RESEARCH PAPER

Barriers to the Delivery and Uptake of Water Sanitation and Hygiene (WASH) Promotion and Infant Diarrhea Prevention Services: A Case Study in Rural Tribal Banswara, Rajasthan

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Objective: We aimed to identify key barriers to Water Sanitation and Hygiene (WASH) promotion and infant diarrhea prevention services delivered by Accredited Social Health Activists (ASHAs) in rural India. **Methods**: A case-study was conducted across nine tribal villages in Banswara district (Rajasthan), where in-depth observational and qualitative data was collected from frontline health workers and infant caregivers. **Results**: ASHAs' prioritization of their incentive-based link-worker tasks over their health activist roles, limited community mobilization, and lack of monitoring of such activities hindered the delivery of WASH promotion and infant diarrhea prevention services. Caregivers' lack of trust in ASHA's health knowledge and preference for private providers and traditional healers also hindered the uptake of ASHA's health promotion services. **Conclusions**: Strengthening ASHAs' health activism roles and building trust on frontline health workers' knowledge among tribal communities will be the key to address the determinants of child malnutrition and stunting and accelerate progress towards the national development agenda.

Keywords: *Accredited Social Health Activist (ASHA), Frontline health worker, Malnutrition.*

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Diarrheal diseases remain a pressing concern for child health in rural India, as they are still the third leading cause of child mortality and linked to child malnutrition and stunting [1,2]. Improved water, sanitation and hygiene (WASH) conditions can prevent a large proportion of diarrheal diseases [1]. To raise awareness about safe WASH practices and infant diarrhea infection risks at the grass-root level, Accredited Social Health Activists (ASHAs) bear an important role. ASHAs serve as: *i*) link-workers, facilitating access to the healthcare system and providing community-level care to the rural populations, and *ii*) as health activists, raising awareness on the social determinants of health. Alongside other frontline health workers, ASHAs are expected to provide child health, hygiene and nutrition education and mobilize communities towards safe WASH, using platforms like the Village Health and Nutrition Days (VHND) [3]. The ASHA's performance is incumbent upon multiple factors, including personal factors such as her education and domicile; professional factors such as recruitment, training and incentives; and, organizational factors such as monitoring and supervision [4]. Factors that hinder the delivery of WASH promotion and diarrhea infection risk awareness services in particular, have not yet been adequately investigated.

Understanding potential gaps in WASH promotion and infant diarrhea prevention services at the grass-root level may prove crucial to unlocking current bottlenecks for the acceleration of progress to meet national and international child stunting targets (e.g., POSHAN mission) [5]. We draw upon in-depth qualitative and observational evidence collected during a community-based case-study in the rural tribal district of Banswara, Rajasthan, to unravel unique community perspectives and identify key barriers for the delivery and uptake of WASH promotion and infant diarrhea prevention services.

METHODS

The case-study was conducted across nine tribal villages of two administrative blocks of Banswara district, where over 93% of the population is rural and 75% from scheduled tribes

[6]. In rural Banswara, over 50% of children under-5 are stunted and female literacy remains below 50% [7]. Since ASHA's introduction in 2005, 86% have received at least 10 days of training [8]. Across the study villages, 88% of households have access to an improved drinking-water source and 21% use improved sanitation facilities, as per the household survey of the PANChSHEEEL Project in the same villages [9].

One field researcher (JVG) and two local field investigators who had prior training and experience in qualitative research, conducted daily field visits to the study villages from September to December, 2019. Semi-structured qualitative methods were used with purposive sampling strategies until theoretical saturation on the frontline health workers' and caregivers' perspectives on WASH and child health was reached. Key informant interviews (KIIs) were carried out with all ASHAs and Auxiliary Nurse Midwifes (ANMs) across the case-study villages. To capture the caregivers' perspectives, house-hold visits, which involved semi-structured interviews with caregivers, were carried out across four of the nine case-study villages, which were sub-selected based on those villages with stronger rapport-building with the study team. Households with an under-2 child were selected based on maximum variation purposive sampling criteria. Focus group discussions (FGDs) were carried out in each of the four villages, with 6-9 mothers at a time [10], and maximizing variation among participants by purposively sampling mothers from geographically dispersed households. Semi-structured VHND observations were conducted across four different villages where the study team was invited to attend (**Table I**). All KIIs, FGDs, and VHND observations were conducted at the anganwadi centers and lasted 30-90 minutes.

The study was approved by UCL Research Ethics Committee in the UK and the IIHMR Review Board in India, and written informed consent was obtained.

Table I Semi-structured Data Collection Events

Data collection methods	*Number of events*
KII with ASHAs	10
KII with ANMs	2
FGD with mothers of infants	4
Household visits and semi-structured interviews with caregivers	42
VHND observations	4

KII-key informant interviews, ASHA-accredited social health activist, FGD-focus group discussion, VHND-village health and nutrition day.

Data processing and analysis: Interviews and group discussions were conducted in Wagdi and Hindi by field investigators familiar with the local dialect and culture, and audio-recorded and transcribed verbatim. Anonymized transcripts and field memos from observations were imported into NVivo software for analysis of textual data. We adopted a grounded theory approach, where social phenomena and core themes were derived inductively from the data [10]. Relevant statements were coded into preliminary codes, and after an iterative process and discussion among the social researchers in the study team, the final core themes were defined.

RESULTS

Word clouds drawn from qualitative data revealed that discussions with frontline health workers more often revolved around the causes of infant's diarrheal infections ("water", "hands", "habits"), and discussions with infant caregivers more often involved the consequences of disease ("hospital", "doctors"). Thematic analysis of the data uncovered several core themes hindering the delivery and uptake of current village-level WASH promotion and infant diarrhea prevention services (**Table II**).

Table II Emerging Themes Constraining WASH Promotion and Infant Diarrhea Prevention Services

Barriers to services' delivery	*Barriers to services' uptake*
• ASHAs prioritize link-worker roles over their health activist roles • Limited community mobilization ability by ASHAs, who, despite efforts to raise awareness on health and hygiene, struggle to mobilize the community towards safe WASH habits. • No focus on health and WASH promotion was observed during VHND sessions, which were poorly attended. • Lack of monitoring and accountability of ASHA's WASH and health promotion responsibilities, which facilitated non-compliance	• Caregivers prefer private providers or traditional healers, as they are thought to provide more effective treatment. • Government healthcare facilities are less convenient to attend to, and they are thought to provide scanty treatment. • Lack of trust in ASHAs health knowledge and hygiene advice, due to ASHA's lack of higher education or formal health training. • Locational factors: The geographical distance to ASHAs influenced ASHA's service uptake

ASHA – accredited social health activist, VHND – village health and nutrition day, WASH – water sanitation and hygiene.

ASHAs prioritize link-worker roles over their health activist roles: ASHAs own accounts of their responsi-bilities emphasized the multiplicity of activities they were engaged in, compelling them to prioritize some tasks over others. ASHAs placed an unequal emphasis on their incentive-driven link-worker tasks including antenatal and postnatal visits, escorting mothers for institutional births, and helping in child vaccinations, in detriment of their health activists' role (**Web Box I**).

Limited community mobilization ability: ASHAs were aware of their role as health activists and community mobilizers, raising awareness about health and hygiene among the village community, but appeared to have a limited ability to engage and mobilize communities. ASHAs often claimed that despite their efforts, villagers did not understand or rejected the health and hygiene advice they provided (**Web Box I**). A contrasting perspective was offered by mothers and caregivers of infants, who often claimed not being aware of some poor hygiene and infection risks, and not being told about them by ASHAs.

No focus on health and WASH promotion in VHND sessions: VHNDs, the designated platforms to provide child health, hygiene and nutrition education, were observed to focus exclusively on the delivery of child vaccinations and child growth monitoring and were often poorly attended. ASHAs' role during VHNDs was primarily to provide logistical support to ANMs, but no health promotion activities were observed. ASHAs were unclear on how to utilize the development funds available under the panchayat for local health planning and WASH promotion at VHNDs.

Lack of monitoring and accountability for WASH and health promotion: Daily observations revealed that many anganwadi centers often remained closed and attendance was low. Unlike records of births, child immunizations, and antenatal and postnatal visits, WASH promotion and child health and nutrition education services were not formally monitored. Frontline health workers were asked to keep records of the VHND activities, but records were sometimes populated a posteriori with fabricated accounts. The acceptance of artificial 'paper records' further facilitated non-compliance.

Caregivers prefer private providers or traditional healers: Despite financial constraints, parents reported a clear preference for private providers or traditional healers rather than government healthcare services. Parents often did not trust that ASHAs had the necessary medication or that government hospitals provided effective treatment for child diarrhea. Hence, ASHAs seldom contributed in providing oral rehydration solutions (ORS) or monitoring of diarrheal events, as parents hardly sought her help in those instances. Treatment was mostly sought from so called "Bengali" doctors, informal medical providers without a legal medical license. Parents often thought that treatments such as ORS powder, pills, and diets, more often prescribed by public health services, were less effective than treatments given via drips or syrups, which were more often provided by "Bengali doctors", as the latter were perceived to be more 'medical' methods of higher quality. Traditional spiritual healers, *bhopas*, were often visited to provide healing rituals for different child afflictions; however, diarrhea was generally recognized as a symptom that required medical treatment (**Web Box II**).

Most parents of infants recognized the ASHA's role in providing support during childbirth and for child immunizations, but not for other health services, including advice on acute diarrheal infections. Parents pointed out the lack of higher education (ASHAs are eligible after 8 years of formal education), and relatively limited training as reasons for not trust seeking care from ASHAs for childhood illnesses.

Locational factors: Parents who lived relatively far from the ASHAs residence or the anganwadi center reported not having regular contact with frontline health workers. Families living close to ASHAs frequently reached out to her when their children were ill and were provided with ORS or paracetamol and advised on referral. Some ASHAs were not residents of the villages they served but had still been selected by the local authorities. Villagers reported not seeking or receiving child health support from such ASHAs.

DISCUSSION

ASHAs placed an unequal emphasis on their link-worker and incentivized roles in detriment of their health promotion and activism roles. Kawade, et al. [11], pointed out how ASHAs referred to themselves as 'ASHA workers' rather than 'health activists,' which was interpreted as a reflection of their focus on their roles as link-workers rather than health activism [11]. Another study [4] similarly found that ASHAs were considered to have particularly poor training on counselling and health promotion skills [4]. The National Health Mission evaluation of the ASHA program [8] agreed that ASHA's roles as community mobilizer were "extremely weak" in the Banswara district. Block-level officials in Banswara insisted that ASHA's role was "primarily as a link-worker", with "no time to devote to community mobilization", which partly explains the lack of emphasis on ASHA's health activist role in Banswara. Our findings differed from those of another study in Rajasthan [4], which identified conflicts and unfriendly relationships between ASHAs and ANMs that hindered the delivery of joint services. Instead, ASHAs in our study villages were observed to provide support to ANM during VHNDs.

WHAT THIS STUDY ADDS?

- ASHAs unequal emphasis on their health activist roles in favor of their link-worker roles particularly hindered the delivery of WASH promotion and infant diarrhea prevention services.
- Parents' lack of trust on ASHAs health advice and reliance on private and traditional healthcare providers further hindered the uptake of health promotion schemes among tribal communities.

The infant caregivers in the tribal study communities reported a general mistrust on ASHA's knowledge and on the public healthcare services. A study in Maharashtra [12] similarly concluded that although tribal communities were satisfied with ASHAs' support during childbirth, immunization and family planning, they believed that ASHAs are not knowledgeable on health due to the lack of higher education [12]. Additionally, traditional beliefs about health and disease and a preference for private providers and traditional healers also hindered the uptake of government child health services for infant diarrhea prevention and management.

Given that poor WASH and diarrheal disease are increasingly recognized as primary factors contributing to poor child growth [2], the lack of emphasis and monitoring of ASHA's health activist role could partly explain the recent stagnation on child malnutrition and stunting rates in India [13]. Based on the results and lessons learnt from this study and published evidence, ASHAs' roles in community mobilization and health promotion needs strengthening. Reinforcements on ASHA's role clarity, training, monitoring, and incentive systems for WASH and health promotion will be needed [4], but reinforcements among program managers and governance spheres on the need for health promotion will also be required for the fulfilment of ASHAs as true health activists [14]. It has been suggested that providing certificates of ASHA's health modular trainings could prove useful to increase the community's trust in her health knowledge [12]. Examples could be taken from Chhattisgarh's *Mitanin* program, where frontline health workers were particularly successful at performing as socio-political actors and mobilizing communities [15].

These findings suggest there is a disconnect between India's policy shifts with increased attention, political commitment and funds towards improving WASH and child growth determinants under several flagship programs such as POSHAN Mission, and how they have translated into shifting village-level realities in rural tribal Banswara, which may be part of a larger crisis of care where policy implementation remains an important gap [13].

Strengthening ASHAs health activism and mobilization skills and improving trust and rapport between tribal communities and frontline health workers will be key to address the determinants of child malnutrition and stunting and accelerate progress towards the national development agenda.

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Web Box I Representative Verbatim Quotes of Service Delivery Barriers
Link-worker role prioritization over health activist role "*We were trained to do the registration of every pregnant lady from 3 months and provide accurate vaccination to them (…), to get the regular weight checks done of women and teach them how to breastfeed. (…) I have an array of works starting from reporting, visiting 10 houses [of pregnant women and new-borns], checking the growth of new-born children, seeing if the child is having diarrhea, keeping tabs on their weight*". [ASHA 04]
Limited community mobilization ability People do not understand hygiene risks: "*The educated crowd understands but the uneducated ones just nod their heads. (…) I don't know if they really understand [about proper hygiene habits] as when we say they often nod head and say yes to everything*". [ASHA 04] People do not listen to the hygiene and health advice: "*We were trained to educate about how to keep the child neat and tidy, proper feeding habits and proper bathroom habits. (…) We tell about vomiting, diarrhea and educate about the benefits of the ORS solution (…) Some villagers follow [advice], and some others don't follow*". [ASHA 06] People do not believe the hygiene and health advice: "*We tell [that drinking river water is not good] but people retort by saying that we have been drinking this water from years and nothing has or will happen.*". [ASHA 10] People reject hygiene and health advice: "*I sometimes give advice, support and suggestion but some people from the community tell me bad words*". [ANM 01] People do not know or receive information on hygiene and health risks: *"We don't know why [child gets diarrhea]. On consulting the doctor, he provides treatment to our kids. He gives us medicine and we pay them. He assures us that our child will heal. He doesn't brief us on the cause of illness. If the treatment doesn't work, we take our child back to the doctor. (…). We just came to know that water can also be contaminated like this. Whenever kids ask for water, we put our hands inside the pot and fetch it to them we didn't know that we were polluting our drinking water".* [Mother 01]
No focus on health and WASH promotion in VHND sessions Lack of clarity on utilizing health promotion and village health planning budgets: "*We don't know what the budget is, 5000 rupees a year are delivered under the VHNSC"* [ASHA 07] "*5000 rupees come* [for the VHNSC], *out of which 200 are given to us to work around the anganwadi. (…) Not now, but earlier we used to receive some money. We spent 2000 rupees, we bought some chairs, and we need to buy some more articles*". [ASHA 08] "*We have money in our bank accounts, but we have not yet used it. 5000 rupees were deposited in our account which is unused as of now. If money is given to the committee or to us we may use but if money is given to the village panchayat then it won't be used*". [ASHA 01]
Lack of monitoring and accountability for health and WASH promotion Village Health Nutrition & Sanitation Committee's activities only exist in paper records: "*The VHNSC Committee is only on the paper records, as sometimes people do not come. The village Sarpanch leaves everything on us…*". [ASHA 04] "[Interviewer] *Have you heard of the VHNSC, is there a committee for this here?" "No, no such thing is here*". [ASHA 05]

Web Box II Representative Verbatim Quotes Under the Core Theme: Service Uptake Barriers
Preference for private providers or traditional healers Private healthcare is thought to be quicker and better: *"The doctor in the Government hospital takes time to cure the illness. It takes 3 days for the treatment to work. (…) the private doctor cures the illness in 2 days and his medicines helps our child to feel better. In private hospital you just have to pay, and they treat you, no hassle".* [Mother 02] There is a medicalised idea of high-quality treatment: *"[People] at times they go to the Bengali doctor only because he gives saline drip (…). The Bengali doctor prescribes a heavy dose of medicine which has resulted in fatal deaths".* [ASHA 02] Traditional spiritual healers are still commonly sought for treatment, although not for diarrhea: *"Yes, we visit the bhopa [spiritual healer]. First, we visit the bhopa and after that, if it doesn't work, we take our child to the hospital for consultation. All the ladies in this room have visited the bhopa. We see the bhopa if a child unnecessarily cries while going to someone's place. We then assume that the child has been attacked by some negative energy. [But if the child suffers from diarrhea, cold or cough] then we consult the doctor.* [Mother 03] *"Herbs don't work against diarrhea. No one believes in such things anymore. Those who trust these things [spiritual healings] end up losing their child after roaming around for several days. When medicines don't work, we take our child to the bhopa. We only take child to bhopa while he is suffering from fever or vomiting, but not during diarrhea".*[Mother 04]
Lack of trust in ASHA's knowledge *"[Diarrhea cases] do not come to us, they [parents] rather go to the ANM sister directly or hospital. Rarely someone comes, when they do we give ORS to them".* [ASHA 08] *"We keep notes of the number of cases of diarrhea and we have to fill a form, but if it counts to 0 then we are scolded by Sir".* [ASHA 04]
Locational factors *"ASHA only provided support during delivery time and for injections. She does not provide support for diarrhea or child health. People go straight to hospital for that. She also lives far away, so even if she has some ORS treatment available, people don't bother and also she doesn't provide support for that".* [Mother 05]