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'No one ever asked for my suggestions...': photo-elicitation with forcibly-displaced Rohingya about humanitarian responses to mass displacement in Cox's Bazar

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ABSTRACT

Since 2017, more than 600 000 Rohingya have sought refuge in Bangladesh, as Forcibly Displaced Myanmar Nationals (FDMN), in registered camps or improvised settlements in Cox's Bazar. Although humanitarian responses have significantly improved in the past decades, coordination gaps remain between health and non-health sectors (eg, little is known about the impacts of shelter or protection responses on refugee health). We thus aimed to explore FDMN perspectives on issues affecting their health to help inform health system responses to mass displacement in Cox's Bazar. We conducted photo-elicitation interviews with 39 FDMN in Kutupalong and Balukhali camps. Each participant–researcher pair photographed three to five images of participants' lived environment, then participants described each photograph and why chosen in interviews. We analysed data thematically. Participants reflected daily difficulties and indignities, due to open sewerage and limited potable water, alongside health and safety risks (eg, flimsy and insecure shelters, gas leaks), particularly for children, older people and those with special needs. Health services were reportedly basic and sometimes unfriendly. Participants advocated for health and safety improvements, providing photographic evidence of the risks they experienced daily.

Photo-elicitation was valuable for visualising participants' daily lives and provided participants with a means to advocate for improvements in undignified and risky living conditions. Interviews enabled articulation of perceived effects on physical and mental health and recurrent themes of 'abandonment', with limited services and few pathways for change. Highlighting Rohingya experiences can help identify ways to improve living conditions, services and well-being.

INTRODUCTION

In 2017, more than 600 000 Rohingya people sought refuge in Bangladesh, as Forcibly Displaced Myanmar Nationals (FDMN), due to military persecution in Myanmar's northern Rakhine State.¹ Most settled around Cox's Bazar in Southeast Bangladesh, where two registered camps, Kutupalong and Nayapara, and two makeshift settlements

already existed.² The Health Sector Strategic Advisory Group (HSSAG) rapidly coordinated a health response, led by the Bangladesh Ministry of Health, United Nations (UN) and national and international non-governmental organisations (NGOs). This established 270 static and mobile health facilities, covering around 1.3 million people, including FDMN and host communities,^{3 4} alongside HSSAG efforts to coordinate with the water, sanitation and hygiene (WASH) sector, especially following a diphtheria outbreak in December 2017.⁵

While information on FDMNs' lived experiences accessing services in Cox's Bazar was limited, available data still prompted humanitarian agencies to urge an immediate scale-up of WASH facilities at camps in 2018, with existent services deemed insufficient.^{6 7} A 2020 United Nations High Commissioner for Refugees (UNHCR) report indicated that 27% of water points and 11% of communal latrines were not functioning, and WASH services were unequally distributed across camps as services were concentrated in easy-to-reach camps.^{5 7} The overall location of FDMN camps posed additional challenges, as the area is prone to floods, landslides and cyclones that frequently damage FDMNs' poorly established shelters and further limit their access to health and other services.⁸ Despite humanitarian funding and intersectoral efforts by the Bangladesh government, UN agency and non-government actors, responses remain siloed and living conditions for FDMN remain challenging.²

In dialogue with broader social science perspectives, we understand Cox's Bazar camps as sites that have been subject to 'abject abandonment', a condition where people inhabiting them are thrust 'neither here nor there', 'enveloped in unaccountability'⁹ and 'imagined as that which is excluded from the social order yet is constitutive of it by its negation'.¹⁰ Given the location of camps and the inevitably insufficient humanitarian response, it seems that FDMN are concentrated in spaces of non-belonging and having to work out their survival largely on their own. Although our literature review found data describing access to services, we found minimal literature describing refugees' lived experiences, interpretations of camps or the

impacts of living conditions on their health status or well-being from their own perspectives.¹¹ Likewise, literature often focused on the role of individual responsibility, neglecting broader environmental and structural conditions. For example, most research about FDMNs' WASH usage focused on attitudes toward hand-washing, ignoring issues such as the perceived quality and quantity of WASH services provided and how this affected overall well-being.¹² How might understanding first-hand perspectives of what life is like in these conditions inform future humanitarian health-related response?

We thus aimed to foreground FDMN perspectives on health-related humanitarian responses to their mass displacement in Cox's Bazar, Bangladesh. Objectives were to: (1) determine the feasibility of photo-elicitation research methods with FDMN; (2) identify FDMN perspectives on the strengths and weaknesses of humanitarian approaches in Cox's Bazar; and (3) explore broader perspectives on health system responses to shocks (eg, mass displacement, COVID-19) in Cox's Bazar.

METHODS

Study design

We conducted an interpretive qualitative study, using photo-elicitation interviews to gain deeper understanding of everyday life in the two Cox's Bazar camps. Photo-elicitation is a participatory methodology using photographs, often taken by or with research participants, to generate discussion and co-create data.^{13 14} This allows both participants and researchers to understand a phenomenon in more depth, facilitates the sharing of beliefs and perspectives^{15 16} and can also serve to document lived realities in conflict-affected settings. Moreover, inviting participants to generate data using creative media can also create 'spaces in which destinies (are) rethought and desires reframed', offering an outlet for participants to reflect and act on their living conditions, making the research process more likely to be mutually beneficial.⁹

Sampling and recruitment

We selected five subcamps within Kutupalong and Balukhali camps to provide a range of older and newer settlements, dependent on access and security, among those established since the 2017 start of the current wave of mass displacement from Myanmar. Within each subcamp, investigators purposively recruited at least five participants, ensuring at least one was a community leader or influential person (eg, Majhis) able to speak both as both individual and as community leader¹⁷; at least two were women; and at least one had regular interactions with health services. Investigators obtained informed written consent by sharing Bangla study information sheets and consent forms and discussing in Rohingya, Chittagonian or Bangla—as preferred by potential participants—to address questions and concerns, and ensuring consent forms were signed and all concerns addressed before study inclusion.¹⁸

Data collection

Four data collectors, experienced humanitarian service providers in Cox's Bazar, collected data in January–February 2021. Due to COVID-19 restrictions, they were trained remotely via Zoom by NH and SK and their work was supervised by MF and HK. As FDMN are not permitted by authorities to use mobile phones, investigators took three to five photographs with their own phone cameras, while walking through camps with each FDMN participant, of places or items participants chose as meaningful (eg, shelter, food, toilets, health facilities, animals, environment)

in their migrant journey and current living concerns. This was followed by semistructured interviews with each participant, at times and places chosen by participants, to talk about their pictures and to explain the reasons for their choices. Discussions were recorded, with participants' permission and translated/transcribed into English by SZ.

Analysis

MM and AD-B analysed transcripts and photographs in NVivo software, using inductive thematic analysis as described by Braun and Clarke.¹⁹ Text and visual content were coded together, as suggested by Wang, as interpretation of photographs without FDMN interpretations or vice versa would be incomplete, for participant stories and choices of image are what 'bring life to findings'.¹⁴

FINDINGS

Participant characteristics and themes

Supplementary table S1 provides characteristics of 39 FDMN participants. Over half (56%) were women, average age was 33 (range 18–63) years, most used NGO (82%) and/or government (54%) health services, and average length of camp residency was 3 years. We noted a focus among participants in each camp on one or two camp-specific issues. For example, most Camp V participants highlighted the problem of an open sewage system and poor WASH access, while those in Camp X focused on the lack of adequate shelter, which made them vulnerable to poor weather.

FDMN participants highlighted particular concerns across three humanitarian clusters, namely WASH, Shelter and Health. From this, we generated four themes: (1) WASH difficulties and indignities; (2) shelter flimsiness and insecurity; (3) healthcare access and concerns; and (4) community engagement and sense of responsibility.

WASH difficulties and indignities

Participant photographs of their surroundings and descriptions of their living conditions as 'undignified', related primarily to the open sewage system and 'dirty' malfunctioning washing facilities. A woman expressed the irritation she experienced each day smelling the sewage while eating meals with her family (figures 1 and 2).

This dirty place is in front of my house where I live along with my family. Whenever we sit to have our daily meals, blowflies from this dirty dustbin come out and sit on our meals and pollute our meals thereby. Besides, ill-smells are a regular concern for us which also come out of this place. The authority doesn't take this scenario seriously, that's why it remains dirty almost the whole year. Because we



Figure 1 Sewage in front of WF8's shelter. Photo by authors.



Figure 2 Open sewage runs beside inhabited shelter. Photo by authors.

don't have another place to throw our waste, we are bound to throw those [waste] here, which makes this place more hazardous. (WF8)

Most participants mentioned negative effects on their mental well-being, including frequent irritation and anger.

From this place, we always face troubles and feel irritated because of the ill-smell coming out of it. We have no specialized drainage system, that's why we are bound to throw our specks of dust and dirty water into this unplanned zigzag drain. We get sick usually because of the bad effect of this place. (WF4)

One of the primary risks highlighted was inappropriately designed WASH facilities, which posed risks of slipping and falling, a major concern for elderly people, children and those with poor health. Participants raised concerns about the impact of poor hygiene and open sewage on their health, including the presence of mosquitoes and therefore potential vector-borne diseases, along with fears of water-borne and other diseases due to the poor camp hygiene.

The authority used to come here to clean the toilet daily. But after some months, they stopped cleaning the toilets. And the result of not cleaning the toilets is, we are facing trouble in evacuating. (WF2)

A woman recommended the well-functioning toilet facility near her home as a solution to the malfunctioning toilet facilities in the camp.

This tank is the system by which our toilet wastes wash away. This is the positive side. I want to note that whenever we have ill-smells, the authority cleans this tank and gives us a remedy. I hope all other tanks in our camp may have the same precautions so that all the inhabitants can have a peaceful life here. (WF10)

Access to sufficient water supply was a serious concern among participants. The Sphere Minimum Standards for humanitarian aid—a set of principles and minimum humanitarian standards developed by the Sphere Project and adopted by UNHCR and the international humanitarian system—is two water containers per household (10–20 L per day, 1 for collection and 1 for storage). Two participants mentioned receiving 10 L of water per day, although they did not specify whether this was per individual or household (figure 3), while most indicated receiving less.

The authority is giving each family only two gallons of water each day, by which it is impossible to meet all our needs. (WM1)

Many participants related the dirt and indignities of their surroundings to negative mental well-being, including frequent irritation and anger, though none described seeking mental health services.

At that time, this view makes us feel bad tempered. This dirty place is very unpleasant for us to be seen at almost every moment [...]. I want to share the misery that I experienced a lot. Whenever we sit for taking our meal, the ill-smell from this makes us irritated the most. (WM3)

Shelter flimsiness and insecurity

The temporary houses provided as shelter were unable to withstand or protect against the hazardous monsoon weather (figures 4 and 5). Houses were built using temporary materials such as tarpaulins and bamboo with mud flooring, so were not suitable for storms and heavy rains. Most participants highlighted rain leaking into their houses and feeling the harsh winds due to lack of insulation. They further described how inappropriate housing materials and challenging weather negatively affected daily life, including increased respiratory diseases due to indoor cooking facilities (figures 4 and 5) and difficulties with cooking that affected nutrition. For example, a woman described how food preparation decreased during the rainy season to prioritise reducing leaks and keeping their accommodation dry.

During the rainy season water enters into the house and it becomes difficult to cook food for the family and to do other household chores. (XF2)

Women reported feeling insecure as shelters provided minimal protection. One mentioned that fences surrounding their houses had been destroyed and not repaired (XF3). A related concern raised was the lack of safety measures in the camp. One man described leakage from the gas system installed by the government.



Figure 3 A tank providing water for FDMN. Photo by authors. FDMN, Forcibly Displaced Myanmar Nationals.

I want to indicate the gas related problem we are facing. At first, the authority used to give us some wood to cook food and for firing. But it was insufficient to meet our needs with these woods. That's why the authority established this gas system, from which we got gas. After the arrival of tank gas (cylinder), we found no need for this gas system. That's why the authority gave a blockade around this system. But after passing some time, a stench of gas is coming out from this tank, which is too awkward to smell. (WM11)

Another man highlighted that FDMN were willing to work to improve their accommodation if given access to tools and materials, as there were insufficient tarpaulins to improve insulation in their shelters (figure 6).

We have a severe tarpaulin deficiency, and we are suffering from extreme cold now. This is not the end as we have to suffer from the rain at the monsoon as the water gets into my house because of the deficiency of necessary tarpaulin. We are hoping for a good solution to it. And the best solution will be to help us by giving some sustainable tarpaulins as soon as possible. (WM11)

Healthcare access and concerns

Most participants mentioned accessing health services to treat minor illnesses and the poor quality of treatment they received. None mentioned using health services for treating diarrhoea, which was likely prevalent given the difficult and unsanitary conditions. One mentioned that prescriptions were not subsidised for FDMN by the government, and so incurred out-of-pocket expenses. Those who could not afford prescribed treatment bought cheaper and sometimes ineffective substitutes.



Figure 4 Poor housing, showing rain leaking through the roof. Photo by authors.



Figure 5 Poor housing, showing no insulation. Photo by authors.

I have taken treatment. I have had to bear the expense of the treatment. (VF3)

Yes, my husband has taken treatment. We take treatment from government hospitals, but as we cannot afford the prescribed medicines, we only take the medicines that are provided to us free of cost. (VF9)

Some participants who attended government health facilities described their lack of trust in the diagnosis or feeling disrespected during their consultation. They reported on facility translators and the professionalism and capability of the medical staff.

The doctors are not qualified enough. The behaviour of the translators of the hospital is not good. (XF8)

The treatment quality is not good [...]. Accurate medicine should be prescribed according to the nature of the disease. (VF3)

It was unclear whether this primarily reflected quality issues or frustrations related to feeling misunderstood, unwelcome or disrespected. One participant suggested improving quality monitoring for health services provided.



Figure 6 Shelters are not provided with sufficient tarpaulin, which exposes residents to environmental risks. Photo by authors.

Government should monitor health services and conduct surveys to know whether proper health services are provided or not. (VM12)

Many focused on unhelpful health-worker attitudes, with one suggesting staff should improve their interpersonal skills.

As I said, they have lack of serving bona-fide. I suggest appointing more doctors with kind heart to serve us without hesitation. (WM11)

In addition to health-worker attitudes, many participants described dissatisfaction with health services provided, saying these did not improve their situation.

Whatever the shape of our sicknesses, they used to give us some paracetamols, which is not enough for us to recover fast. This is the only barrier to get the necessary services here. (WF12)

Experiences of healthcare access varied, however, particularly regarding perceived services quality. Most who expressed satisfaction with health services were either treated at NGO field hospitals, such as those run by Médecins Sans Frontières, or had not used health services.

When I arrived here, I had to take treatment for fever. The treatment was good, and the medical staff treated us well. But they don't have enough staff. (VM1)

Another challenge was that health services were relatively basic and did not cover more severe illnesses such as cancer.

My family took treatment for my sister and for my father. Surgery had to be conducted on my father to remove his kidney stone. Several surgeries had to be conducted on my sister too for removing her tumour, but the surgeries did not improve her condition. We have taken her to Cox's Bazar and Chattogram city for treatment by taking permission from authority and we had to bear all the expenses. (XM5)

An important access barrier was that each household received one card allowing them to attend health facilities. This meant household members had to take turns and potentially limited treatment-seeking for more sensitive issues (eg, sexual health).

For every individual person they ask for a card for providing treatment while we are given only one card and that's why all the members of the family cannot take treatment at a time. (VM6)

Several described feeling obliged to use private health services and to pay out-of-pocket. One service-seeker suggested providing conditional cash transfers to allow FDMN to access additional healthcare services not subsidised by the ministry of health.

It will be better for the government if they help us somehow to get some medical allowance at least barely to manage our treatment expenses outside the camp. By any means, we need our desired treatment. If the government fails to provide us as we need, then we have no other choice except to seek outside help for medical treatment. (VM1)

Community engagement and sense of responsibility

Many participants described the lack of opportunities to engage with service providers about their concerns and limited/no involvement in camp decision-making, which may have created a perceived lack of ownership and unwillingness to support camp maintenance or find solutions to improve conditions.



Figure 7 Discarded waste, mostly single-use plastics, in front of a home. Photo by authors.

I don't have any suggestion. No one ever asked for my suggestion. (XF3)

No one has ever asked for my suggestions... (XF4)

Concurrently, several highlighted the need for shared responsibility in improving camp hygiene. Although the issue was caused primarily by the absence of a proper sewage system, which was the responsibility of government and humanitarian response bodies, participants noted FDMN's shared responsibility in supporting their neighbours, for example, by not throwing detritus in front of their houses (figure 7).

This dirty place is in front of my house where I along with my family live. People from different houses throw their wastes here. We asked them lots of time not to throw here as we have to suffer from ill-smell, but they do not put a concern to our objections. The authority also does not take any steps to give us a solution in this regard. (WF9)

A woman volunteered to participate in building better sewage and drainage systems, describing this as essential to improve living conditions for her family.

The government or authority on duty should take immediate steps to build the correct shape of this drain with cement and bricks and thus give us a solution as early as possible to ensure better health conditions for my family. (WF5)

Another woman shared her feelings of frustration while waiting for the camp authorities to fix a problem, suggesting the community should work together to resolve the issue and could organise themselves to maintain clean facilities.

As you can see from this picture, this is a dirty place where wastes from all around the area being thrown away here, which is a concerning issue for us as we have to face serious ill-smelling and blowflies issues whenever we sit to take our meals. The authorities don't come regularly to clean this area, that's why this is a must-do task for us to clean this area in a weekly manner. (VF12)

DISCUSSION

Key findings

To our knowledge, ours is the first study to explore the health-related humanitarian response for FDMN in Bangladesh using photo-elicitation, which can provide humanitarian providers with a more comprehensive view of FDMN's needs and concerns. Reflecting on what participants chose to photograph, the most frequent elements were open sewage in front of shelters, non-functioning latrines and slippery inadequate WASH facilities, poor housing, insufficient water supply, dangerous gas tanks, along with closed schools (excluded, as not explicitly related to health). FDMN lacked opportunities to articulate grievances regarding their living conditions, while photo-elicitation provided them an opportunity to show people what they were aggrieved about.

Carlson found photo-elicitation helped achieve meaningful engagement, allowing participants to move from being depicted as helpless towards authentic engagement and collaboration.²⁰ This can be particularly valuable in contexts such as refugee camps, in which residents are rarely consulted directly on their needs, as XF3 and XF4 noted. However, we should refrain from considering photo-elicitation the ultimate 'equitable' research method, as broader inequities remain and inevitably shape the researcher-participant relationship, one that multiple scholars argue to be inherently asymmetrical and with long-term effects for all.^{18 21} In this case, by ensuring data collectors had humanitarian service provision experience and spoke the same language as participants, we sought to mitigate such effects.

Methodologically, we found photo-elicitation to be useful as participants were often reluctant to provide verbal information, expressing distrust of service providers and wariness of outsiders. This may relate to long-term and understandable fears of authorities and recent fears of being relocated to Bhasan Char, a coastal island with purpose-built town to relocate over 100 000 FDMN. It was described by Amnesty International as 'prison more than 'refuge' and by others as 'refugee warehousing' or 'the practice of indefinitely keeping refugees in situations of restricted mobility'.^{22 23} The value of photo-elicitation methods was further heightened given the limited literature on what Cox's Bazar camps looked like during the COVID-19 pandemic, as FDMN were prohibited from taking photos or using their phones to connect to the internet and could face arrest if they did so directly.²²

The broader politics of Rohingya FDMN living conditions in camps were raised through several recurrent themes. For instance, descriptions akin to the notion of 'filth' were raised consistently by participants, which we may interpret as conceptualising camps as what anthropologist Yael Navaro calls 'abject' spaces: places where the unwanted of social life is held, keeping mainstream society 'clean' by designating a place where 'filth' can be excluded and negated.¹⁰ Recurrent participant narratives of insufficient waste management, proximity to sewage and perceived inadequate efforts from authorities to improve camp conditions align with this. Furthermore, as figure 1 shows, camps were located in isolated areas, largely disconnected from society and infrastructure that could facilitate access to essential services and livelihoods, giving the experience of exclusion an additional spatial dimension. Moreover, considering the dearth of pathways for social integration,^{16 24} Rohingya people remain outside of many Asian countries' imaginaries of who belongs, ultimately fitting Agamben's definition of what constitutes 'bare life', as that which is 'included in the juridical order solely in the form of its exclusion'.²⁵

Nevertheless, understanding social life to unfold beyond the scope of citizenship, our findings also revealed aspects of the social life being formed within camps that had potential to make them more liveable, highlighting possible areas of intervention. For instance, WF9's descriptions of how neighbours attempted to organise and maintain a standard of living speak to the potential of grassroots social solidarity and community organising among FDMN to improve their living conditions, even if this did not always succeed. Future humanitarian interventions should thus include participatory methods that incorporate community needs and encourage the kinds of participation that could lead to positive outcomes.

Implications

In the absence of transparent and FDMN-accountable humanitarian governance structures, participants showed willingness to engage with the problems they experienced and suggested some solutions. This indicates an opportunity for humanitarian actors to pursue community engagement and work alongside FDMN to improve camp conditions. Participants consistently reported a lack of engagement in interventions targeting them. Programmes and services were provided without consultation and minimal attempts to ensure compatibility with FDMN needs. Humanitarian actors and local authorities could initiate or strengthen communication and collaboration mechanisms with FDMN. For example, NGOs could invest in training and paying FDMN to construct and repair sewage systems, or these skills may already exist unidentified in the camps. This could improve living conditions, provide some income and increase feelings of empowerment/ownership of facilities thus built or repaired. However, this may require the Government of Bangladesh to officially recognise Rohingya as refugees and their basic rights to freedom of movement and work. As Bangladesh is not a signatory to the 1951 refugee convention, and the citizenry is increasingly fearful of migrants competing for local jobs,²⁶ this may not change quickly.

Furthermore, the Cox's Bazar protection sector working group raised specific concerns about the Majhis system, in which community leaders are appointed by the Bangladesh army. As such, leaders are imposed and FDMN are not engaged in choosing them; they may lack legitimacy and credibility. One concern is this may have detrimental effects on identifying or communicating FDMN needs, as Majhi leaders mediate and control communications between service providers and FDMN. Similarly, Majhi leaders could potentially exploit FDMNs or hinder their access to services.²⁷ A related concern is women's limited participation in public life, and interviewers also observed that women were more reluctant than men to express opinions. This could be individual, cultural or due to the Majhis system designed to reinforce patriarchal practices, potentially reducing women's participation in community decision-making.⁶ Likewise, inadequate WASH and poorly constructed and insecure shelters are likely to increase the risk of gender-based violence, considering how adequate WASH access is especially important for women who are menstruating or pregnant.²⁸ Further research is needed on ways to address this.

Most participants said they used health services to treat minor issues rather than major illnesses, but it was unclear whether this was because available health services were restricted to common diseases. Comparative research on disease prevalence (eg, water-borne diseases) among FDMN and Bangladeshi citizens in neighbouring areas could help clarify the impact of poor WASH on FDMN health. Amnesty International reported health-worker

hostility against FDMN patients and that they prescribed paracetamol for most health conditions, which our findings supported. This created a lack of trust between healthcare providers and service-users, pushing some to seek private services even if this resulted in catastrophic household spending.²² Likewise, this study was not longitudinal, and thus research tracing the long-term effects of photo-elicitation on FDMN's perceptions of their health and environment could be useful to develop a deeper understanding of the method and topic.

Limitations

Several limitations should be considered. First, interviews focused on analysing the photographs provided may have missed other relevant issues. Second, the absence of pregnant women's voices, representing 50% of women and adolescent girls in camps, could have enriched analysis and should be addressed in future research.²⁹ Third, interviewing camp managers and NGO staff on the specific issues raised by participants, rather than in parallel due to time constraints, could have aided interpretation.²⁴

CONCLUSIONS

FDMN camps in Bangladesh are typically located in marginalised areas and residents are subject to multiple forms of exclusion. The use of photo-elicitation as a method in this setting was thus a powerful tool to help understand the daily lives of Cox's Bazar camp residents and clarify their challenges in accessing WASH, housing and health. 'Abandonment' was an ongoing theme in this context, pointing at how services were either constrained or unavailable and pathways for change limited. However, foregrounding displaced people's experiences and visualising their concerns can also help in identifying ways to improve living conditions, access to and quality of services, and overall well-being.

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Contributors NH and MF conceived the study, with inputs from SK, FK, ADB and MHK. SZ and ATA collected data, directly supervised by MF and HK. MM and ADB analysed data and drafted the manuscript with inputs from SZ, MDLT and NH. NH revised for critical content. All authors contributed to interpretation and approved the version for submission. NH is the guarantor. HK and NH are shared last authorship.

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Patient and public involvement Patients or the public were involved in the design, or conduct, or reporting, or dissemination plans of our research. As outlined in our study design, data collection, and sampling and recruitment sections, FDMN subjects participated in the development of this research.

Patient consent for publication Not applicable.

Ethics approval The institutional committee at the University of Dhaka (reference 3/58863-65) and the Observational Research Ethics Committee at the London School of Hygiene and Tropical Medicine (reference 17274) provided ethics approval. No photographs included identifiable people. Consent forms, anonymised transcripts and photographs were stored separately in encrypted institutional servers only accessible to the research team. In addition to procedural ethics compliance, we considered relational 'micro'-ethics of working with displaced people (eg, how to avoid unintentional harms, obtain informed and voluntary consent, conduct rigorous research of some benefit to participants). Participants gave informed consent to participate in the study before taking part.

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Author note Five authors (MF, SZ, ATA, HK, MHK) are Bangladeshi academics and disaster management practitioners. The other five are public health academics and practitioners in India (SK), UK (MM, ADB) and Singapore (MDLT, NH). Seven University of Dhaka graduate students (four women and three men, including SZ and ATA) worked with FDMN to collect data, but not all chose to be coauthors. All had previous experience providing services for FDMN but were new to conducting interpretivist research and photo-elicitation. All had experiential knowledge of the sociopolitical context, and participants responded to them as such, which appeared to facilitate willingness to participate and active discussion. No researchers had prior personal relationships with participants.

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REFERENCES

- 1 UNHCR. Rohingya refugee emergency at a glance. 2018.
- 2 Milton AH, Rahman M, Hussain S, *et al*. Trapped in Statelessness: Rohingya Refugees in Bangladesh. *Int J Environ Res Public Health* 2017;14:942.
- 3 The new humanitarian, Bangladesh resists greater UNHCR role in rohingya crisis. 2017.
- 4 Ahmed D, Orcutt M, Sammonds P, *et al*. Humanitarian disaster for Rohingya refugees: impending natural hazards and worsening public health crises. *Lancet Glob Health* 2018;6:e487–8.
- 5 UNHCR, water, sanitation & hygiene factsheet & dashboard, UNHCR, Bangladesh, cox's bazar - as of june 2020. 2020.
- 6 UNHCR, protection sector working group cox's bazar (as of 30 june 2018): protection considerations on the 'majhi system'. 2018.
- 7 Jeffries R, Abdi H, Ali M, *et al*. The health response to the Rohingya refugee crisis post August 2017: Reflections from two years of health sector coordination in Cox's Bazar, Bangladesh. *PLoS ONE* 2017;16:e0253013.
- 8 Chan EYY, Chiu CP, Chan GKW. Medical and health risks associated with communicable diseases of Rohingya refugees in Bangladesh 2017. *Int J Infect Dis* 2018;68:39–43.
- 9 Biehl J. *Vita: Life in a Zone of Social Abandonment*. Univ of California Press, 2013.
- 10 Navarro-Yashin Y. *The Make-Believe Space: Affective Geography in a Postwar Polity*. Duke University Press, 2012.
- 11 Durrance-Bagale A, Salman OM, Omar M, *et al*. Lessons from humanitarian clusters to strengthen health system responses to mass displacement in low and middle-income countries: A scoping review. *J Migr Health* 2020;1–2:100028.
- 12 Hsan K, Naher S, Griffiths MD, *et al*. Factors associated with the practice of water, sanitation, and hygiene (WASH) among the Rohingya refugees in Bangladesh. *J Water Sanit Hyg Dev* 2019;9:794–800.
- 13 Mukumbang FC, van Wyk B. Leveraging the Photovoice Methodology for Critical Realist Theorizing. *Int J Qual Methods* 2020;19.
- 14 Wang CC. Photovoice: a participatory action research strategy applied to women's health. *J Womens Health* 1999;8:185–92.
- 15 Harper D. Talking about pictures: A case for photo elicitation. *Visual Studies* 2002;17:13–26.
- 16 Catalani C, Minkler M. Photovoice: A Review of the Literature in Health and Public Health. *Health Educ Behav* 2010;37:424–51.

- 17 Limbu M, Wanyagi L, Ondiek B, *et al.* Kenya Inter-agency Rapid Assessment Mechanism (KIRA): A Bottom-up Humanitarian Innovation from Africa. *Procedia Eng* 2015;107:59–72.
- 18 Deps PD, Rezende I, Andrade MAC, *et al.* Ethical issues in research with refugees. *Ethics Med Public Health* 2022;24:100813.
- 19 Clarke V, Braun V. Thematic analysis. *J Posit Psychol* 2017;12:297–8.
- 20 Carlson ED, Engebretson J, Chamberlain RM. Photovoice as a social process of critical consciousness. *Qual Health Res* 2006;16:836–52.
- 21 Douedari Y, Alhaffar M, Duclos D, *et al.* "We need someone to deliver our voices": reflections from conducting remote qualitative research in Syria. *Confl Health* 2021;15:28.
- 22 Amnesty international, Bangladesh: let us speak for our rights: human rights situation of rohingya refugees in Bangladesh. 2020.
- 23 BBC. Far from home, rohingya refugees face a new peril on a remote island. 2020.
- 24 Krishnan S, Zaman S, Ferdaus M, *et al.* How can humanitarian services provision during mass displacement better support health systems? An exploratory qualitative study of humanitarian service provider perspectives in Cox's Bazar, Bangladesh. *J Migr Health* 2022;6:100132.
- 25 Agamben G, Sacer H. *Sovereign Power and Bare Life*. 1998.
- 26 International rescue committee, left in limbo, the case for economic empowerment of refugees and host communities in cox's bazar, Bangladesh. 2019.
- 27 Protection sector working group cox's bazar, protection considerations on the 'majhi system'. 2018.
- 28 Mills J, Cumming O. The impact of water, sanitation and hygiene on key health and social outcomes: review of evidence. 2016.
- 29 Islam MM, Nuzhath T. Health risks of Rohingya refugee population in Bangladesh: a call for global attention. *J Glob Health* 2018;8:020309.