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Anthropological Assessment of MSF's Bending The Curve (BTC) HEP C Project in Machar Colony, Karachi Pakistan

REPORT

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1. Introduction

Hepatitis C (HCV) is a significant public health issue globally, particularly in low-resource settings where access to healthcare and treatment remains a challenge. As a blood-borne virus, Hepatitis C can lead to chronic liver disease, cirrhosis, and liver cancer if left untreated (Scott et al., 2021; World Health Organization, 2020). In Pakistan, the burden of HCV is one of the highest in the world, 5% in 2005, impacted by limited healthcare infrastructure and a lack of awareness regarding transmission and treatment (World Health Organization, 2020). Tackling Hepatitis C requires concerted efforts aimed at both prevention and micro-elimination within high-risk populations, making it a critical focus for public health interventions (Scott et al., 2021; World Health Organization, 2020).

Machar Colony in Karachi, Pakistan, provides a unique and complex setting for studying HCV micro-elimination. As one of the largest informal settlements in the country, Machar Colony is home to diverse ethnic groups, many of whom are undocumented, contributing to a mosaic of socioeconomic challenges, including inadequate healthcare access, poverty, and high vulnerability to infectious diseases. The dense population, coupled with poor sanitation and limited healthcare infrastructure, makes the residents particularly susceptible to the spread of HCV. Given these conditions, Machar Colony serves as an ideal site for examining the challenges and opportunities associated with the micro-elimination of Hepatitis C.

The objectives of the fieldwork in Machar Colony were to assess the perceptions on Hepatitis C, explore the sociocultural dynamics that influence the spread of the virus, and identify barriers to healthcare access. Additionally, the assessment aimed to develop culturally sensitive interventions that could support the sustainable reduction of Hepatitis C transmission within this community. By focusing on these objectives, the assessment sought to contribute to ongoing efforts in public health to combat Hepatitis C through targeted and inclusive approaches.

Inclusive research methods were central to this assessment. Engaging with diverse ethnic groups, undocumented communities, and marginalized populations required a participatory approach that prioritized the voices and experiences of residents. This inclusive methodology ensured that the assessment not only captured the complexity of the local context but also empowered the community by involving them in the process of finding solutions to the Hepatitis C crisis.

Overview of Machar Colony

Source: ***Map derived from HP team's "Household" strategy.***

Machar Colony also known as Muhammadi Colony, is an informal settlement located in the eastern part of Karachi, Pakistan bordering the Arabian sea and subsequently the Karachi Port and some part of the Karachi Railway. Established several decades ago, it has evolved into a vibrant, yet challenging community characterized by a diverse population comprising various ethnic groups, including

Pashtuns, Bengalis, Burmese, Afghans and Sindhis, among others. The settlement is home to an estimated population of over 150,434 residents, many of whom are undocumented migrants seeking economic opportunities.

Despite its colorfully diverse landscape, Machar Colony faces significant socio-economic challenges. Many residents live in substandard housing with limited access to basic services such as clean water, electricity, sanitation, and healthcare. The community's informal status often results in a lack of government support, which worsens issues related to poverty and health disparities. Furthermore, stigma surrounding certain health conditions complicates efforts to seek medical care and treatment.

The community is characterized by a strong sense of solidarity among its residents, who often rely on informal networks for support. Because of their informal status, they have forged a closeness and bond that traverses their ethnic and cultural differences. Local organizations and NGOs have progressed in addressing health issues and spreading awareness, yet resources remain limited. The unique socio-cultural dynamics of Machar Colony make it an ideal site for an anthropological assessment of Hepatitis C micro-elimination efforts, as it allows for an in-depth exploration of health behaviors, beliefs, and access to care within a marginalized population.

This assessment aims to provide valuable insights into the lived experiences of Machar Colony residents regarding Hepatitis C, identifying barriers to prevention and treatment while highlighting potential pathways for effective intervention.

2. Methodology

This assessment employed a mixed-methods approach, integrating different qualitative research techniques to capture a comprehensive understanding of Hepatitis C (HCV) in Machar Colony. The methodology was designed to ensure inclusivity and cultural sensitivity, given the diverse and marginalized population within the community. The fieldwork activities focused on obtaining in-depth insights into the prevalence of HCV, identifying sociocultural factors influencing its spread, and understanding the healthcare barriers faced by the residents.

Description of research activities

The assessment was conducted over a period of two months, during which qualitative data was collected. The research activities were organized into three key phases: preliminary interviews with MSF staff and non-participant observation, data collection through community engagement, and analysis. In the initial phase, MSF staff were consulted to understand the cultural and social nuances that would inform the research design. This phase was crucial for ensuring that the research was conducted ethically and sensitively, given the vulnerability of many residents in Machar Colony. Many of the MSF staff were residents of Machar Colony, which also added an interesting layer of complexity to their experience and to their knowledge on their community.

The second phase involved informal interviews, semi-structured interviews, and focus group discussions (FGDs) to gather data on HCV prevalence, healthcare access, and local perceptions of the disease. The third and final phase consisted of data analysis, where qualitative data from interviews and FGDs were thematically coded to identify key trends and insights.

Fieldwork activities

Fieldwork was carried out in the intimate sectors of Machar Colony, focusing on households and community spaces. I was accompanied by a lay counselor/driver – Javed, in a "*Bolan*" (the mobile screening van) as we conducted in-depth interviews. In-depth interviews were conducted with residents who had refused to get screened, cured patients, and enrolled patients who have:

1. SVR12 or PCR pending,

2. Treatment pending.

Focus group discussions were organized with different demographic groups, including the trans community, men in transit and employed in the informal sector - *"charray"*[1], and people who inject drugs (PWIDs), to explore their knowledge of Hepatitis C, healthcare-seeking behaviors, and attitudes toward treatment. Additionally, in-depth interviews were held with a local informal doctor - "quack" and a community expert from a local NGO called *Imkaan* to understand the structural challenges in addressing Hepatitis C at the community level.

Non-participant observation was another key fieldwork activity, wherein I spent time with the tracing team on their activities and in the community to observe daily life, healthcare practices, and social interactions related to disease prevention and treatment.[2] This allowed for a more nuanced understanding of the ways in which HCV is embedded in the social and cultural fabric of Machar Colony.

Participant selection criteria

Participants were selected based on purposive and random techniques. The purposive

[1] This focus group was experimental in methods as I could not enter the largely male dominated compounds unaccompanied, so we did the interviews in the Bolans.

[2] This was an important component in understanding the perceptions of the Bolans in the community and to understand the functionality and delivery of this service for our patients.

sampling was used to ensure the inclusion of key population, such as ethnic minorities, undocumented individuals, and women who are usually overlooked in public health interventions. Particularly those who are hesitant to engage with formal healthcare services or had experienced stigma.

The random sampling method was used to capture a realistic overview of healthcare attitudes and perceptions in Machar Colony. This method of sampling was also favored due to restrictions in recruiting participants purposefully or through snowballing[3].

I aimed for a balanced representation of gender, age, and ethnic backgrounds. Given the high degree of mobility and undocumented status of many residents, flexibility in participant recruitment was essential to accommodate challenges in securing formal, verbal consent and to find and locate the participants.

Data collection methods and tools used.

A variety of data collection methods were employed to gather qualitative data:

Informal interviews: This method was employed in settings where it was difficult to gauge perceptions on healthcare from certain groups and to build trust. Speaking Urdu in these settings proved to be advantageous.

Semi-structured Interviews: Conducted with 50 individuals, including patients **affected by HCV**, residents who had **refused** to get screened and tested, as well as **those who were cured** to explore deeper narratives around the disease.

Focus Group Discussions (FGDs): Two FGDs were conducted, one with 7 participants from the trans community and another with 18 participants from a "rehab center" for PWIDs, allowing for group dialogue on healthcare experiences and perceptions of Hepatitis C. And separately another FGD with the staff - 6 people from the rehab center.

Non-Participant Observation: I observed daily life in the community, focusing on healthcare interactions, social networks, and local responses to illness and treatment.

Ethnographic Field Notes: Detailed field notes were kept to document non-verbal cues, social dynamics, and observations that could enrich the analysis.

Limitations and challenges encountered during fieldwork.

Several limitations and challenges were encountered during the fieldwork in Machar Colony:

Project landing phase: My arrival was during the end phases of the project which meant that I did not get to see the clinic in its full operational capacity. Additionally, I could not assess the health promotion strategy in action which meant that there were some gaps in knowledge which I tried to overcome by interviewing existing MSF staff. However, I did accompany the tracing team on their activities to see how the mobile screening vans "*Bolans*" operated.

Weather conditions: The fieldwork was conducted during the monsoon season, with frequent heavy rains that severely affected both access to different parts of the colony and the scheduling of interviews and focus groups. Flooded streets and inadequate drainage led to mobility issues, making it difficult for Javed - the lay counselor/driver I worked with, me, and participants to travel within the settlement. These conditions not only delayed data collection but also heightened health risks for residents, further complicating the study environment.

[3] Since residents of Machar Colony do not have formal addresses and give false/multiple/contacts of friends, relatives, or neighbors, it was difficult to recruit participants on call. Most of the interviews were, therefore, ad-hoc and random. We used to visit residents in person to check if they had spare time for an interview.

Road and infrastructure conditions: The poor infrastructure in Machar Colony presented a significant barrier to conducting fieldwork. Roads were mostly unpaved and became muddy and impassable during the rainy season, further hampering mobility. Roads would also get blocked by large water tankers or other vehicles which delayed data collection and limited the range of areas that could be reached.

Cultural cues and language: While I speak Urdu and most residents of Machar also spoke Urdu, the diverse ethnic composition of the community, which includes Pashtun, Burmese, Sindhi, Saraiki, Balochi, and Bengali speakers, posed a challenge in understanding some subtle cultural nuances which could have been lost in translation.

Trust: Some residents, particularly undocumented Afghan women, were initially hesitant to participate in interviews due to fears of potential legal repercussions.

Health literacy: A significant challenge was the limited health literacy among participants, particularly regarding Hepatitis C transmission and treatment. This required me to spend additional time educating participants during the data collection process, which affected the overall pace of the fieldwork. However, it was an added value.

Instability and high mobility: The informal nature of the settlement, combined with sporadic instability in the area, made it difficult to maintain a consistent presence in certain parts of the community, specifically when the clinic needed to be closed.[4] Since there are also many public holidays in Pakistan, there were some days where I could not collect data. Additionally, the high mobility of residents, particularly undocumented individuals, complicated follow-up interviews and data collection efforts.

Despite these challenges, we successfully gathered valuable insights into the micro-elimination of Hepatitis C in Machar Colony, providing a basis for informed interventions.

[4] There were some security incidents due to which the clinic was closed during some days and since these incidents were unpredictable, some agreed upon arrangements for FGDs, or interviews could not be followed up with during these days.

3. Findings

Overview of key health challenges related to Hepatitis C in the community.

Efforts to eliminate Hepatitis C in Machar Colony confront a complex interplay of socio-economic conditions, cultural practices, healthcare infrastructure limitations, and specific community behaviors. A significant challenge is the limited awareness and understanding of Hepatitis C among residents. The deeper I went into Machar; the fewer people knew about Hepatitis C prevention and the disease itself. The disease often progresses silently, with mild or non-specific symptoms that are easily overlooked or attributed to general fatigue. This asymptomatic nature leads many individuals to underestimate the severity of the disease, reducing the urgency to seek testing and treatment. Many residents who refused to get screened said that they did not feel the need to get tested if there is, "nothing wrong with them". Consequently, Hepatitis C is not perceived as a priority health concern compared to other more immediate illnesses that affect daily functioning and are addressed in outpatient departments (OPDs) or primary healthcare centers (PHCs). Most Bengali and Burmese residents in the "*Bengali Parra*" asked me if MSF also provides treatment for scabies[5].

The widespread misconceptions about the disease make this a more complex issue. Many residents believe that Hepatitis C is prevalent in Machar Colony due to contaminated water, poor diet, and poor-quality food. There is a common misconception that the disease spreads through shared meals, as families often eat together. In my interviews and the focus group with PWIDs, the participants reported that many older relatives, such as their grandmothers and mothers, would buy off used blades from barbers to cut their nails. This is an interesting intersection of economic necessity intersecting with harmful practices. While some awareness exists about not sharing personal items like blades or nail cutters, gaps in knowledge and retention lead to incomplete or incorrect prevention practices.

Barriers to Hepatitis C prevention and treatment identified during fieldwork.

Accessibility challenges due to clinic hours and location

A primary barrier is the limited accessibility of healthcare services resulting from restrictive clinic hours and inconvenient location. The MSF clinic, locally referred to as the "China Clinic,"[6] operates from 8 AM to 5 PM on weekdays and remains closed on weekends[7]. These hours conflict with the schedules of many residents who work long, unpredictable hours in the informal sector. Bengali women employed in shrimp-peeling factories, for example, work extended shifts and cannot easily attend appointments during these times.

Geographically, the clinic is situated further from densely populated areas like the "*Jungle area*" and "*Bengali Parra*," where much of the Bengali, Burmese and pockets of Afghan communities reside. Poor road infrastructure adds to the difficulty of accessing the clinic. Streets are often flooded with either rainwater or sewage and/or obstructed with big water tankers and other vehicles, making travel challenging for the elderly and those with mobility issues.

[5] Scabies is widespread in Machar Colony and a big cause of concern for many people, especially women working in shrimp-peeling factories. During fieldwork, I came across 3 Bengali and 1 Burmese women, and a Bengali girl who were covered in scabies and could not get the treatment they need due to the lack of id cards and economic constraints.

[6] MSF clinic in Machar Colony is largely recognized as China Clinic.

[7] Weekend screening and reflex PCR sampling was executed in Machar Colony, especially for fishermen, and daily wages workers which had good results.

The cost of transportation, such as rickshaw rides costing around **250 rupees one way**, is excessive for families living below the poverty line. Many of the residents who had elderly relatives with a positive Hepatitis C result, were reluctant to bring them to the clinic.

While MSF offers free treatment and consultation services, indirect costs associated with accessing these services—such as transportation expenses and potential loss of income due to clinic hours conflicting with work schedules—remain significant obstacles. Furthermore, the high mobility[8] of the population makes it difficult to maintain a steady presence and continue health promotion efforts on Hepatitis C, let alone trace patients for treatment follow-up.

Limitations of mobile screening vans

The mobile screening vans, known locally as "*Bolans*," were designed to bring healthcare services closer to residents. Especially due to the lack of formal addresses and conflicting contact details. However, their small size, necessary for navigating narrow and uneven streets, limited their capacity to function as comprehensive mobile clinics. Lacking space for proper examination rooms or private consultation areas, the vans could only conduct initial screenings. Follow-up care and treatments still required visits to the main clinic, which many residents found difficult to access, especially from the Bengali and Burmese area. With the implementation of Hepa-MUD (electronic database), it became easier to collect patient information and manage data. With the BTC, this was simplified, and patients received all the services in a single visit. But accessibility to the clinic remained a challenge for many patients.

There were efforts made to make the vans approachable and dispel any myths or distrust, however, fears of misuse of personal information deterred some residents from participating in screenings. There were also misconceptions that blood samples were being collected for sale which contributed to mistrust. These are some of the most prevalent reasons people refused to get screened. The vans were useful in tracing patients; however, this came with its own set of challenges. Many residents could not provide precise locations, and often provided informal landmarks or neighborhood nicknames as an address. This made it challenging to locate individuals, leading to loss of follow-ups and hindering the effectiveness of the "*Bolans*" in ensuring consistent patient care.

Socio-cultural barriers and mistrust

Addressing women's needs

While the "*Bolan"* service proved to be a success with the female population of Machar, there were still some barriers. Women engaged in housework, taking care of children or the elderly were usually found at home. However, they could not always get screened or tested if their male relatives, namely, their father or husband disallowed them to. This is especially true for Pashtun women. In-house screening was offered to residents, and this did have good results, both in the Pashtun and Bengali populations. However, the project was unable to track the percentage in the uptake of screening. Furthermore, it is difficult to conclude on the qualitative engagement of the patients with the in-house screening strategy.

For Bengali women, the situation presented different complexities. While they generally had more freedom to engage with MSF staff and the "*Bolan*" services, mistrust and belief in myths still posed significant barriers. Some Burmese women were hesitant to participate due to concerns about the intentions behind the free services and that MSF clinic was

[8] Residents of Machar Colony do not usually own the houses they live in. A house with three rooms is usually cramped with three families (tenants) living in each of them.

known as “China Clinic”. Past experiences with the MSF clinic that was located at the beginning of Machar was another factor. Additionally, fears about confidentiality stemming from rumors of hidden cameras in the “*Bolans*” and potential stigmatization and/or concerns of street harassment made them reluctant to seek testing or treatment.

Women in Machar usually undergo cesarean sections[9] at informal clinics due to limited access to formal healthcare facilities and the influence of cultural and economic factors. These informal clinics often lack proper sterilization procedures and essential medical equipment[10]. The reuse of surgical instruments without adequate sterilization can lead to the transmission of bloodborne infections like Hepatitis C. This situation highlights a critical public health concern, as unsafe surgical practices contribute to the spread of Hepatitis C within the community. Addressing this issue requires improving access to safe maternal healthcare services, enhancing infection control practices in existing clinics, and educating women about the risks associated with seeking surgical procedures from unregulated providers.

In both cases, deeply ingrained cultural beliefs and gender roles influenced women's access to healthcare. Mistrust towards healthcare initiatives, whether due to patriarchal restrictions or past negative experiences, hindered efforts to address Hepatitis C effectively.

Afghan women and fear of deportation

Accessing Afghan women for healthcare interventions proved particularly challenging. Due to fears of being caught and deported, Afghan women and men often remain confined to their homes. When approached, they sometimes claim to be from Waziristan rather than Afghanistan to avoid drawing attention to their undocumented status. Local staff with knowledge of regional Pashto dialects, such as collaborator from the Federally Administered Tribal Areas (FATA) who worked with me, could understand these nuances, indicating that some residents might be misrepresenting their origins out of fear.

Interviews with three Afghan women, facilitated by the inclusion of a Pashtun woman to build trust, revealed significant healthcare barriers. Without national identification cards, recently Afghan women face challenges accessing government or private healthcare facilities. They often rely on friends or neighbors who accompany them and lend their ID cards to receive medical services. This practice adds layers of complexity and risk, as it involves potential legal repercussions and further stigmatization.

Transgender individuals and healthcare access

A gathering with the trans community

Across the settlement, in a small but busy street; above a small candy shop, a group of trans women live in a shared housing at the top of a long and narrow flight of stairs.

Among them was Z.[11], a trans woman in her early thirties, who welcomed me with cautious hospitality into her home. She led me to a room which was decorated with vibrant pink fabrics and cushions—a sanctuary from the outside world. Z. is the ‘*guru*’[12] of this group of trans women.

As the group settled, the conversation flowed to their experiences with healthcare. "We face rejection at every turn," Z. began. "Clinics

[9] This point came up a lot in my interviews with women. They also expressed the need for a maternal healthcare center in Machar.

[10] In my interview with a Key informant, she confirmed that most pregnant women in Machar go to informal, private clinics where they are convinced to get C-sections. This operation usually costs 1000 rupees in such clinics and is affordable for them.

[11] Names are anonymized.

[12] The ‘guru-chela’ system is a way of organizing a financial and emotional support family system for the trans community in Pakistan since many of them are disowned by their biological parents.

dismiss us, and nurses and hospital staff whisper and laugh as if we're not human. But usually, the doctors treat us well."

Another member, A., said, "Even if we did go to get screened in mobile clinics come, walking the streets exposes us to harassment. People would hurl insults or worse. Seeking help shouldn't mean risking our safety. We dress as men when we go out for our daily tasks like buying groceries, etc."

“I am ashamed to admit it, but I drink myself to unconsciousness when walking back from events I work at, so I don’t feel anything when people harass us.”, she added. Their precarious sources of income add to accessibility barriers since they were either not at home when the “*Bolans”* came, or they were resting/sleeping. The social ostracization also means that they keep their doors always locked.

They spoke of the mistrust toward NGOs and formal institutions. "Promises are made, but rarely kept," Z. said. "Projects come and go, but our needs remain unmet. They just hand us condoms and leave."

The transgender community faces a lot of stigmatization and discrimination, severely limiting their access to healthcare. A trans Bengali patient receiving treatment at the MSF clinic expressed concerns about accessing care for HIV from a government hospital due to issues with identification documents, even more so with the intersections of legal status and gender identity.

In the focus group with transgender individuals, they expressed that they are generally cautious about sexually transmitted diseases (STDs) and their overall health. As their primary source of income is sex work and/or providing entertainment in the form of dancing at social events like weddings, this makes them a vulnerable group to targeted violence, which adds another layer to barriers in accessing healthcare. One of the trans women gave an example of a time when she was returning from one such event and on the way back was harassed and beaten up by the guests at the event. When she tried to take legal action, the police in turn made fun of her and refused to get involved.

They mentioned that they prefer professional medical help over traditional or religious healers but usually avoid healthcare facilities due to stigmatization and mistreatment by hospital staff. Experiences of discrimination and harassment stop them from seeking necessary care, leading to self-medication practices that may not adequately address their health needs.

Transgender individuals in Machar Colony also experience street harassment daily. They are hesitant to leave their home and said that if they were screened in the vans, they would still have to wait their turn in the street to be screened, making them vulnerable to violence and street harassment. Additionally, their sources of income are precarious and require them being outside for most of the day and night, which means they are a difficult group to find.

Role of unlicensed practitioners and treatment preferences

At Dr. Kareem's clinic[13]

Located in a street between a mosque and a row of cramped buildings stood a small, unmarked door. A steady stream of locals slipped in and out, evidence of the trust placed in the clinic of "Dr. Kareem." Inside, the dimly lit clinic was a collage of peeling paint, slabs of concrete with old and dirty pillows on which the patients laid down on while getting drips that hung from a nail in the wall. Thermometers filled a glass jar filled with orange liquid and cotton on the counter, and the air carried a dense scent of old mildew.

[13] Names are pseudonyms.

Dr. Kareem, a man in his sixties with a weary smile, moved with practiced efficiency. Clad in a simple shalwar kameez, he exuded an air of familiarity that put his patients at ease. Initially, Javed and I waited for about an hour while the assistants at his clinic discreetly cleaned the clinic before we spoke to Dr. Kareem.

When I spoke with Dr. Kareem, he explained the community's preference for injections. "Time is a luxury here," he said. "People can't afford to miss a day's wage. Injections offer immediate relief without the need for multiple doses. My patients also don't listen to me. They want the treatment that they want."

I broached the topic of syringe reuse, and he glanced at me cautiously: "I always use new syringes." he said, beckoning to the boxes of syringes piled on his desk. Despite reports of him reusing syringes, from the community in Machar and his patients, I saw boxes of syringes and saw him handing a sealed one to one of his male patients as we spoke.

Our conversation turned to the challenges of reaching patients. "Addresses here are fluid," he chuckled softly. "People come and go, homes shift. They might tell you they live near the 'Big Mosque' or near the 'China Warehouse,' but finding them again is like chasing the tide."

The prevalence of unlicensed healthcare practitioners, often referred to locally as "ataayi doctor" or "quacks," presents a significant barrier to effective Hepatitis C prevention and treatment. These practitioners offer quick and affordable treatments through injections and intravenous drips, usually comprising mixtures of steroids and various medications. The appeal lies in the immediacy of relief and the avoidance of lengthy treatment regimens, aligning with the community's preference for injectable treatments over oral medications.

However, the use of non-sterile equipment and unsafe medical practices by these practitioners significantly increases the risk of Hepatitis C transmission (WHO, 2020). The reliance on such services is driven by economic constraints, accessibility, and trust in familiar community figures, despite the potential health risks.

Health-seeking behaviors and self-medication

Residents of Machar Colony often resort to self-medication for manageable ailments like fever and cough. Due to limited health literacy, they may underplay symptoms of more serious conditions, inadvertently worsening their health. The preference for self-medication stems from factors such as cost savings, convenience, and mistrust of formal healthcare providers. Some lost-to-follow up patients and cured ones cited going to a spiritual healer for "*dum"* (reciting Qur'anic verses for healing), to get better. They reportedly did feel better after their visit to a spiritual healer.

People Who Inject Drugs (PWIDs)[14] face different challenges. A focus group with 18 participants from this community revealed that drug ingestion is more common than injection, according to staff at a local rehabilitation center. The center operates under poor conditions despite possessing a certificate of clearance from the Sindh government. Patients are crowded into inadequately equipped rooms, and recovered patients become staff members. Reports from MSF staff and some patients at the rehab center instigated that the rehab center has currently employed a nurse as a doctor who is also a drug user. PWIDs from this rehab center did not elaborate on using spiritual healers. They were also confused or unaware about what Hepatitis C is.

[14] Even though PWID is an abbreviation for People Who Inject Drugs, in this case, most of the patients at this rehab center either ingested or inhaled drugs. However, from the contradictory information from the FGD it is inconclusive which is the most prevalent form of drug consumption among this group.

PWIDs expressed difficulty recognizing pain and a tendency to use drugs to numb discomfort rather than seeking medical help. They prefer injections over oral medications to avoid triggers related to pill consumption. Furthermore, feelings of loneliness and abandonment stemming from limited family contact deepens their vulnerability.

Misconceptions about Hepatitis C transmission

Misunderstandings about how Hepatitis C is transmitted are widespread in Machar. I interviewed patients who were Hepatitis C positive in the Bengali and Burmese area, and who were lost to follow ups. When asked, they cited black magic as the reason they are ill and not the disease itself. This is why they did not come to the clinic and chose to go to a "*baba*" (spiritual healer) instead.

Health promotion efforts by MSF have had limited retention among the general population, although individuals who have experienced the disease personally or through a family member tend to have better knowledge and are more motivated to follow up. Many of them were grateful that the treatment at MSF is free since they know that their friends and relatives who had Hepatitis C paid a lot for their medications.

Stigma and taboo topics

Stigma surrounding Hepatitis C and other health conditions is also a barrier. There were very few people who were secretive about their Hepatitis C diagnosis, however, the stigma that does exist, stems from being an excluded population that lives on the margins. Further complicating this issue are the lack of legal documents for some communities like the Afghans, Bengalis, and Burmese. The Afghan, Burmese, Bengali, and the trans communities experience stigmatization in government hospitals, affecting their willingness to engage with healthcare services. Misconceptions about the disease contribute to avoidance.

Cultural sensitivities around sexual health further hinder open dialogue. Discussions about practices involving men who have sex with men (MSM) are taboo[15], making it challenging to address related health risks. Social norms within male-dominated compounds, where men live together due to employment in sectors like construction and fisheries, restrict conversations about sexual health. The presence of community leaders or "*waderas*" within certain communities like the Sindhis, enforces strict social codes, limiting behaviors but also obstructing health education efforts.

Living conditions and overcrowding

Overcrowded living conditions contribute to the challenges of Hepatitis C micro-elimination. Bengali families often rent out rooms to other families, with a typical house comprising three rooms occupied by different households. Men in transit sometimes share accommodations with families, blurring social boundaries and complicating disease control efforts.

The practice of renting space to multiple families is driven by economic necessity but creates environments where public health interventions are more difficult to implement effectively. Overcrowding adds another challenge in maintaining hygiene and sanitation, increasing health risks.

[15] During this part of data collection, I split my interview with Javed who broached the subject on MSM and sexual health with this group. As a woman, especially a Pakistani woman, I could not broach this subject while being culturally sensitive. Later, Javed would ask them to relay the information to me.

4. Analysis

At present, apart from the MSF Hepatitis C clinic there are three local clinics (mostly Outpatient) operating in Machar: ZMT, SINA, and *Imkaan*. In my conversation with the director of one of those they mentioned that due to limited resources they will be soon closing their OPD clinic. "We have a good doctor, but our medications are B-grade. We're not helping people here that much with this facility. But unfortunately, we are the only OPD facility this deep into Machar (in the *Bengali Parra*) and these people need it the most. Since the female population in this area largely work in shrimp peeling factories, they develop scabies which is a huge issue", she said.

Imkaan remains largely a maternal health care center. They also provide a daycare center, legal services for undocumented residents, and mental health services to their beneficiaries. "The biggest need in this area (Bengali Parra) and in Machar Colony is a laboratory. There are no testing and diagnostic facilities here.", she added.

When I spoke to the residents of Machar about the three local clinics, they usually had positive feedback but were frustrated because seemingly they received the same medication for every ailment from these three places. In their view, the fact that every disease did not have a separate regimen was suspicious.

Residents were deeply upset that the MSF clinic was closing. "You are orphaning us.", an older male resident of Machar said to me, "no one cares about us, and no one will. At least with this clinic we had a beacon of hope."

Since many residents are undocumented, and live below the poverty line, going to government or private hospitals is next to impossible – at least for follow-ups. This is a big factor for many residents to opt for informal practitioners or "quacks". It is true that these are not the only kinds of doctors in Machar Colony.

There are some doctors who practice in hospitals and have small clinics in Machar, but they are disfavored over the other informal practitioners because they charge more for their consultations and medication. Residents also opt for herbal medicine and/or cupping. In fact, many streets in Machar Colony have advertisements for cupping centers. This could be another phenomenon to explore further – the risk factors in local "*hijaama*" or cupping clinics.

According to a study by Naqvi et al. (2019), cupping was shown to be a significant risk factor in the transmission of both HBV and HCV in Pakistan. The study was conducted by the medical department of Civil Hospital Karachi and DOW University of Health Sciences (Naqvi et al., 2019).

Table no: 2 Various risk factors for transmission of hepatitis C Orthodox routes of transmission as risk factors for HCV

Risk factors	Anti HCV + (482)	Anti HCV – (HCV RNA +) (187)	P value	Odd ratio CI 95%
Social & demographic factors				
Gender				
Male	230	120	0.72	1.07(.72-1.5)
Female	252	67		
Age				
16—35 years	161	45	0.018*	1.58(1.50-2.73)
> 35 years	321	142		
Persons room occupancy				
< 3	366	145	0.66	0.91(0.59-1.39)
> 3	116	42		
Tattooing				
Yes	67	26	0.99	1.00 (0.59-1.67)
No	415	161		
Ear & nose prick				
Yes	101	30	0.18	1.38 (0.86-2.28)
No	381	157		
Shave from barbers				
Yes	351	115		
No	131	72	0.04*	1.68 (1.56-2.43)
Other risk factors				
Previous H/O hospitalization				
Yes	260	222		
No	95	92	**0.52**	1.13(0.79-1.61)
Blood transfusion				
Yes	266	112		
No	216	75	**0.31**	.825 (0.57-1.17)
Obstetrical procedures				
Yes	197	100		
No	285	87	**0.21**	
Dental treatment				0.79(.55-1.1)
Yes	283	129		
No	199	58	**0.014**	0.63(0.43-0.93)
Use of unsafe syringes				
Yes	259	89		
No	223	98	**0.93**	1.27 (0.89-1.82)

Source: Naqvi et al. (2019), Hepatitis B and C: frequency, modes of transmission and risk factors along with some unorthodox routes of spread.

This was also confirmed during my fieldwork when I had a conversation with a local healer who provides cupping services. He said that even though he does not reuse the cups for "*hijaama*", there are several of such healers in the "Jungle Area" that reuse cups. He also seemed to be aware on prevention and treatment of Hepatitis C and told me that the

biggest need in Machar Colony is awareness sessions on this disease.

Another key issue is literacy rates impacting the retention of information on treatment and prevention from awareness sessions by the ~~HP~~ health promotion team and reading their own patient files for follow-up appointment dates. Several patients asked me to reread their reports during interviews (mostly lost to follow ups) so I could tell them if they:

1. Still had Hepatitis C,
2. Check when their next appointment is,
3. What they were supposed to do next and when the clinic is open. They usually asked if it's open late in the evening or on Sundays.

This indicates that the use of visual material would have perhaps been more effective in communicating and explaining what Hepatitis C is and how it is spread. All BTC patients received consent and opt-out statements with contact details of the medical activities manager ~~MAM~~ and registration officer for the purpose of clarifying any confusions. Although these interventions were undertaken, it is difficult to say if a different approach such as the use of info leaflets on Hepatitis C attached to patients' files could have helped with this challenge.

Accessibility to the clinic was another key issue. Most people were occupied in informal labor which means they lead precarious lives and cannot take time off for appointment follow-ups. Interestingly, many patients were motivated to take care of themselves as per the doctors' advice. They went as far as avoiding red meat even after they were cured. Many of them cited religious reasonings and financial constraints for wanting to get and stay better. "If God has made us ill, he also wants us to get better.", a male Pushtoon cured patient told me. "I cannot afford to be ill.", said another enrolled female Bengali patient, "this is why I follow any advice I get from the doctor."

From this, I gathered that the will to follow-up with treatment does exist among the population. Many of them were motivated to come to the clinic but could not do so due to other much more prioritized engagements such as work, household tasks, taking care of the elderly and children, etc. Furthermore, many residents in the "*Bengali Parra*" were not aware of the MSF Clinic (even when referred to as "China Clinic"). So while the HP team has reached all parts of Machar, and went to every household, our message was not clear to them.

5. Recommendations

1. Extend/Adjust clinic operating hours

Adjusting the operating hours of the clinic and remaining open till evenings or weekends could facilitate residents who are employed in the informal sector and cannot visit during the standard opening hours of the clinic[16].

Implementation of flexible scheduling both for the *Bolans* and the clinic to ensure that healthcare services can be accessible to the most excluded groups such as the trans community**. This group is confirmedly available during a few hours in the evening - 6pm - 9 pm.[17]**

2. Location

Many residents in Machar have mentioned that they find it difficult to access the clinic from the deeper parts of Machar. It is also true that having a clinic in the "Bengali Parra" would be a cause of security risks and evacuation concerns, a point which the director of *Imkaan* – Tahera Hassan, also mentioned about their clinic. But perhaps, it could be useful to have a fixed physical presence in the form of a satellite clinic for sensitization and mobilization purposes. At present, many people know the MSF clinic as "China clinic".

A point-to-point shuttle service could be useful for residents who have mobility issues, such as the elderly and disabled. Shuttles could also be useful for reaching groups that are engaged in informal work (during post-work hours or lunch breaks).

3. Improve communication content to adapt to socio-cultural context and the low-literacy population

Many residents in Machar cannot read or write. This is a key challenge which makes it difficult for them to remember more complex information. The HP team used visuals to communicate about the transmission and treatment of Hepatitis C, in their awareness sessions. The project also implemented appointment systems in local languages to facilitate patients for their follow-up dates. However, it seems that the residents were still misinformed about the disease. This could perhaps be addressed by attaching visual info leaflets on Hepatitis C transmission and prevention in their patient files. Including a map to the clinic by indicating landmarks could be useful too. Ongoing efforts on education and awareness on Hepatitis C are crucial with the residents.

Moreover, some of the questions in the questionnaires for patient uptake during screening were not received well, such as:

1. Asking patients about their criminal record,

2. Asking patients about potential drug use,

3. Asking patients about sexual activity.[18]

These questions could be adapted to suit the social and cultural context of Machar and training for staff on how to approach patients with such sensitive questions must be given.

Maps to the clinic were also included in patient files; however, patients did not always find it easy to understand them. A simplified version of the maps which includes landmarks instead of road/street maps would be much easier for the residents to understand. Separately, it would be beneficial to rotate staff in the HP outreach units, comprised of a nurse, female

[16] In the February 2024 HP MMR, the HP team reported an increase in successful outreach activities especially when they did them during 2 Sundays in the month.

[17] The FGD with the trans community was during the afternoon but this was a pre-agreed upon time.

[18] Since Machar Colony is an informal settlement with many undocumented residents, such questions can be alarming for many people and may cause suspicions towards the clinic staff and the clinic.

HP, male HP, and lay-counselor/driver, on a weekly or monthly basis.

Many residents did not care for the disease or did not believe it to be as dangerous. This indicates a gap in communication and/or retention on the importance of screening and testing, especially due to the initial asymptomatic nature of Hepatitis C. Using relatable messaging by using religious reasonings or family values, might be more effective with the residents of Machar.

4. Improve and adapt follow-up procedures

Many patients were either not at home or at work during the non-participant observation part of my research with the tracing team which illustrates this suggestion. It could also be useful to make a diagram to explain follow-up procedures.

Another suggestion would be to use the "*Bolans"* for treatment and report distribution at workplaces for people who cannot leave work, elderly, and disabled groups of patients.

5. Address stigma and misinformation

From this assessment, I can conclude that many residents were still unaware about what Hepatitis C is. They usually confused it with Hepatitis B or A.[19] This is not to say that the HP strategy did not work. The enrolled and cured patients knew the treatment quite well and were able to repeat from memory:

1. the duration of the treatment,

2. the type of treatment,

3. and other specificities for special groups like pregnant women.

The deeper I went into Machar the less people knew about the disease itself. One possible explanation could be that the outreach efforts were primarily concentrated in areas closer to the clinic within the Pushtoon area. Although the HP team went to many households and covered every block of Machar, it is difficult to determine the frequency and quality of efforts. Another explanation could be that our messaging was not clear for the Bengali and Burmese populations.

Specially crafted information for different groups would be good to dispel myths. The Pushtoon population fares better financially and have higher literacy rates than most other groups in Machar which means that they have better retention and are usually compliant to treatment. Specific messaging for groups such as the Bengali population could be used to dispel myths on Hepatitis C and black magic, for example.

6. Inclusion of excluded groups

From my engagement with the trans community, I found out that this group was not much mobilized. Although we had a few trans patients, they were identified during mobile screening on an ad-hoc basis. Targeted efforts need to be made to address the specific needs of this group. Surprisingly, even though the trans community in Machar is organized under the 'guru-chela' system with an established community leader, we never engaged their leader alongside other community leaders. Or even separately, to accommodate for any possible stigmatization.

Many community leaders were male. Female community leaders were engaged but there was a low turnout.[20] An effort to have an ongoing engagement with female community leaders must be established to accommodate and understand their specific needs.

7. Diversity and inclusion training for MSF staff

It is essential to provide diversity and inclusion training for MSF staff involved in this initiative. Considering the diverse demographics of

[19] One reason is that Hepatitis A, B and C have the same names in Urdu. However, some residents were able to make a distinction between the three.

[20] Confirmed by previous HPs.

Machar, it is essential to prioritize harm-reduction through addressing the implicit biases among MSF staff and to our patients.

This training should focus on cultural competence, sensitivity to local customs, and awareness of the unique challenges faced by various groups within the community, including women and the trans community. By understanding the socio-cultural dynamics and addressing implicit biases, staff can build trust and improve communication with all residents.

8. Addressing power dynamics

In my fieldwork activities, I discovered that many residents were hesitant or shy in providing feedback for the MSF clinic[21]. In some instances, I had to adapt to speaking about their life and family for them to feel comfortable in telling me what they thought of MSF's medical services. Incorporating informal approaches helped me in such scenarios.

My conversation with previous HPs also revealed that many community members were shy during FGDs on community feedback or would repeat the same things said by another participant.

Therefore, incorporating different activities on health education and promotion in informal settlings would be important to include in a settlement like Machar to make sure that the community feels at ease with us. Engaging with members of a community who are quite literally living on the margins, means we must be sensitive to their history of dissatisfaction with healthcare services due to the stigma and social ostracization they experience daily.

Conclusion

Overall, MSF has left a lasting impact on Machar Colony and its residents. One of the biggest achievements was to put the settlement on the health map of the Ministry of Health. BTC proved to be a successful case study for future micro-elimination projects. Residents and enrolled patients were profoundly disappointed because the clinic was closing. Every enrolled patient interview ended with feedback not to close the clinic or to work on something else in Machar since they have little-to-no access to healthcare facilities that are free of cost. Residents suggested working on:

1. Maternal Health Care,

2. Chronic illnesses, namely diabetes,

3. Mental health,

4. and Neglected Tropical Diseases (NDTs), namely scabies.

The challenges in Machar Colony related to Hepatitis C are intersectional. Socio-economic conditions, cultural beliefs, low literacy rates, and infrastructural limitations are the key challenges in this area and population.

To overcome these challenges, ongoing efforts need to be made to engage with the community. Tailoring engagement strategies to different ethnic groups in Machar is key for the development and execution of health interventions, building trust with marginalized groups, and adapting services to fit local contexts. Collaborative efforts that had prioritized the voices and needs of the community were essential for improving health outcomes in the micro-elimination of Hepatitis C in Machar Colony.

[21] Some patients also revealed that they did not follow up for appointments which had long passed because they were afraid of the doctor scolding them.

6. Appendices and Bibliography

Appendices

Thematic coding of interviews and fieldnotes - BTC Hep C anthro assessment.xlsx

HP-Topic guide-HEP C- Machar colony, Karachi - ANTHRO-Assessment-BTC MSFOCB-2022-ENG (DRAFT).docx.url

Adapted Interview and FGD Questionnaire (cross-cutting).pdf

Methodology.url

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