

Inequitable Access of People Who Injected Drugs to HCV Care in Tangier, Morocco: An Explorative Qualitative Study

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Abstract

Background

Worldwide, approximately 16 million people inject drugs, 5 to 6 million people are living with hepatitis C virus (HCV) infection. In Morocco, people who inject drugs (PWID) exceeds 1500 and the majority lives in the northern region of Morocco (Tangier-Tetouan-Al Hoceima). Evidence suggests that 75% of them are infected with HCV. However, PWID suffers from inequitable access to hepatitis C care. For instance, 75 % of PWID affiliated to Hassnouna Association for the Support of Drug Users (AHSUD) do not have access to HCV treatment in Tangier. In this study, we aimed at exploring the underlying mechanisms and contextual conditions that hinders PWID from accessing HCV treatment.

Methods

We adopted qualitative multiple embedded case study design. We conducted 19 semi-structured interviews and a focus group discussion with PWIDs, community stakeholders and caregivers. We also carried out document review. We performed qualitative data analysis using NVivo software using concept, hypothesis and nvivo coding. We summarised key findings in the forms of barriers and facilitators.

Results

Access to care for PWID is constrained by *individual, group, healthcare and socio-institutional factors*. *Individual factors* include poor compliance to treatment, non-integration of care in personal priorities, level of knowledge of the disease with mistrust in government owned health institutions. At healthcare level, access to HCV care is also constrained by lack of appropriate management of *co-morbidities and adequate management of drug dependence*. *Social barriers include poor access to housing, lack of family support, social-institutional, gender-based stigmatisation and criminalisation of drug use*. *This is often responsible for negative experiences of care, feeling of discomfort and perceived mistrust in government owned healthcare services*. *Such contextual prevent them from an appropriate access to HCV*. *An emerging result is that PWID are sharing and learning health related knowledge from their peers*. *This reinforces their perceived self-efficacy and social support and enhance the likelihood of following HCV treatment*.

Discussion and conclusion

Poor access to HCV treatment for PWID involved an intertwined set of individual (level of knowledge, healthcare poor management of comorbidities and drug dependency) and institutional factors (social stigma, gender based discrimination.... etc). To allow better access to HCV for PWID, more attention should be placed in *peer education (the main channel of information for IDUs)* and broader political and societal changes are needed to de-stigmatize the use of drugs in Morocco.

Introduction

Worldwide, approximately 16 million people inject drugs and about 5 to 6 million are living with hepatitis C virus (HCV) infection (1). The prevalence of HCV among people who inject drugs (PWID) varies between 40 and 80% (2)(3)(4). However, PWID suffers from poor and inequitable access to HCV care in addition to their social exclusion from social and healthcare services and the criminalisation of drug use (5)(6). In developing countries, illicit drugs users account for the majority of the infections of HCV. However, they have little access to HCV treatment (7) (8) (9). This may be due to that PWID face multiple barriers in accessing healthcare owing to individual factors: adverse drug reactions, psychiatric comorbidities (10) (11), substance dependence and patient compliance (12), poor HCV knowledge (13), distrust in government healthcare facilities due to prior negative experiences of stigmatization (14)(15) (16)(see figure 1). Furthermore, PWID suffers from social discrimination based on gender, homelessness, poor geographical accessibility and criminalisation of substance abuse (17)(18)(19)(20). Access to care is also hindered by lack of availability of services and their poor contextual adaptability to the needs of PWID community (21)(19)(22)(23)(24)(25).

In Morocco, the prevalence of heroin use is 0.02% among the general population over the age of 15 (26). The majority of IDUs are concentrated in the north of the country (27). In Tangier, the number of IDUs undergoing opioid agonist treatment (OAT) is 1160 patients. The Respondent-driven sampling (RDS) study revealed an alarming increase in HCV prevalence among IDUs in Tangier (75% in 2015 compared to 46% in 2010/2011) (28). The number of PWID carrying the hepatitis C virus in Morocco is estimated to be more than 1100 and more than 500 PWID in the Tangier region (i.e. 75% of PWIDs surveyed) (28). Despite this high prevalence, screening for hepatitis C in this population _ targeted by the WHO in the eradication of HCV by 2030_ remains sub-optimal (3) (29).

In Morocco, the national hepatitis control strategy includes an active and passive screening strategy as well as a management strategy. Active screening includes RDT (30) (31) rapid diagnostic orientation tests for target groups including PWID, conducted by thematic NGOs such as AHSUD "*Association Hassnouna d'Aide aux Usagers de Drogues*" or in the Addictology Centers (CA). Passive screening strategy includes systematic screening of blood donors, or diagnostic approach of suspected cases. Suspected case are confirmed using confirmatory and pre-therapeutic evaluation tests [PCR, viral load, genotyping, and fibrosis evaluation (Fibroscan, Fibrotest)] performed at the tertiary level [(*National hygiene institute, Pasteur Institute Morocco, the military and private sector*)] (30).

Curative care includes the use of direct-acting antivirals (DAAs) with better safety /efficacy ratio compared to the older generations (Peg-Interferon and Ribavirin) (32) (33). Promotion and prevention include harm reduction activities (Needle exchange programs...), psychosocial support, professional reintegration and family mediation. These promotional activities are ensured by NGOs (including AHSUD) (34).

In Tangier, there is no active screening for HCV among PWID in addictology centres. They suffer in addition from poor access to HCV treatment. For instance, in 2013, only 18 out of 71 PWID patients with

hepatitis C were able to benefit and finish their curative care. Limited attention has been placed in the underlying factors explaining the poor access of PWID to HCV care in Morocco. To this end, this study aimed at identifying the underlying mechanisms and contextual conditions under which the access to HCV treatment for PWID is facilitated or hindered.

Methods

We adopted a single multiple embedded case study design (35) (Yin 2018). This approach is suited to the study of complex social processes and systems such as that of the IDU and its access to hepatitis C care, focusing on the underlying contexts and mechanisms that explain the intended effects of an intervention (in our case the hepatitis C care program) and under what conditions these mechanisms are catalysed or inhibited (36).

Case definition

We define our case as the process underlying the access to HCV care for patients PWID in the Tangier region.

Selection of participants

We purposefully selected PWID beneficiaries on NGO called "AHSUD". We used snowballing techniques to identify additional key informants among peers and community. We also explored the views and opinions of healthcare providers and community health workers (see table 1). We collected data until saturation was reached.

Sampling was guided by the principle of maximum variation described by Patton,2001(37). We first selected PWID on the basis of various individual level factors (knowledge level of their HCV infection, treatment status, gender (2 Females/19 males), status of access (or not) to the different primary healthcare services (preventive, diagnosis or curative service). We also interviewed PWID who are peer educators.

Data collection

Individual semi-directive interviews

We conducted a total of 21 individual semi-structured interviews (IID) with PWID. We also interviewed carers and health providers (one psychologist, a community health worker and a physician at the HCV referral centre. Semi-structured interviews and the structured focus group were facilitated by FZ using an interview guide. All interviews and the focus group were recorded after obtaining participants' consents. All interviews were transcribed. Each interview was coded and anonymized. The duration of the interviews varied between 30 minutes and 2 hours. (See IID and FGD in appendix 1 and 2).

Focus groups

We conducted a focus group discussion with 11 PWID in the AHSUD fixed unit facility located in the Hassnouna district of Tangier. The participants were asked to describe their backgrounds, the difficulties they encountered and their vision of PEC (care), which allowed us to deepen the analysis, thanks to their lived experiences, and their views on the problem.

Document analysis:

We also carried out a document analysis of data of PWID who used the services of the AHSUD mobile and fixed units. Documents review aimed at providing contextual data about our study participants.

Data analysis

During qualitative data analysis, we followed theoretical guidance provided by Patton, 2001 (37). We used prior knowledge about the key barriers to access to care as heuristic framework. We also were sensitive to emergent themes. We carried out an initial coding using concept hypothesis and nvivo coding. We then performed a thematic analysis informed by our research questions: *what are the key barriers and facilitators to low access to HCV care for PWID*. Coding and themes were discussed at different stages of the data analysis process (38) during the researchers' team meetings (FZS, ZB). The quality of the transcripts and analysis was checked by the second author (ZB). Following this initial analysis, the process of vertical code analysis or axial coding was undertaken by making comparisons between the emerging data into barriers/enablers and contextual conditions that were classified into Micro level (individual factors), Meso-level (peer and healthcare) and Macro level (social and economic) conditions.

Ethical considerations:

The research protocol was approved by the Ethics Committee for Biomedical Research of the Faculty of Medicine and Pharmacy of the Mohammed V University in Rabat, under clearance n° C41/20.

Each participant was informed of the confidentiality, the nature, the purpose, the duration of the study, and their free choice to participate (or not). No interviews or focus group discussion were performed before obtaining participants' written consent. All participants received prior to data *collection a study information sheet and a consent form. All transcripts were anonymised.*

Results

In the following section, we will summarise key study participants characteristics, key barriers and enablers to the access to PWID to HCV preventive and curative care. These factors can be summarised into *individual factors, health systems factors availability of services, and social factors, lack of financial accessibility and stigmatisation of PWID in Morocco.*

Table 1: *sociodemographic characteristics of participants*

Profile		PWUID	Associative actor	Psychologist	Referring Center physicians
Gender	M	19	01	01	-
	F	02	-	-	01
Age	<30	04	-	-	-
	31-40	05	-	01	-
	40-49	06	01	-	-
	>50	06	-	-	01
Total	24	21	01	01	01

At Micro level

Lack of knowledge about HCV disease

According to PWID, their lack of knowledge about old generation HCV treatment adverse effects led patients to interrupt their treatment. This lack of compliance combined with insufficient communication from healthcare providers and community health workers explained the low adherence to treatment and the interruption of care.

"I spent 4 or 6 months and I stopped the treatment. I did not finish the year...When I was given the injection, I went home exhausted. I spent my whole day vomiting. The injection was about to kill me. It knocks me out. I was continuously vomiting, nauseous and exhausted. I could not even get up from bed. I only got better in the evening.... The doctor told me: you're going to spend 1 year with us, he told me that the injection will make you dizzy, tired, but he didn't say anything about the vomiting.....They gave me vomiting medications but in vain.." **MM761020 PWID**

Psychiatric comorbidity

Some PWID also have psychiatric comorbidity suffers from inadequate control of their psychiatric conditions in addition to their addiction. They showed low commitment in seeking HCV care and suffers also from lack of social and family support. This led to their social exclusion according to some of their relatives, who expressed their lack of financial resources to adequately support the PWID. They also are unable to provide psychiatrics medications when they are out of stock in public facilities.

"...When Dr. S.M in the past had hospitalized him 4 times. He didn't explain, he just told me: you take care of your brother and never stop his treatment, he mustn't stop his treatment until he dies. My brother has a mental illness for which he gets treatment, but when that treatment was stopped, it's like the whole period he was treated for was wiped out...sometimes you need money to buy some of the prescribed medication I don't have any, should I sell my clothes to bring you your medication! !!..... we got to the point where

*the police intervened, ...". **MBT15221020 PWID himself and in charge of his PWID brother, whose mentally ill***

Mistrust and poor communication of health providers

According to interviewees, lack of communication emphasised the feeling of stigmatisation of PWID and explained their perceived negative experience of public health services, mistrust and demotivation to pursue their health seeking behaviours and low utilisation of HCV reference center.

"They treated me badly, I didn't understand, they shouted at me, come this way, go that way, in short they treated me roughly I thought to myself why are they doing this? is it because I'm sick? or is it because we're just junkies? Like we got the disease on the street, so it doesn't matter if they treat us good or bad."

MM761020 PWID

Interviewees were reluctant to use HCV references centers because they feel that services were provided on the basis of clientelism, nepotism. In this context of perceived mistrust in health care institutions and providers, PWID sought information about HCV care pathways through their peers. Peer educators are former PWID who provides, on voluntary basis, support to their peers in their health seeking behaviours.

*We heard that there are beneficiaries who have received treatment, but in a circuit of favouritism, and then there are a lot of sayings...uncertain information, sayings from the street, everyone says what they want but there is no certain information, we are not told the truth except for the poor F [a peer educator who has benefited from hepatitis C treatment]" **MBT15221020 PWID***

At Meso level,

Peer educators a credible source of health information

Some interviewees felt more comfortable in sharing their information with their peers rather than formal healthcare providers.

*"Information comes to me more easily from my peer, I can tell him things that I'm going to hide from care providers. I might be ashamed of many things and not tell them, and I'm going to tell my peer, especially if I know that this person has been trained and has the correct information about this disease, I'm going to be more accepting of it than a peer who hasn't been trained in this area." **AS20271020, PWID** (Source : FGD)*

This created, according to some interviewee, a sense of belonging to a group. A community. This explains how they felt supported by their peers who share the same rituals, values, and shared beliefs. This, according to interviewees, eased their sufferings and enhanced their learning and social relatedness needs.

"Nothing for us without us, we are the ones who are sick, we are the ones who will be able to express our needs, our feelings, we are the ones who will be able to give the information to others. I think it would be

relevant to create self-support groups about hepatitis C. Then, access to information will be possible...Culture is the ritual of use, my ritual when I inject or when I smoke, the way I sit, the way I talk and that we all do our "drug users" community, we have the same rituals." AS20271020, Focus Group PWID

Some peer educators were able to provide counselling and support to engage in HCV care pathways (laboratory test, transports...etc).

"I said to him: "... I told him you don't lose anything, go and do the test at the transfusion center... I had already accompanied someone here who was not taking Methadone N.M. He took my advice and went to do his test at the transfusion center, I accompanied him to Casablanca to do the analyses. OA421020 PWID.

Lack of financial accessibility of HCV new drugs:

Some patients whose genotype were insensitive to old generation HCV drugs (interferon/ribavirin) were unable to pursue the new generation drugs as they were not covered by the actual Medical assistance scheme (Ramed). This, according to some interviewee explains why they interrupted their treatment and their low adherence to treatment.

"He (the doctor) did some tests and told us that the tests were not as he expected, the result was not good...I was motivated to go for treatment, the day of the injection was a Wednesday...I went on Wednesdays. Going in the morning? I was going in the morning.....there is a new drug, I would prescribe it, it is very effective.....I know that, I saw the same prescription that I had in two other patients.....I was left with this prescription in my hand, I wanted someone to buy the drug for me and it was an expensive drug..... " SD11161020 PWID

Some PWID get incarcerated to get access to HCV treatment as it is totally accessible for imprisoned communities in Tangier.

"... I was transferred to O.L. prison, I declared that I had hepatitis, as it is a small prison they took blood samples and made the HCV test they transferred me to "Sania dermel" hospital. I met with the specialist doctor...they told me that hepatitis has a treatmentthe 23/03 I did this analysis, the result arrived on 01/04, they told me 10 days and your treatment will be available " OA421020 PWID

At macro level,

Many social and institutional factors hinders appropriate access to HCV care for PWID including homelessness and social exclusion, gender related stigma and criminalisation of drug use.

Homelessness and social exclusion

In our study, we found also that some PWID are also homeless which prevents them from acquiring the appropriate administrative documents and clearance necessary to get access to HCV treatment

(Identification national number, RAMED card (assistance medical scheme for vulnerable people)). This has increased their social exclusion and prevents them from equitable access to existing HCV health care services.

*"I didn't have the national card, National identification card is everything..... I sometimes ask my mother to tell my sister to just give me a certificate of residence to ask for my national card, the doctor told me that people who have a disease must get their RAMED [Medical Assistance scheme for vulnerable people] card, finally my sister gave it to me after so much negotiation and humiliation..." **MBT15221020 PWID***

Some interviewees had to prioritise their subsistence expenditures over seeking care and spending additional unnecessary transportation fees.

"..... we didn't eat, we ate the drugs, the injections on an empty stomach.... We stayed on the street, even after taking Methadone, 4 years, we lived in the cemetery, in a shack we built, God forgive us, on the graves of the dead, ... we live in fear, fear of rats, snakes, fear of people, fear of the police who caught us several times injecting..... It's not possible that I wake up to go where the doctor sent me to do a test in another neighbourhood, I don't even have enough money to eat, and you want me to take the road under the burning sun to go do tests? I was still on the street, you told us we were sick. We had sold the house and I had the old national card, the big one, I lost it and now I'm without an identity card.

MBT15221020 PWID

Gender related stigma

In our study, women who uses injectable drugs asserted that they felt socially excluded and dominated by their male partners, drug fellows. Female PWID reported that they engage in prostitution to get her fix and support from her partner. They also lack adequate family support and were socially excluded as single mothers which are not culturally acceptable in Islamic driven society.

According to interviewee, female felt social exclusion as they are often expressed, that they do not trust their family or their partners. Their homelessness increased their fear for their children from sexual abuse. This was stated as follows:

"I was a single mother, all day my child was on my back. All Tangier knew me as the women carrying her child on her backso that I could find enough money to buy my dose and to feed my child, I had no other need than this, I was begging to buy my dose and to feed my son, to protect him, I was too afraid for him, I didn't trust anyone, I didn't have a house, we slept in the street, he and I..... I caught someone wanting to abuse my son one day she got into a car with some boys, they took her to the diplomatic forest during the night, raped her, stole her money and left her in the forest all alone around midnight..... "
ZC14211020 PWID woman, mother of a mentally disabled child, beggar

According to interviewee, Female PWID also lack appropriate knowledge about the HCV disease and often are not financially able to support laboratory test and treatment:

"...or we had done the analyses, you did them for us, we had done the AIDS and hepatitis analyses.....here at the association, H told us about the cirrhotic liver, the perforated liver....they say that the virus goes into the liver... is this virus transmitted? I don't know.The doctor in the emergency room gave me an injection, the next day I went to see the doctor at the health center who told me that I had hepatitis...I didn't do the analysis ...I didn't ask how much, since I'm not going to do it, I don't have to ask....., since that time I haven't received any treatment here " **SS12191020 PWID, woman**

Summary of results

We draw a feedback loops diagram that summarise the relationship between individual, meso level and macro level factors that hinders or facilitates HCV access to care for PWID in Tangier Morocco.

Discussion

Our study highlighted the key barriers and facilitators of access to HCV care for PWID community in Tangier. We identified individual factors that explains low treatment compliances such as treatment adverse effects, comorbidity and lack of health literacy about the disease. We also showed that peer educators play a major role as a credible source of information to PWID. At institutional levels, social stigma, lack of family support, gender-based violence are key social and institutional factors that prevents PWID from an equitable access to HCV treatment and social supportive care.

Similarly to other studies, we found that lack of medical knowledge (39), combined with poor communication from health providers (15), treatment adverse effects (11), psychiatric comorbidity (40) (41) are key individual factors that explain the lack of compliance of PWID to treatment and prevent them from seeking care in primary health care facilities (reference centres). Surprisingly, in line with other studies, we found that peer educators are more effective in stimulating PWID health seeking behaviours (42). They provide appropriate social support, enabled within NGO support groups. This help ease the social isolation of PWID and enhance their motivation and feeling of social cohesion.

Peer educators were considered in our study as a credible source of health information for PWID in contrast with information delivered by healthcare providers. This was mainly explained by mistrust in public healthcare facilities and their staff (14). In our study, in line with other studies, peer educator offer a social support that replaces the lack of family support, reinforce the NGO support (43) (44)and ease the feeling of stigmatisation.

We also found that homelessness, a common characteristic of our interviewees, deepened their social exclusion and hampered them from accessing administrative clearance to medical assistance schemes such as the RAMED (Regime of medical assistance for poor and vulnerable).

An emerging result of our study, in line with previous studies (45), is that female PWID suffers more from social stigma, gender based violence, and additional risks related to drug use combined with sex work, both criminalised in Morocco. Access to HCV care is not the priority of female PWID who often have to

care for her children in addition to seeking resources for their daily drug use. This explains why women reorganizes her priorities to provide her sibling for their primary physiological needs in addition to drug use (46)(47)(45).

As shown in our study, social *stigma* is considered as a key barrier to access to care among IDU as well as to treatment adherence (48). It reduces the extent of family support (43). We showed, in line with other studies (49), that stigma exist even in health care institutions and in prisons

Finally, our results confirm the importance of peer learning as a primary communication channel in improving PWID knowledge. This is explained by the social identification process (50). PWID trusts his or her peer as a credible source of health information(51) within the specific context of self-support groups for PWID suffering from HCV infection.

In summary, the lack of social and family support, and the social stigmatization are important social and institutional factors that need to be addressed by suitable financing and implementation of inclusive governance structures that fits the needs of PWID. There is a need for appropriate training for health provider and adequate supports for NGO that are active in supporting PWID, harm reduction activities and peer learning support groups.

Validity and limitations of our study

The validity of study findings is enhanced by triangulation between different sources of data (secondary documents, IID, FGD), maximisation of variation of our qualitative sample, systematic double coding of interviews by two independent researchers and ensuring transparency in reporting (35) (YIN, 2018).

However, we did not complement our study with quantitative data that may add additional supports to our finding. Due the Covid 19 pandemic, we were not able to carry out some additional interviews and we were constrained also by travel restrictions. This prevented us from carrying a focus group discussion of NGO actors and had limited access to additional healthcare providers who were totally involved in COVID 19 response.

Furthermore, we are aware that the role of the first investigator (a doctor in the association) as participant researcher who play a role of physician with AHSUD associations. This position allowed us to have easy contact and in-depth interviews with PWID community due to their trust in NGOs actors

Lessons learnt

Our study highlights the importance of improving access to HCV care among PWID by promoting community level care and context sensitive healthcare environment that fit the specific needs of PWID community. In operational terms, this might be fostered by promoting community participation (peer support groups, NGO active in harm reduction...), fostering multisectoral action (Prison, ministry of interior with the ministry of health and social protection etc.). There is strong need to ensure equitable access to care for often homeless PWID by reduce the administrative burden, free access to existing medical

assistance schemes such the RAMEd policy and by promoting media communication and training of healthcare providing to reduce social stigmatisation of PWID. In addition, more psychological and social support need to be provided by NGOs in order to reduce the impact of social exclusion, homelessness, and lack of family support. Finally, addiction and HCV reference centres need to be tailored in gender sensitive perspective so to be adapted to female PWID to meet her specific needs.

Conclusion

Access to HCV care for people who injects drugs (PWID) in Morocco is hampered by contextual factors (lack of tailored healthcare environment, criminalisation of drug use, inequitable access to care) and individual factors (health literacy and psychiatric comorbidity). Our study highlighted the need to promote “*peer educators*” interventions as a potential strategy to promote access to HCV care for PWID. Peer educators may reduce the level of mistrust of PWID in healthcare professionals and institutions.

More institutional reforms are needed to reduce the impact of social stigma for PWID community. These reforms might include a decriminalisation of drug usage, inclusion of PWID as beneficiaries of the actual health social protection reforms and strengthening the role of peer educators and medico-social institutions. Finally, more attention needs to be placed in reducing the social impact of the intersection of gender and drug use related stigma in the specific Islamic context of North African countries.

Abbreviations

AHSUD : association Hassnouna de soutien aux usagers de drogues “hassnouna’s association supporting drug users”

CA: Addictology Centers

DAA: direct-acting antivirals

HCV: Hepatitis C Virus

IDUs: injecting drug users

OAT: opioid agonist treatment

PCR: Polymerase Chain Reaction

PWID: people who inject drugs

RAMEd: Regime of medical assistance for poor and vulnerable

RDS: Respondent-driven sampling

Declarations

This research is part of a Master thesis on public health at the international school of public health, at the University Mohamed VI of health sciences (UM6SS).

Ethics approval and consent to participate

The research protocol was approved by the Ethics Committee for Biomedical Research of the Faculty of Medicine and Pharmacy of the Mohammed V University in Rabat, under clearance n° C41/20.

All interviewees were informed before the start of data collection about the study objectives, the topics, the type of questions and their right to refuse being interviewed or interrupt the interview at any time. The same information was included in an information sheet that was given to candidate interviewees and reiterated when the written consent form was discussed before the start of the interview.

Consent for publication: « Not Applicable »

Availability of data and material: « Not Applicable »

Competing interests: The authors declare that they have no competing interests.

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Authors contributions

Both the two authors contributed to the original design, analysis and writing of the manuscript, they drafted the first research protocol, FZS carried out the data collection, Initial coding was done by FZS and ZB, and was discussed between the research team members.

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Appendix

Appendices 1 and 2 are not available with this version

Figures

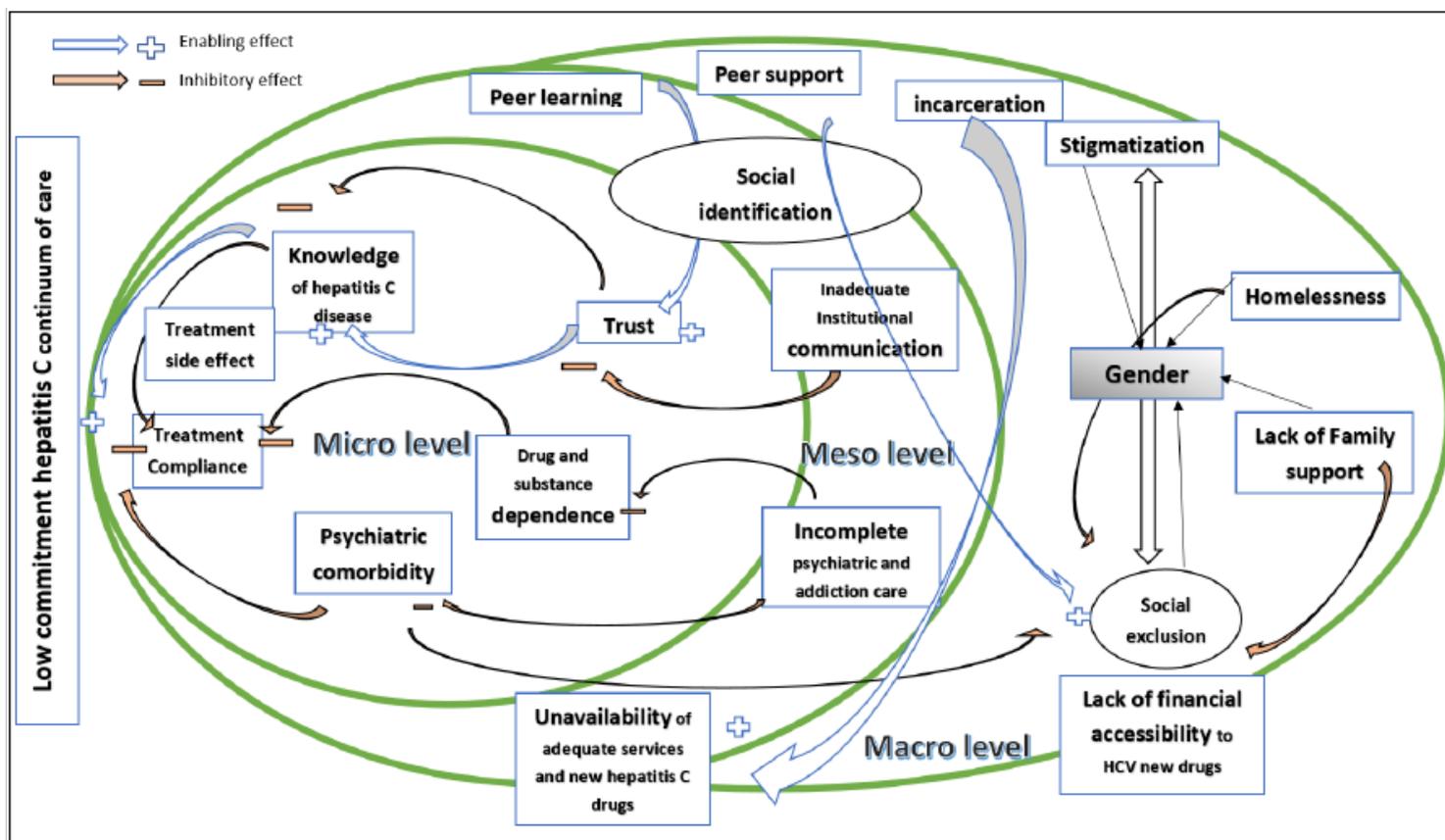


Figure 1

The underlying factors to low access to HCV care for patients who inject drugs