Chronic hepatitis and HIV risks amongst Pakistani migrant men in a French suburb and insights into health promotion interventions: the ANRS Musafir qualitative study

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Research article

Keywords: Migration, Pakistan, Europe, hepatitis C, HIV, risk, vulnerability, qualitative study, health promotion

Posted Date: December 23rd, 2019

DOI: https://doi.org/10.21203/rs.2.19437/v1

Version of Record: A version of this preprint was published on September 12th, 2020. See the published version at https://doi.org/10.1186/s12889-020-09459-x.

Abstract

Objectives Seine-Saint-Denis is a deprived departement (French administrative unit) in the North-East of Paris, France, hosting the majority of South Asian migrants in France. In recent years, the number of migrants from Pakistan, which has the second highest prevalence of hepatitis C globally, increased. As a corollary, this study addressed the high proportion of Pakistani patients in the infectious diseases clinic of a local hospital, diagnosed with hepatitis C, but also hepatitis B and Human Immunodeficiency Virus (HIV). It explored genealogies and beliefs about hepatitis and HIV transmission in Pakistan, including community, sexual and blood risk behaviours. The aim was to understand the ways these risk factors reduce or intensify both en route and once in France, in order to devise specific forms of community health intervention. Design The study took place at Avicenne University-Hospital in Seine-Saint-Denis, and its environs, between July and September 2018. The design of the study was qualitative, combining interviews, a focus group discussion, and ethnographic observations. Semi-structured interviews were conducted with a sample of 13 Pakistani male participants diagnosed with chronic hepatitis C, B, and/or HIV, who had arrived after 2010 in Seine-St-Denis.

Results All participants were young men from rural Punjab province. Most took the Eastern Mediterranean human smuggling route. Findings suggest that vulnerabilities to hepatitis and HIV transmission, in many cases originating in Pakistan, are intensified along the migration route and perpetuated in France. They reveal multiple overlapping factors including cohabitation conditions, cultural norms, and a lack of knowledge about transmission. Participants also suggested a number of culturally-acceptable health promotion interventions in the community.

Conclusions This in-depth analysis of individual and community risks among recently-arrived migrant men from a country with high hepatitis C prevalence is significant for developing new perspectives on health prevention and promotion interventions. These are clearly needed in regard to Europe's new migrant and refugee populations.

Introduction

Seine-Saint-Denis is a deprived 'departement' (French administrative unit, below region and above district) located in North-East Paris, historically hosting post-colonial labor migrants from North Africa and Sub-Saharan Africa. Its proportion of foreign inhabitants is the highest amongst French departements (21%) and its South Asian population has recently increased. In 2011, the Seine St Denis departement hosted one third of immigrants from the Indian sub-continent in France, densely concentrated in 4 districts of the departement (1). The Pakistani population is the second largest population from South Asia, representing over 6000 official inhabitants (1). Unofficial numbers might far outweigh this figure, since the International Organization for Migration (IOM) and non-governmental organizations on the Eastern Mediterranean route report a growing number of Pakistanis (mostly men, from Punjab province) entering Europe via Turkey, and then crossing into Greece and Italy (2). In Greece in 2012, an official figure of 15,000 Pakistani official migrants contrasted with an estimated 60,000 unofficial migrants. In 2014, Pakistan was the fifth country most represented amongst asylum seekers in France, of similar numbers as those from Syria (3).

In concordance with the above European data, Pakistani migrants receiving healthcare in Non-Governmental Organizations such as Médecins du Monde were primarily without health coverage (being mostly undocumented) (4). Correspondingly, there was a spike in chronic hepatitis C referrals the site of this study, in 2016 and 2017. This latter is not surprising since Pakistan has the second highest global prevalence of Hepatitis C, with a prevalence of 6.2% in the general population in 2018 (5). Hepatitis B and HIV are far less prevalent in Pakistan (2.5% in 2010 and 0.1% in 2018 amongst adults aged 15–49, respectively), but HIV is on the rise and at the stage of a concentrated epidemic (6,7).

According to the abundant literature on the epidemiology of chronic hepatitis C in Pakistan, the bulk of transmission is constituted by unsafe therapeutic injections (8–12). However, other risks of hepatitis C transmission, such as men who have sex with men (MSM) -not necessarily identifying as gay-, or traumatic sexual intercourses, involving contact with blood (including child abuse, and gender-based violence), are barely mentioned. Notwithstanding, these practices are prevalent in Pakistan (13–17). We argue that they, alongside an understanding of how patterns of risky behaviours change with migration and settlement processes, should be taken into account. For instance, in Egypt (which has the highest global prevalence rates of chronic hepatitis C), the major risk in the 1970s was mass injectable treatments for Schistosomia. Over time this risk has now disappeared and new risks, such as related to MSM, are growing (18). Among the wider MSM population in France and other countries, hepatitis C rates are also rapidly increasing.

Data that actively monitors hepatitis C are non-existent in France among the migrant population (due to no mandatory reporting system), but it is estimated that France and the UK have similar rates of contribution by migrants to chronic hepatitis C, standing at around 35% (19). Pakistani migrants to France (and Europe) originate from a country highly endemic for hepatitis C. Notwithstanding, the temporal and spatial patterning of transmission risk factors is not yet precisely identified: the extent to which hepatitis C or B is acquired in Pakistan before departure, en route, or after arrival, is currently unknown. Similar questions apply to HIV transmission, although HIV rates are lower in Pakistan compared to hepatitis C. Whilst other studies revealed relatively high rates of HIV transmission once migrants were in France (20), due to primarily precarious living conditions, this study seeks to better understand knowledge about transmission and engagement in risky behaviours in a growing migrant community.

We conducted an in-depth analysis of risky behaviours for hepatitis and HIV amongst a sample of male Pakistani migrants. HIV and hepatitis share risks factors (as well as some prevention methods) and, moreover, are tested for at together as part of sexually transmitted infections screening in France. Undocumented migrants live in more precarious conditions than those with papers or citizenship, and are exposed to greater insecurity, transmission risks and risky behaviours, as well as misinformation about the prevention of hepatitis and HIV transmission. We sought to identify general knowledge and behaviours pertaining to both infections. We analyzed their behaviours within the wider context of beliefs and knowledge about transmission, their living conditions pre-migration, their journey and living conditions in France, and their related mental health status. While mindful that beliefs do not determine behaviour, in the case of these participants we started with the premise that they could be linked. Finally, we considered opportunities for community-level

prevention in France, together with participants and with community-stakeholders. Indeed, health promotion including prevention interventions, need to be built with communities (21).

Methods

We used the 32-item checklist from the consolidated criteria for reporting qualitative studies as a guide to describe our methods (22).

Study design

The study was qualitative and ethnographic in nature, and named Musafir (Urdu), which translates as “traveler” with connotations of migrant, or one who is separated or exiled from their homeland. It was used to explain the study to participants without conferring a stigmatizing label.

Fourteen semi-structured interviews (13 and one repeat interview) were conducted between July and September 2018. One focus group was organized in September 2018. NK collected ethnographic data, and attended several meetings with Urdu-speaking general practitioners from the Seine Saint Denis neighborhood.

Recruitment and data collection

Participants were selected from a list of Pakistani patients followed up in the infectious diseases clinic, at Avicenne University Hospital, in Bobigny, located in Seine-St-Denis. The eligibility criteria were: having been born in Pakistan; experiences of living with hepatitis C/B (including those who had been cured) and /or HIV; having arrived in France after 2010, and being willing to participate to the study. The cut-off point of 2010 was chosen in order to take into account the mean time for settling in a country, from 7 to 9 years, during which migrants face hardships and are more vulnerable to risky behaviours (20).

Participants were recruited for individual interviews during follow-up outpatient visits by their clinicians between April and June 2018. Participants were given a choice of interview location. All preferred the out-patient clinic likely due to concerns for privacy and anonymity, a preference for a setting where their hepatitis or HIV status was known and not judged, and where they could avoid potentially embarrassing explanations if friends or acquaintances in the local community saw them. Individual interviews were conducted by one interviewer; a clinician (MD, PhD), an anthropologist (PhD), or a clinical psychologist (MSc), assisted by one professional medical translator, between July and September 2018. The clinician and psychologist did not interview participants whose routine care they were responsible for. All interviewers were experienced in leading qualitative interviews. Interviews were conducted in French, English and Urdu, or a mixture of all three, as conversations took their own course. All interviews were audio-recorded. Oral consent was obtained before each interview and recording. At the end of each interview, participants were invited to participate in a focus-group discussion (FGD) with other Pakistani participants who shared direct or indirect experiences of hepatitis.

The FGD was conducted in September 2018, after a preliminary analysis of individual interviews, by the authors. Also present was the same translator who attended the individual interviews. The FGD was conducted in English/Urdu and audio-recorded, after obtaining oral consent from all participants. The overarching aim was to discuss strategies for community-level prevention regarding hepatitis and STIs, as well as health promotion strategies. We opened the FGD by specifying that participants shared one commonality, that being they were Pakistanis with experiences of hepatitis (personal, or via friends, or relatives). There was no disclosure or discussion of personal diagnoses or experiences.

Each participant chose a pseudonym, and full anonymity was observed during individual interviews, which occurred on different days, or at different times of the day, so as to avoid unwanted meetings at the hospital. However, some participants had established friendships through meeting previously at the hospital. They were among those individuals who volunteered for the FGD.

Interviews and FGD were transcribed and translated into English by an independent British company, accustomed to working with medical and social sciences material. The anthropologist, who speaks Urdu, double-checked the validity of the transcripts against the translations and also the recordings.

The interview schedule was developed using the literature review, whereas the FGD schedule was developed building on preliminary data analysis. The literature review for interview schedule conception was guided by risk factors of hepatitis C, B and HIV acquisition (via blood contact- unsafe injections, transfusions, sharing razors or miswak- mother-to-child transmission, intravenous drug use and unprotected sex) as well as factors influencing risky behaviours, before, during and after migration (e.g. increased vulnerabilities from migration conditions, inadequate healthcare, lack of knowledge).

All interviewers, as well as the translator were non-Pakistani and non-Muslim. Author 2 is highly knowledgeable in terms of Pakistani society. The fact the interviews were anonymous, conducted in a hospital-setting and by culturally-distant individuals may have served to gain the trust of participants.

Methods of analysis

Notes were taken on attitudes, hesitations, gestures, body languages and tones, and used to interpret data or the lack thereof. Transcripts were analyzed using Nvivo→ software, by JC. The analysis was both deductive and inductive. Framework analysis was first applied in order to deduce exposure to known risk factors to hepatitis and HIV according to the interview schedule, before, during and after migration. Grounded theory was next applied to the overall transcripts, which uncovered emerging and intertwined social and individual factors influencing participants’ behaviours. We subsequently adapted the framework developed by Sorensen et al (23), to describe the influence of the context on individual risky behaviours, in order to propose a terrain for health promotion and prevention work (Fig. 1). Triangulation was performed with the translator and across the three interviewers who represented different disciplinary backgrounds, and also supplemented with field notes and ethnographic observations.

Findings

The characteristics of the participants are presented in Table 1. These socio-demographic data largely concord with those of the cohort of Pakistani patients followed-up at Avicenne, and of the IOM study, which described recent migrants from Pakistan being constituted of single young men from Punjab (2).

Table 1
Participants' characteristics

Participant characteristics		
Participant gender	Male	13
	Female	0
Province of origin in Pakistan	Punjab	13
	Other province	0
Age (years)	Median (extremes)	30 (23–56)
Type of infections	HCV	9
	HIV	2
	HBV	1
	Co-infections HCV-HIV	1
Status	Single	5
	Engaged, fiancée in Pakistan	3
	Married, wife in Pakistan	4
	Married, wife in France	1
Period since arrival in France (years)	Median (extremes)	5 (8 – 2)
Fluent language	Urdu exclusively	12
	Urdu and French	0
	Urdu and English	1
Figure 1: Conceptual framework, adapted from Sorensen et al (23)		

Most participants entered France undocumented and remained so until they applied for a temporary residence permit for healthcare. In some cases, participants had applied unsuccessfully for asylum, and were undocumented. Most were referred to the hospital by local South Asian doctors in the Seine-St-Denis departement, after presenting with symptoms.

Table 1 here : Participants' characteristics

Life-course trajectories and hepatitis /HIV risk factors

Before migration: poverty and myths

The pre-migration context of participants was dominated by hardship during childhood and youth: most grew up in rural and poor farming families in Punjab province, attended primary school (some religious, other public); some were educated to matric standard age (16) and worked in parallel with their family on the farm; a few were from families owing farms or shops, although threats or assaults over land or cattle disputes precipitated their economic decline. Some participants had family members living with hepatitis C. Although many were aware that HCV and HIV were dangerous, they had little clue about their shared transmission routes. They were not knowledgeable at all about HBV. They unanimously thought that dirty water (and retained this belief even after treatment in France) was the main HCV transmission route, together with dust, and that hot chillies could reactivate the virus. Words used to describe hepatitis in Urdu were descriptive of symptoms and included "yerkaan", whatever the type (A, B, C, D, E), meaning jaundice, as well as "kala yerkaan" (black jaundice), or references to a hot liver. The few participants who had been tested for hepatitis C before migration did so exclusively because of "yerkaan", a visible symptom. Participants all believed "yerkaan" could not affect a child or young adult and that they could not carry the infection without any symptom.

They considered HIV more dangerous than HCV, and associated its transmission exclusively with female sex workers. They discovered, once in France, that unsafe injections could be a transmission route, especially for the 3 viruses. Many participants had received therapeutic injections, especially for fever and fatigue. Participants all highlighted the divide between the expensive health care provision in Pakistani private hospitals, where good doctors practice ('only rich people get treated at hospitals', participant 1), and the cheap but unreliable care in villages offered by so-called quack doctors ('we don't have any other option, we don't have any other doctor', participant 2).

Participants had occasionally also patronized street barbers who worked with razors without disposable blades. A number of participants additionally reported having witnessed or being involved in sexual activities between boys (starting around age 13 at single-sex school), relations which could continue

subsequently into adulthood. Some had heard of child abuse (i.e. men abusing boys) and qualified it as being quite frequent. Mutual sex between male adolescents was discussed as a commonplace practice in the men's rural communities and, if not typically spoken about openly, did not appear to necessarily represent a shameful or unwanted practice. MSM was viewed as separate from heterosexual marriage which all aspired to, and a gay identity strongly was refuted.

"An adolescent and a man, it is not a gay relationship, it is not a MSM; an adolescent is not a man" (FGD)

Injecting drug was also reported as being frequent in Pakistan, but no patient disclosed having engaged in it.

The journey: long and traumatic

The lure of migration initially tempted participants as an exciting opportunity to mitigate poverty and support their family, escape dangers, or simply undertake youthful adventure with friends. Most young men knew of enviable others in these small communities who had migrated to Europe and benefitted their household via remittances. Some leaving Pakistan did so upon official invitation from a relative or friend already settled in Europe (in these cases, mainly Italy), allowing legal entry with a tourist visa. A small minority travelled by plane but became undocumented upon expiration of their 3 months Schengen visa. The principal migration mode was via an 'agent' (trafficker), at substantial cost to the family, and with greater expectations of remittances. All our participants who took the land route via the Eastern Mediterranean route were affected by violence. Participants experienced pervasive and ongoing violence, psychological fear of being discovered by local police, of being arrested, detained, or fired on by army personnel, being held to ransom by smugglers, seeing their travel companions disappear, shot, wounded, or abandoned; physical exhaustion after walking for days, extreme temperatures, hunger, thirst, being cramped in small spaces for long periods of time, as well as sexual violence (rapes, harassment, or witnessing either). The journey to Europe could take months or sometimes years, with several being deported and re-trafficked across borders multiple times before reaching France. Many stayed in transit countries such as Iran, Turkey, or in other European countries such as Greece or Italy for months or years, living in multiple places or migrant camps, and taking small jobs where possible. One participant engaged in transactional sex with men in exchange for accommodation and work, whereas other participants reported having witnessed fellow countrymen en route engaging in transactional sex in exchange for work, food, or accommodation, or forced sex. Participants all shared razors and crockery during the land-journey, due to an extreme lack of privacy.

Life in France: precarious and clandestine

A sense of temporal and spatial distance prevailed among Pakistani communities in Seine-St-Denis: none of the recently arrived participants in Seine-St-Denis mixed with older longer-settled generations of Pakistanis in France, who have settled in other areas. Almost without exception, participants shared small rooms with other recently-arrived men, also from Punjab province in Pakistan. Such living arrangements are common among South Asian migrants in Europe. Except for two, all participants had unstable precarious lives and worked in short-term contracted jobs. They mostly worked as painters on building projects, or electricians. Low-paid labour and complex dependencies on their 'bosses' mean that many Pakistani migrants in Europe work many hours daily, for six or seven days a week, for months on end, without respite or holidays (Nobil 2016, 10). Those who worked together and cohabited inevitably formed stronger ties—taking turns to shop and cook Pakistani food, share bills and chores. They admitted at times sharing toothbrushes and razors to shave their face, armpits and genital areas, customary shaving practices for Muslims. Once diagnosed with hepatitis and/or HIV and advised, participants became cautious about not sharing their personal belongings such as razors, toothbrushes. Most were not ashamed and disclosed their hepatitis status, and their roommates were sympathetic to them, since hepatitis and symptoms such as jaundice are understood to be a national issue. Significantly, none of the three participants living with HIV disclosed their status. HIV is highly stigmatized in Pakistan, associated with a scenario where homosexuality has been criminalized in Pakistani law since colonial times, and 'pathologically high levels of discrimination and contempt towards sex workers, injecting drug users and transgendered hijrae' exist (24). Notwithstanding, Pakistan has a high prevalence of hidden MSM, and HIV/hepatitis amongst MSM (25).

On presentation at the hospital, the majority of participants were either undocumented or relying on a residence permit for healthcare with short validity (six to twelve months).

Due to suspicion over being arrested, language barriers, and the imperative will to work, they barely had any leisure time. Most were single. A few disclosed having girlfriends (non-Pakistanis). Others, longer-settled, went to sex-workers (mostly engaging in unprotected intercourse). A few did say not engaging at all in sexual activity. Participants reported to have 'heard about' men engaging in same-sex within their community in France (Pakistanis with Pakistanis, or with Arabs), and one specifically knew some friends who had done so. Some were pragmatic:

"If there are no women, a man may have sex with another man, just to fulfill his needs" (participant 1)

Drug users seemed uncommon in the community, even though few participants mentioned having heard of Paistani using/selling heroin in Seine-St-Denis, but none declared having ever used some. By contrast, barbers seemed to be a significant potential area for transmission risk in France, especially in the community or proxy-community (where many Sri Lankan and Bangladeshi barbers run small shops). Areas such as Strasbourg-St-Denis in Paris (hosting a large North Indian community) and La Courneuve were, during the FGD, cited as places where barbers may not be 'safe'. These data are supported by some ethnographic observations of barbers who used the same blade for consecutive customers. One participant mentioned having received dental care from an informal Indian dentist in a workers' hostel. These findings bear unexpectedly on implications for the transnational mobility of informal and unregulated healthcare practices between South Asia and France.

Individual and social factors influencing behaviours

We interrogated here individual and social factors influencing behaviours in light of the Sorensen model (Fig. 1).

Transnational societal norms and taboos

Even while living in France, there was an overall sense of fear of the authorities, and sense of shame or outright denial when discussing behaviours that contravened Pakistani societal norms. For example, the majority of our participants admitted MSM practices being fairly common between Pakistanis, in Pakistan or abroad, but that these practices were 'invisibilised' through not being discussed, leading to contradictory statements in our interviews. One participant insisted 'It doesn't happen in Pakistan, it's against Islam'. Even 'Talking about MSM' was considered taboo outside of very private, personal, male friendships:

"In Pakistan, you won't say something like that – man [having sex] with man- you can say openly here, but not there in Pakistan" (participant 3)

The few who spoke without stigma about MSM activities were younger, and seemed less likely to judge, whereas older participants were judgmental and adamantly affirmed the illegal, morally prohibited (haram) nature of MSM activities. Moreover, hierarchy was very much respected, even in France, and some intimate topics were unspoken of, taboo, between generations.

"Elders won't talk about their 'girlfriend' to younger ones" (FGD).

Jokes around women were permitted (between same aged men), normalised in a male-dominant model of society, whereas disclosing MSM experiences could risk their families discovering it.

"About [sex with] women they [Pakistani friends] make jokes but about men they are very cautious, they don't say because they know that this will go to Pakistan and it will be a big mess. (participant 4)

Participants were cautious to not shame their family by revealing non-conformist sexual practices, notwithstanding the geographical distance: most of them awaited their family in Pakistan to choose a wife, but reported transnational sexual and romantic relationships, including adultery, as being common. The public admission of non-marital sex this implies is deeply shameful.

Overall, there were strong pressures for prosocial behaviours such as respect for generational hierarchies, familial and cultural norms. These meant socially prohibited and transgressive behaviours in participant's private lives were hidden. Yet Islam remained prevalent mostly as a moral discourse, rather than a strict set of rules to follow, while seeming to shape behaviours and attitudes.

Community and family ties

Our participants were very much embedded within Pakistani migrant communities in France. They mixed largely with other Pakistanis from Punjab who were recently arrived, due to, inter alia: their common language (Punjabi), pre-existing networks which provided access to employment and shared accommodation, and their shared ethnic/regional commonalities (reflecting the transnational adaptation of regional hostilities and ethnic loyalties in Pakistan, in the French context). While these communal bonds of friendships and sociality operate in their favour, they also potentially lead to hepatitis and HIV transmission: via the sharing of personal belongings (razors, syringes); via community-born risks (barbers, informal medical care); or via MSM practices between friends. These communities also offered forms of identification and support regarding their obligations to their community in Pakistan, which allowed them to leave their country, but under certain conditions such as sending remittances. Family ties are of enormous importance and this debt ties them, as with many first-generation migrants or refugees to Europe to their families transnationally. Yet in Pakistan, migration constitutes a habitus amongst young men. Ahmad frames the desire to migrate as a condition of masculinity amongst young Pakistanis (26).

In terms of sexuality, he introduces the notion of "melancholia" in desexualized "dead bodies" working "invisibly" in order to send remittances informing Western representations of undocumented migrants (27). Invisible sexualities apply too to our migrant sample whose sexual desires are effaced or hidden because their families might discover they have sex lives and chastise them; because of culturally-shaped personal beliefs about taboos, and morally reprehensible behaviours (28); because of a habitus of secrecy in a country with post-colonial history of Islamic state nationalism becoming increasingly right wing and conservative (29); and because of the extreme restrictions and hard labour conditions migrants and refugees face in Europe (30), combined with the hidden shame of their diagnosis.

Nonetheless, agency should not be underestimated and we note the importance of not reproducing Orientalist tropes about the oppression of Islam. The interviewees all hoped that the study would help their local community in France. This has implications in terms of health promotion: certainly behavioural interventions need to tackle social and culturally-specific mediators (31).

Poor mental health status

The overarching perception of participants' mental status was of pervading anxiety used in its lay meaning, to refer to poor sleeping quality, rumination, no hope in the future, and fears), deriving from multiple sources: HIV status which could not be disclosed; hepatitis C hypothetic survival in the body, and its potential for reactivation; infertility due to HIV or hepatitis, and transmission risks to a future spouse; the risk of becoming re-infected when back in Pakistan; being undocumented in France; being unemployed; working extremely long hours; feeling isolated from their family; feeling disillusioned; having no secure future in France. Their primary duty was to send remittances to family, and being sick or unable to work due to illness was a significant source of anxiety. Many of their reasons for anxiety, especially those related to hepatitis, were not based in fact. Despite reassurances from physicians, they continued to believe in unsubstantiated causes e.g. hot food with chillies, dirty water and environments. In addition, many suffered from traumatic reviviscences of their migration journey. None of our participants reported they drank alcohol, when asked by their physician. However, several reported having used alcohol before

being diagnosed. There was a sense of enduring despair regarding their unstable status in France, a sense of desperation about their health conditions, and hope the French health system might provide them good healthcare and treatment. Above all, their priority was to work and earn money.

Paper and legal status issues were central for most participants, and produced much mental tension. Most navigated between rounds of asylum and residence permit for medical care applications, and had undocumented status. Poor mental health was a mediating factor affecting, for instance, self-efficacy in adopting non-risky behaviours. Mental health needs to be taken into account when designing health promotion and prevention interventions.

Discussion

Our study suggests that our sample, mostly constituted of undocumented migrants and failed asylum seekers from Pakistan, has experienced a high rate of violence on the Eastern Mediterranean route, including sexual violence. In France, risks of hepatitis (and HIV) transmission seem to persist, in the form of hidden MSM practices, informal dental/medical care and unsafe barber's shops. These risks relate primarily to marginalization, promiscuity and poverty, enhanced in turn by poor mental health, lack of education, low literacy, unequal and differentiated access to health care and denial of risks due to social and cultural norms.

In the UK, studies on hepatitis amongst recently-arrived Pakistanis show a much higher prevalence of hepatitis C than in Bangladeshi or Indian communities, and again much higher among those originating from Punjab, in contrast to other Pakistani provinces (32). In France, such data are not available, but our findings corroborate UK data in terms of demographic characteristics. While a large proportion of hepatitis C transmissions are from unknown origins worldwide (Polaris 2016), epidemiological surveys in Pakistan report therapeutic injections and low standard of care as a major cause of the epidemic nationally. Pakistanis indeed have a strong belief in the efficacy of therapeutic injections (34) and quack doctors are widespread (12), confirmed by our data.

However, other risk factors for hepatitis and HIV transmission (MSM, drug use, sexual abuse) could also constitute a non-negligible source of transmission, though extremely difficult to uncover, according our findings and the literature. Some reports from Pakistan, as well as academic studies, indicate that sexual relationships between men might be normalized and occur at quite high frequency, although be hidden by a veneer of hypocrisy (13,16,17,35,36). Luckily, there is increasing advocacy in Pakistan for HIV prevention and MSM specific-interventions (37,38).

Participants in our sample reported normalized experiences of violence (including sexual) during their journeys to Europe, further constituting a risk for hepatitis, HIV and poor mental health. Our data indicate far worse conditions than those from the IOM study (2), which reported 'only' 20% of violence perpetrated on a sample of Pakistani surveyed on the Eastern Mediterranean routes. This could be due to either our sample being constituted by particularly vulnerable migrants, or to an underestimation of the IOM study.

Almost all our participants suffered from an unstable life after migration, which constitutes *per se* a determinant of health and disease acquisition, such as hepatitis and HIV (20).

Eventually, one important finding was that barbers in the Avicenne hospital neighborhood were potentially unsafe, as are many barbershops in Pakistan (39). This is an evidence of the transnational mobility of informal, unsafe hygiene practices, between low- or middle-income settings and marginalized areas of high-income setting.

Implications for health promotion interventions

Our findings have hence implications in terms of hepatitis and HIV prevention and health promotion. Health interventions will not be achieved in this migrant community without a strong involvement of the community itself (21) and a change in several practices and norms. Actions proposed hereby derive from discussions with interviewees and from the FGD, and are embedded in the Sorenson model (23).

First, there was a convergence towards the need to establish an early diagnosis for all who might silently carry these viruses within the community. Testing should be an outreach action. Following a mapping exercise, we propose several places Pakistanis typically work in wide Paris suburbs. This outreach work would be open to all communities, especially South Asian Muslim communities in the targeted areas, in order to not stigmatize Pakistanis. This outreach campaign could also be coupled with a knowledge-attitude-practice survey, which needs to be adapted to cultural norms and literacy rates. In order to enhance the acceptability of the testing campaigns, we propose also a series of awareness campaigns at the Pakistani mosque (located in the suburb close to the hospital) during celebrations, with the support of the mosque association and Urdu-speaking local doctors. A growing body of literature, especially in the UK and USA, mentions the usefulness of including faith-based organizations in the health promotion interventions, given the strong collectivism and faith-based values of South Asian communities ((40–42). We already engaged with the local Pakistani mosque leaders, with the help of participants, and agreed on future collaborations.

Secondly, community education on prevention and sexual health promotion is essential but needs to be culturally-specific, given the importance of transnational social norms (43), regarding sensitive topics such as homosociality, drug use and male sexuality. Based on the FGD in which full anonymity came out as a prerequisite for deploying such education, we propose using social media or a website in Urdu, administrated by an Urdu-fluent health professional. The media would include information on sexual health promotion and prevention, as well as a forum for online Q&A and discussion. Participants would benefit from an entire anonymity, allowing discussion around sensitive topics. Social media is increasingly used in sexual health promotion, given the sensitivity of the topic, and evaluations, though still rare, are positive (44).

Thirdly, in parallel to this community-level action, individual empowerment and stigma reduction should be sought, via increasing literacy rates, human rights awareness, and support around access to healthcare, especially for STIs and hepatitis, and mental health care. We propose for this purpose, to train people from Pakistan or from Pakistani descent, fluent in both Urdu and French, to become community health worker. Community-health workers are still not a well-defined category of workers and are defined by their competence rather than their training (45). They owe cultural competence, are trusted by the community, and are able to empower the community by raising their health literacy and *in fine* empower them (46). IPSO-Care is an example of well-functioning psycho-social counselors from the community who work for the community, which could be replicated here (47).

Fourthly, we propose to conduct a survey on knowledge-attitude-practices in occupational health, in the barbershops held by South-Asian communities in the hospital neighborhood and other similar neighborhoods. In Ghana for instance, a similar survey revealed enormous gaps in knowledge and related risky behaviours towards blood-borne viruses (48).

These four types of actions were proposed to the local health authority of Seine St Denis departement, and funding was secured for their implementation in the coming year.

Limitations

Our study has some limitations. Our sample is not representative of all Pakistani migrants, but rather represents Pakistanis affected by chronic hepatitis and/or HIV, living in precarious conditions in Seine-St-Denis. Our sample does however represent the most vulnerable ones, the undocumented migrants, who are tremendously difficult to study (49), due to fears of the French administration and language barriers. Moreover, these might represent a significant number, given IOM unofficial research on the Eastern Mediterranean route. The sample size is small, but continuous analysis during data collection showed that data saturation was reached. Patients seen subsequently at the outpatient clinic after the study had ended confirmed many of the findings. It is likely that participants did not disclose everything relevant to transmission risks, especially about MSM practices among their community, in Pakistan, en route or after arrival. Given the extreme stigmatization of these events or social prohibition of these behaviours, we interpreted with caution our data. Nonetheless, some specific personal disclosures, combined with emerging literature, make us consider that some neglected risks might be well present in this community.

Conclusions

Our sample of Pakistani participants, living with hepatitis and/or HIV, might well have acquired their viruses in Pakistan, but also en route or in France, as we identified several persistent risk factors for these viruses once in France. Beside cultural and social barriers, we identified many mediators which could be used to promote health and to change behaviours in our sample of recently-arrived Pakistani migrants, essentially constituted of young single men living with hepatitis and/or HIV. Those mediators are a collectivist approach to community, with a strong sense of community protection, a respect towards faith based organizations. There is also space for change, as stated by one participant: “we will never be able to talk about condoms in Pakistan, here in France we can” (FGD). This proves that agentivity is not to be neglected, despite strong social ties which seems to trap migrants into a “nowhere space”, not in France nor in Pakistan.

Future research will include a phylogenetic analysis of a larger group of patients with chronic hepatitis C. This would further assist in more precisely assessing temporal-spatial patterns of transmission and locating whether transmission occurred in Pakistan, en route or in France. Further ethnographic research onto informal medical and dental care practices in migrant communities might mitigate further rising risks of unforeseen transmission. Eventually, implementation of the health interventions above-described, in a community-participative way, will be evaluated.

Declarations

Ethics approval and consent to participate

JC began recruitment by asking patients during their outpatient visits whether a study on beliefs and behaviours around hepatitis would be useful. The research question was developed according to patients’ questioning about their disease acquisition, and their fears about persistent risks. Patients’ stated priority was to protect their community from hepatitis and HIV. The possibility of social desirability was addressed through a repeated emphasis that participation was fully optional and voluntary, and that their non-participation would not affect their treatment or relationship with the hospital or its staff in any way.

Patients were asked whether they would be keen on participating in interviews and the FGD. The face-to-face interviews were deemed best for exploring the research questions. The aim of the focus group was to explore ideas about prevention work in Pakistani communities in Paris.

All patients who were contacted agreed to participate and attended their scheduled interview.

Patients were asked to assess the burden of the intervention research in terms of their time. They typically emphasized their priority to protect their community.

All interviewers followed professional codes of conduct: fully informed voluntary and informed consent, anonymity, confidentiality, full right to withdraw from the study, full right to not respond to an interview question or to terminate the interview, and referral to medical or psychological support if and when requested. Ethics approval was granted by the INSERM ethics committee (IRB number 00003888).

All patients, except for one, were not literate in Urdu, French or English, and could not be invited to review their transcripts. However, preliminary findings were presented to participants during the FGD. During the FGD, participants and researchers agreed on further prevention and health promotion work to be conducted in the Seine-St-Denis Pakistani community.

Consent for publication

Not applicable since no individual data was included in the manuscript

Competing interests

Both authors declare: support from ANRS (public funding agency) for the submitted work; no financial relationships with any organizations that might have an interest in the submitted work in the previous three years, no other relationships or activities that could appear to have influenced the submitted work.

Funding

The study was funded by the French National Agency for HIV and hepatitis (ANRS), under grant number ECTZ62614. The funding covered all expenditures related to travel expenses, anthropologist contract, translator and transcriptions costs. Researchers are all independent from the funding agency.

Authors' contributions

JC and NK both made substantial contributions to the conception and design of the work, and to the acquisition, analysis or interpretation of data.

JC drafted the work and NK revised it critically for important intellectual content.

JC and NK approved the final version of this manuscript.

JC and NK agreed to be held accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Acknowledgements

We wish to thank all the participants who took part to the study; Ms Marie-Christine Lebon who helped with data collection and triangulation; colleagues and Urdu speaking Pakistani students who helped with recruitment; the translator Ms Kulwinder; and the LEPS team for administrative and methodological support.

Data availability statement

Authors are not able to share their raw data since participants disclosed very sensitive information. Participants were told that the transcripts will be read by NK and JC only, and this prompted their trust. However, authors are willing to share codes generated from the data on request (to the corresponding author).

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Figures

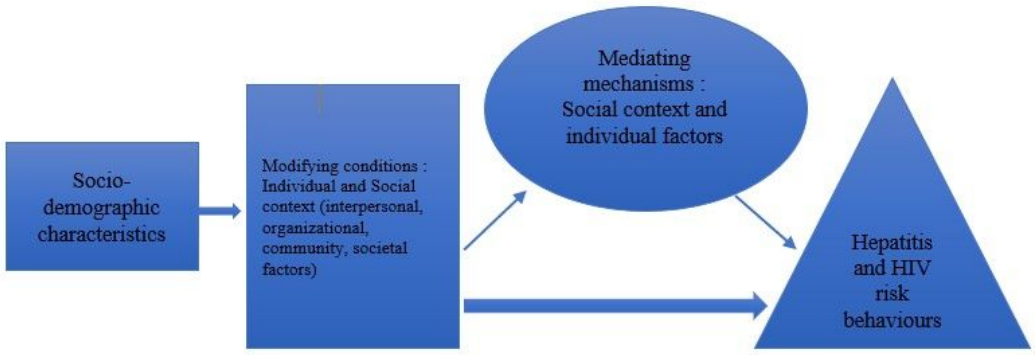

Figure 1

Conceptual framework, adapted from Sorensen et al (23)