistent and irregular. Recommendations to improve this behavior are highlighted below:

- **Intention:** Make mothers and husbands pledge publicly to washing hands with soap and openly discuss issues they face in complying.
- **Environmental constraints, skills:** Address a mother’s environmental constraints by setting up reminders in the house and encouraging them to contemplate using soap and how to make it easy for them to do it.
- **Social pressure:** Include fathers and grandmothers in more involved discussions about the use of soap at the home and what they can do about it.
- **Self-image, emotion:** Focus on the nurturing nature of mothers, identifying handwashing with soap as one of the things a progressive, confident woman herself does and teaches her children. Evoke the inherent disgust people have when it comes to filth and help them associate it with a lack of soap use.
FECES DISPOSAL

DESIRED BEHAVIOR:
FAMILY MEMBERS SAFELY DISPOSE OF HUMAN (INCLUDING BABY) FECES.

Most of the respondents used pit latrines. Those who didn’t have toilets at home had plans to construct one. The rest had a dedicated area within the boundary wall for defecation without proper drainage. Feces would be covered with soil. None of the toilets had a tap or hand pumps inside. Everyone was observed taking water into the toilet from outside in plastic containers.

Most respondents claimed to dispose of feces in drains (close to washing stations) in the absence of toilets or in the toilets if they had them. However, in only a few observed cases, feces of children were disposed of in toilets. Mostly children were washed off at the hand pump or over the drain.
Pros/cons: Mothers knew that disposing of feces in the toilet helped prevent diseases. They mentioned diarrhea/motions, stomachache, coughs, fever, flu, and vomiting as diseases resulting from open defecation blaming spread of diseases on flies and germs. They referred to toilets as “a basic necessity.”

Environmental constraints: Mothers mentioned lack of proper drainage as the biggest impediment to regular toilet use. They also knew of the importance of washing areas being physically separate from toilets. Children playing out of the home and men working away from the home had little recourse but to defecate in the open.

Social pressure: Mothers mentioned that it was usually people’s own decision and there were no real sanctions in place in the community.

Self-image: Mothers in general believed that people in their community were adopting the trend to construct and use toilets with the help of NGOs, and adopters were people who were health-conscious and had the resources to construct decent toilets. However, they claimed that there were still many who defecated outside.

Emotion: Mothers said that they liked/would like to have toilets at home, as it would make life easier for them and it “felt odd” to go to someone else’s house to use them. However, affordability was a concern. Fathers and grandmothers were of the view that having a toilet was a “moral need,” “displayed good manners,” and imparted “privacy and security” to women of the house.

Skills, self-efficacy: Mothers overwhelmingly said that it would be good to have proper drainage systems. However, they didn’t know how to make that happen.

Intention: Mothers believed they didn’t need anyone else’s help and it was their responsibility to make sure that the toilets were maintained. However, children – while playing outside – still defecated in the open.
Recommendations

Most mothers, fathers and grandmothers were aware of the benefits of using toilets. However, in many households, toilets were not necessarily used by children or for the disposal of child feces. Recommendations offered:

- **Intention, self-efficacy**: Cement mother’s and their family’s members’ intention to stop open defecation by clearly and convincingly addressing the perception that family members who stayed outside the home for long periods could defecate anywhere.
- **Environmental constraints, skills**: Develop innovative ways of addressing the drainage and toilet maintenance issues as well as the excuse that family members who stayed outdoors for long periods of time had no choice but to defecate in the open.
- **Social pressure**: Ensure triggers discouraging open defecation are made visible in homes, villages and everywhere.
- **Self-image, emotion**: Promote regular toilet use as something progressive families find ways to do as a matter of pride and discouraging alternatives as being disgusting.
WATER TREATMENT

DESIRED BEHAVIOR:
FAMILY SAFELY TREATS AND STORES WATER

All mothers knew of the risks of using contaminated water. However, interviews and observations revealed that they believed the water was safe and not a source of health issues. Most of the time, the water was consumed on the spot as the pump or tap was inside the house. In 20/30 cases, water was taken from a hand pump and installed inside the house. In eight households, water was brought from tube wells in the fields, using motor bikes or donkey carts. In two cases, water was taken from a tap inside the house and stored in a container made of clay (matka) and bucket. Mostly, mothers were responsible for bringing water. No one was observed treating their water. In households with hand pumps, water was not stored as it took literally minutes to get it. In other households, water was stored for one to three days.
Pros/cons: Mothers, grandmothers, and fathers knew that unsafe water could cause diseases. In this regard, most were able to name at least some of the following diseases: diarrhea/motions, stomachache, cough, fever, stomach flu, and vomiting related to consuming contaminated water.

Environmental constraints: Mothers did not mention problems in obtaining water. No one had seen any water cleaning products in the market.

Skills: The only skill mothers portrayed in this regard was boiling water on occasion. Fathers and grandmothers had a more extensive list of possible treatments: phitkari, filtering through cloth, and leaving in the sun.

Social pressure: Mothers mentioned treating water as personal decision and there was no social expectation. Mothers in general believed that no one in their community treated water except in cases where it had to be given to sick children.

Emotion, self-image: Mothers said they were proud to have a water pump at home and felt good about their family having access to safe water.

Self-efficacy: Mothers believed they didn’t need anyone else’s help and it literally took minutes to get water from the pump or tap inside the house. Even the bore well systems were close by.

Intention: Mothers said that water from the hand pump and tap looked clean and is sweet hence did not need to be treated.
Recommendations

Most mothers, fathers and grandmothers were aware of the risks of consuming contaminated water. However, they didn’t doubt water obtained through the hand pump.

- Intention: Cement adult family members’ intention to treat their water by addressing common misperceptions.
- Self-efficacy, skills: Simplify and prioritize treatment options, and advise mothers on how to fit them in their hectic routines, and persuade other family members to share workload.
- Social pressure: Ensure that the family demands safe water and contributes to treating it.
- Self-image, emotion: Focus on treating water as a matter of progressive lifestyle and not just an issue of health.
WHAT ARE MOTHERS ASPIRATIONS?

Mothers were asked to state their personal aspirations and their responses were recorded as follows:

**Appearance:** A model mother would look like a ‘modern’ lady, who follows latest trends, is beautiful and healthy, has long hair, and wears neat and clean clothes. She wears jewelry, makeup, embroidered dress, heels, and accessorizes with bangles, earrings, necklace and a handbag.

**Attitude:** She would have a smiling face and be active, good mannered, well-informed, confident and courageous.

**Family:** She would most probably be living with her in-laws, but she would ideally have her own space within the extended-family system.

**Health behaviors:** She would take care of her hygiene, give healthy food to her children and breastfeed her children for their first two years. She would bath them regularly and dress them in good clothes. She would take equal care of boys and girls and insist on their education. “She would take care of her father- and mother-in-law like she took care of her parents before getting married.”

**Self-image:** Most mothers thought they did not represent the model mother they had envisioned. Some said they aspired to be like her. Most mothers didn’t think there were any mothers in their community like the imagined model mother.

Barriers to being a model mother:

- The burden of excessive household chores
- Lack of awareness
- Lack of freedom to make their own decisions
- Limited support from family (husbands, in-laws)

*Figure 4: Sketches of Model Mother/Woman according to mothers*
Recommendations

Most mothers aspired to be a better version of themselves. However, many constraints set them back and need to be addressed:

• Intention, self-efficacy: Bolster mother’s intention to become a model mother, by showing them that even in their difficult circumstances, being a model mother is possible.

• Environmental constraints: Address a mother’s environmental constraints by enabling a positive support structure at home around the theme of becoming a “model mother/woman” and creating a culture of mutual responsibility. Don’t just put it all on the mother.

• Skills: Appreciate and enhance the skills of mothers to tackle their myriad issues at home and live up to the standard of a model mother/woman. Instead of paralyzing them with guilt husbands, fathers and other influencing groups should encourage them to become more resourceful and offer them support.

• Social pressure: Enable the sharing of inspirational examples from within the community by using positive deviants.

• Self-image, emotion: Link desired behaviors to current ingrained behaviors. Go beyond the model mother concept which is all-giving all the time to the model woman concept which also has intrinsic, immediate self-gratification (feeling good overall and being your best).
WHERE DO MOTHERS GET INFORMATION ON DIVERSE ISSUES INCLUDING ENTERTAINMENT?

Female researchers asked 18 mothers about their media consumption trends. The results were as follows.

A little more than half of the participating mothers did not recall receiving any messages about desired behaviors from any media sources, while the rest did.

13/18 mothers had TV at home and watched Sindhi and Indian programs. The rest had no TV. Most popular Indian TV celebrities were: Shahrukh Khan, Aishwarya Rai, Heema Malini, Salman Khan, Reema, Sana, and Atif Aslam. The most popular channel was KTN. A few mothers mentioned Indian drama Jodha Akbar, and Sindhi drama “KANDAN JEE SAIJ” as their favorite programs.

When asked about their social life, almost half said they socialized with their friends. The rest said they used to have friends before marriage but would not meet them now as they were busy with kids and household chores. Other social activities mother mentioned were attending weddings, going to their mothers’ home, going to the field with friends, and visiting the local shrine.

Insights & Recommendations

- Recall of health messages was poor.
- TV (solar powered) seemed like the most preferred mass media platform.
- KTN was the only channel recalled by name. KTN (Kawish Television Network) is the first private Sindhi TV channel in Pakistan. It is the most watched private Sindhi-language channel based on general entertainment television channel worldwide. The channel is part of the Kawish Television Network’s bouquet of channels.
- Jodha Akbar was the only program mentioned by name. Jodha Akbar is a period drama about Mughal emperor Akbar’s marriage of political convenience to a Rajput princess Jodha Bai.
- Bollywood and Lollywood influences were cited.
- Mass media might be of limited value unless the programme could gain enough intensity, frequency, and loyalty.
- Edutainment in these entertainment-poor environments could be used to attract attention.
- Creating networks or groups of like-minded peers, interested in trends in “lifestyle” and not just “health and hygiene,” and inspired by colorful narratives could help change norms.
BEHAVIORAL ANALYSIS OF COMMUNITY OUTREACH WORKERS

**DESIRED BEHAVIOR:**
COUNSEL AND SUPPORT MOTHERS, FATHERS AND GRANDMOTHERS, IN A PROFESSIONAL, METHODICAL, EFFECTIVE, AND ACCOUNTABLE MANNER.

**Lady Health Workers**
Most LHWs believed that their messaging was getting through to the women in the community and having a positive impact. They also said that their work was gaining increasing support and cooperation from the community.

Nine group sessions and 12 family consultations, most of which were done at either LHWs’ own houses or houses of community members, were conducted. LHWs were observed discussing the following topics: Family planning, exclusive breastfeeding, danger signs during labor, TT (tetanus toxoid) vaccines, health & hygiene of pregnant women, ODF and toilet construction, hand-washing with soap, cleanliness of food and utensils at home, antenatal care, advantages of colostrum, and nutrition of breastfeeding mothers.

Most LHW activities started their sessions around 10 am. Group sessions lasted from an hour to about an hour and a half. Individual consultations ran for 5-20 minutes.

**Intention, self-image:** LHWs expressed their desire and intention to keep fulfilling duties assigned to them. It was observed that LHWs were regarded positively by most people in the community, especially the women they counseled.

**Environmental Constraints:** LHWs were not satisfied with their remuneration. They complained that while extra work was assigned to them frequently, no extra compensation was provided. They identified multiple factors affecting their ability to be more effective: Resistance by religious leaders, delayed reimbursement of travel expenses, unavailability of medicines when needed, no incentives for new targets, multiple bosses, too many meetings, difficult access to some areas, teasing by men, dirty environment, and poor drainage.

**Skills:** LHWs displayed resourcefulness in getting people to sessions in a relatively short time. Most of the group sessions were conducted in a lecture mode, where LHWs would issue instructions; not many questions were asked. Barring a few, none of the LHWs observed used any visual aid or SBCC materials during their sessions, saying that they had not been given any such materials. They indicated that each one of them would conduct five to seven home visits daily, and two group sessions monthly to meet their target of serving 120 households in the community.
Pros/Cons: Most LHWs said that they were successful in creating health and hygiene awareness among the communities through their sessions and visits, and that their efforts were bearing fruit – slowly but surely.

Social Pressure: LHWs were seen to have limited targets and metrics (family planning and population data) related to actual change in the behavior of the community.

Emotions: Almost half of the LHWs seemed demotivated in the way they planned and carried out their visits, starting sessions without pre-defined topics, or rushing through, or ignoring questions from the audience.

Self-efficacy: LHWs said that their effectiveness could improve significantly if they were given realistic workload, managed transparently, received their salaries on time, were appreciated and rewarded for good performance, and if they could cooperate more among themselves. They said they used family planning and population data of each LHW catchment area as a method to measure results of their efforts. And though they believed all sorts of behaviors were changing, they didn’t seem to have a robust way of measuring and knowing the degree of change across such diverse behaviors.
Recommendations

Most LHWs were aware of the challenges emanating from the research. However, they seemed to have a sub-optimal approach to resolving them. It is advisable that:

- **Environmental constraints:** Address LHWs’ concerns relating to performance management, workload allocation, and payment delays.

- **Skills, self-efficacy:** Enhance their skills to conduct engaging sessions, using a participatory approach, and known adult-learning principles.

- **Social pressure:** Set clear accountability matrices and standards related to actual behavior change. Create recognition and reward opportunities.

- **Self-image, emotion:** Focus on LHWs’ commitment to their communities and own families. Recognize and reward them publicly for their contribution to actual behavior change in the community. Make it easier for them to take care of their own families while they serve the communities.
COMMUNITY RESOURCE PERSONS

DESIRED BEHAVIOR:
COUNSEL AND SUPPORT MOTHERS, FATHERS AND GRANDMOTHERS, IN A PROFESSIONAL, METHODICAL, EFFECTIVE, AND ACCOUNTABLE MANNER.

Most CRPs reported that their sessions in the community were shifting behaviors for the better and that they were committed to their mission despite challenges.

During observations of 12 group sessions, most of which were done at autoqs or village houses, CRPs provided the following key messages: Hygiene messaging including handwashing with soap, eliminating open defecation by toilet construction and/or covering feces with soil (matti), keeping homes clean, safe disposal of child feces, safe water management including boiling drinking water, breastfeeding for six months then supplementary feeding, vaccination - not discriminating between male and female child, encouraging expecting mothers to go for follow-ups with the doctor every four months.
**Skills:** CRPs displayed resourcefulness in getting people to sessions in a relatively short time, although in some cases they invited their family members and neighbors. Most of the sessions were done in a lecture format, where CRPs would issue instructions related to health and hygiene; not many questions were asked. Except a few, none of the CRPs used any visual aid or SBCC materials in their sessions, blaming the NGO for not having provided them such materials.

**Social Pressure:** CRPs were not seen to have set goals or matrices related to actual change in the behavior of the community.

**Self-image:** CRPs believed that their community was undergoing significant transformation. They washed their hands properly. Mothers were breastfeeding their children till 6 months after birth. People were constructing and using toilets, even though they were basic. Training sessions on health and hygiene and awareness campaigns made their mission successful.

**Emotions:** Almost half of the CRPs were not motivated in their planning and conducting of visits. Most sessions meant to start around 10 am but got pushed back to 2 pm due to a lack of planning. Sessions on average lasted for 20 minutes. The shortest sessions was nine minutes and the longest was an hour long with around 100 people in attendance.

**Pros/Cons:** Most CRPs (both males and females) said that they were successful in creating health and hygiene awareness among the communities through their sessions and were able to keep WASH committees active in every village.

**Environmental Constraints:** CRPs identified multiple factors affecting their ability be more effective: lack of support from local government, false promises made by CRPs (such as “money will be given to construct/improve toilets”) and NGOs to communities, low stipends, and travel, mobile and entertainment costs that they had to bear themselves, delayed payment of stipends, illiteracy, carelessness and laziness of communities, and personal disputes.
**Self-efficacy:** CRPs said that training sessions, monitoring and supervision, and the involvement of local influencers could make their work successful. When asked how they measured success, CRPs usually referred to the change they saw in the communities, such as construction of toilets and drains. And though they believed all sorts of behaviors were changing, they did not seem to have a robust way of measuring and knowing the change.

**Intention:** CRPs expressed their desire and intention to keep working at changing the behaviors of communities they were responsible for. Many said that they started by changing themselves and their families in order to set an example for others.

**Recommendations**

Most CRPs were aware of the challenges facing the communities. However, they seemed to have a haphazard and hastened approach to resolving them. Recommendations:

- **Environmental constraints:** Address CRPs’ concerns relating to performance management, workload allocation, and payment delays.
- **Skills, self-efficacy:** Enhance their skills to conduct engaging sessions, using a participatory approach, and known adult-learning principles.
- **Social pressure:** Set clear accountability matrices and standards related to actual behavior change. Create recognition and reward opportunities.
- **Self-image, emotion:** Focus on CRPs’ commitment to their communities and own families. Recognize and reward them publicly for their contribution to actual behavior change in the community. Make it easier for them to take care of their own families while they serve the communities.