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Un Jalón, Un Volteón, y Otra Vez: High-Risk Crack Smoking Paraphernalia in México City

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Abstract

During the past decade, crack smoking has increased in Mexico among poor urban populations. Despite this increasing prevalence, little is known about the types of paraphernalia used and related sharing practices and physical harms. Data come from in-depth semi-structured interviews and observations with 156 current crack smokers in Mexico City. Findings reveal a complex, crack-smoking process in Mexico City that represents an interconnected structure of paraphernalia items and pipes that could contribute to detrimental health consequences. Specifically, we identify essential paraphernalia items that make the smoking of crack possible; describe the home-made construction of two categories of pipes; and the sharing practices and physical harms associated with these paraphernalia. Results point towards a smoking process that is embedded in impoverished urban neighborhoods sustained by an accessible street-level crack market. Discussed are the policy and intervention implications associated with reducing crack related health consequences in Mexico and other Latin American countries.

Keywords

crack; paraphernalia; Mexico City; urban neighborhoods; health risks

Global literature has documented the health-related harms, including infectious disease transmissions, associated with crack use practices (Dickson-Gomez, et al. 2013, Von Diemen, et al. 2010, Fischer, et al. 2013). Although harm reduction strategies have been developed to reduce drug users' health risks, few interventions are specifically tailored for crack smokers (Domanico and Malta 2012, Wechsberg, et al. 2012). This is problematic as crack use has increased in the past decade in Latin America among poor urban populations in areas such as Guatemala City, São Paulo, and San Salvador (Bastos, et al. 2011, Burcardo, et al. 2005, Dickson-Gomez, et al. 2013).

In Mexico City, the prevalence of crack use in this population is alarmingly high. According to the most recent Encuesta Nacional de Adicciones (National Survey of Addictions),

treatment admissions for crack as the most commonly used drug increased from 3% in 2000 to 29% in 2007 (Villatoro, et al. 2012). Documented are increasing rates and wide variation of patterns of crack use in Mexico City (Valdez et al. 2015). In Brazil, the use of this drug has been described as an epidemic among socioeconomically marginalized groups with intensive crack use patterns, active engagement in sexual risk behavior, and compromised health status (Santos Cruz, et al. 2013). Yet, little is known about the crack smoking paraphernalia and practices that are used in these Latin American countries and whether they are comparable to those observed in other contexts. Similar to crack users in the United States (US), Canada, and Europe (Leonard, et al. 2008, Porter, et al. 1997), Mexicans ingest this freebase form of cocaine by heating the substance in a non-burnable makeshift vessel and, once the crack melts, inhale the vapor and slowly release it through the nose or mouth.

While secondary prevention and treatment interventions for crack-cocaine use and related risks/harms exist, they tend to be limited, underutilized and found in non-Latin American countries, specifically Europe and Canada (Shannon, et al. 2006, Fischer, et al. 2015). In some countries, “safe inhalation facilities” are available for crack users. However, the most widespread harm reduction programs, especially in Canada, promote and distribute “safer crack kits” (Bungay, et al. 2009). These kits aim to provide safer crack use paraphernalia (e.g., Pyrex glass stems, rubber mouthpieces, brass screens) to minimize health risks (Malchy, et al. 2011). Service providers (e.g., clinicians, health care workers, social workers) implemented these harm reduction strategies, at clinics as well as during street outreach, in response to physical injuries such as chronic cuts, burns, and open sores in the oral cavity and fingers. These injuries are caused by exposure to hot smoke and metal and are associated with the transmission of infections (Leonard, et al. 2008). Despite these efforts in some countries, they are nearly nonexistent in Latin America and across the globe where rates of crack continue to increase (Fischer, et al. 2013, Santos Cruz, et al. 2013, Villatoro, et al. 2012).

Given the increasing prevalence of crack use in Latin America, more information is needed on crack smoking paraphernalia and its related risk practices. This study provides new knowledge of the types of smoking paraphernalia, use practices, and related physical injuries observed in Mexico City among active crack users. Using ethnographic methods, we acquired knowledge of how the social context fosters the adoption of provisional paraphernalia equipment and practices that result in health-related risks.

METHODS

The present study was an international research collaboration between the University of Southern California (USC) and the Instituto Nacional de Psiquiatría Ramón de la Fuente Muñiz (INPRFM). Using a qualitative approach to understand the social determinants of health, this study identified, recruited, and interviewed 156 current crack users in colonias (neighborhoods) throughout three delegaciones (boroughs) in Mexico City during a 2-year period. The delegaciones were selected based on epidemiological and crime data that identified them as having the highest rates of crime and drug use in the city (Procuraduría General de Justicia del Distrito Federal 2009). An adaptive sampling methodology was used that included elements of chain referral and snowball sampling techniques to recruit study

participants (Griffiths, et al. 1993, Heckathorn 1997). In addition to strategies to reduce recruitment bias caused by non-random selection of initial recruits, the research team implemented an eligibility-screening tool that embedded questions about current drug (i.e. crack) and alcohol use, demographics, religion and health. This tool helped detect non-crack users during the recruitment process (Wang, et al. 2005). Details regarding the sampling, eligibility and recruitment of the sample are found in a previous publication (Valdez et al. 2015).

Data collection consisted of semistructured interviews and field observations. Three trained anthropologists from Mexico's National Institutes of Anthropology developed the access, rapport, and trust needed to conduct interviews and field observations. Field observations were conducted prior to the recruitment of participants and during the course of data collection. The field research team prepared weekly systematic recordings of observations in the form of fieldnotes. The observations focused on contextual factors including features of the setting, drug markets, and crack preparation and administration behaviors. While in the field, the research team also recorded observations made of activities of interest (e.g. police presence) and field updates on our participants (i.e. arrests). Semistructured interviews were conducted in Spanish using an interview guide (focused on patterns of crack use, practices, arrest and incarceration, risk behaviors, initiation, adoption and transmission of crack use), were 1 to 1.5 hrs. in length, and were audio recorded and transcribed (Lopez, et al. 2008). Written informed consent was obtained and participants were compensated for their time with \$250 Pesos Mexicanos (equivalent to \$25 USD).

The transcripts were inputted into QSR-NVivo for coding of emergent themes using the comparative method whereby cross-case patterns are identified by comparing cases as configurations that take into account the diversity of cases and their contextual heterogeneity (Ragin 1987). The ethnographic data analysis involved four inductive steps that proceeded sequentially (LeCompte and Schensul 1999, Ragin 1999, Strauss and Corbin 1990). The first step, item level analysis, implemented a form of free coding consisting of a line-by-line reading where item codes were identified. A "constant comparison" process was conducted where codes (assigning descriptive word or short phrase capturing attribute of data) within a given interview and across interviews were compared. Next, a pattern level of analysis step was conducted to establish relationships among the item codes and develop potential hierarchical categories (clusters of coded data). The third step, structural level of analysis, organized categories of the data into themes (outcome) associated with sharing practices and physical harms. The fourth strategy, interpretation, consisted of defining and synthesizing the themes and specific variations that distinguished the paraphernalia items and practices and harms. Thematic analyses of the observational data were conducted to generate initial broad codes. For the present manuscript, observational analyses were done alongside interview data to search for themes related to interpretability and contextualization of the study setting (including crack preparation and crack use settings). The Committee for the Protection of Human Subjects (Institutional Review Board) of USC and INPRFM approved the study protocol.

Seventy-three percent of the participants were male. The mean age was 32.6 years (sd = 9.3). Over half (51%) were single, 33% were married and 16% were separated/divorced or

widowed. Approximately 14% had completed an elementary level education, 32% percent had completed a middle school (secundaria) education, 36% high school (preparatoria) or technical education and 17% post-high school. Approximately half (48%) reported some form of employment, mostly in the informal economy including jobs such as street vendors, temporary laborers and home-based workers. Many economically supported themselves by engaging in street-level crimes. Eighteen percent reported either having no stable residence (shelter or hotel room) or being homeless. A large proportion of respondents had histories of incarceration and polydrug and alcohol use.

RESULTS

First, we describe the findings regarding the basic paraphernalia necessary to use crack. Second, we identify two categories of pipes used as the main vessel for vaporizing. Finally, we document the sharing practices and physical harms associated with these paraphernalia.

Essential Paraphernalia Items

There are several essential items reported as necessary in the preparation of smoking crack. These paraphernalia increase the users' susceptibility to physical injury and health risks given the toxicity levels of these materials. The first items are makeshift copper wire filters used in smoking vessels. This filter is necessary in order to avoid swallowing the crack rocks. Respondents reported using telephone, speaker, or electrical wiring they either obtained from their homes or scavenged from street rubbish. First, users remove the insulation sheath from the wire using a razor or knife, a process identified as sheathing. Second, the exposed copper wire is rolled into a small ball and heated until red-hot. This process is referred to as curando (curing) and falsely perceived by users as removing toxins. Although some spoke about holding the filter with a wire pipe while curing, most reported using the palm of their hands to heat up the rolled ball of wire.

A second commonly observed item was the disposable plastic lighter. It was extremely rare to observe or hear smokers using matches. Respondents reported that one of the reasons they did not use matches was the taste of polvora (akin to gunpowder) they create when smoking crack. Respondents also reported that heating crack required the use of three or four matches at a time, making it impractical. More importantly, lighters have a relatively low cost (10 pesos, or 66 cents) and wide accessibility at neighborhood stores (tienditas). Observations indicated that a majority of the lighters sold did not have an adjustable flame wheel that could allow the user to have some control over the intensity of the flame and reduce the risk of burns.

The third type of essential paraphernalia item was metal wires or cylindrical objects (e.g., coat hangers, car and TV antennas) used as "push sticks". Push sticks have been documented in the crack literature as being used to compact and reposition filters and to recover resin that accumulates on the inside of pipes after use (Strike, et al. 2013). During this process, users utilize wire metals to push the filter to the other side of the pipe and recover any crack resin before taking the next hit. This latter practice is what crack smokers in Mexico City refer to as "un jalón, un volteón, y otra vez" (one hit, turn around, and once again). "I simply use the wire from a coat hanger to push the filter," according to Esteban, a 46 year old male.

Observations and participant statements indicated these metal wires scratch the glass pipes, resulting in breakage, especially when exposed to recurrent use and heat. Moreover, many individuals perceived the second hit to generate a stronger and better high. Esteban also stated, “I like the effect from the volteón because it hits you more.”

The final type of article necessary is cigarette ashes that users often collect in large wood ashtrays. The user carefully places the ashes on top of the punched out holes in the makeshift aluminum cans used as pipes (described below).

Standard Pipes

Metal and Glass Pipes—There were distinct types of standard pipes found among participants in this study. Some reported using car, radio or audio recorder, or TV antennas to generate a tube that is 10 to 15 centimeters long for use to inhale the vapor. Users often break off antennas from parked cars to make these pipes. Victor, a 39-year-old male with a college education, described the process of converting an antenna into a smoking conduit:

You clean it good, burn it. You make a filter with copper wire. It has to be copper. You cure it, stick it into the antenna, and squeeze it a bit, and what you have is a pipe. At one end where the filter is you insert the rock and from the other side you smoke it [after lighting it].

As previously described, respondents consistently reported that these metal pipes become extremely hot and often have sharp edges. As Gloria, a 53-year-old woman described, “The antenna gets so hot that it burns your fingers.”

Glass Eyedropper—Another widely popular standard pipe was the glass eyedropper. These eyedroppers are readily accessible and inexpensive in local pharmacies, with an average cost of 5 pesos (50 cents). A quarter of the sample reported using eyedroppers as pipes, citing several perceived benefits. First, respondents indicated that the dropper could be used in any context or situation because cigarette ash is not necessary, unlike aluminum cans (see below). Respondents who said they did not like to smoke cigarettes or had an aversion to the smell of ash indicated a clear preference for this type of standard glass pipe. Second, the dropper is easily portable and can be reused, decreasing the time needed to prepare other types of pipes. Respondents also said they perceived that less crack is wasted because they experience a more instantaneous and intense high with eyedroppers compared to aluminum cans or metal antenna pipes. Mario, a 29-year-old male described his experience:

You buy a dropper at the pharmacy; it costs five pesos, and remove the plastic part. Then get an antenna or piece of cable and strip it and make into a little ball. Your filter is ready. Stick it in and then take a hit. The dropper is the best because you waste less because it goes straight in ... from the direct hit. Since the mouthpiece is small and you don't need ashes, it goes like that. It is also small so you can carry it in your pocket. Anywhere you can do it, and get your rocks.

Participants who reported the use of these glass eyedroppers also felt that in contrast to metal pipes, glass droppers were more delicate and easily breakable after repeated heating.

Of importance, the droppers were also more likely to have sharp edges that resulted from removing the plastic top.

Makeshift Pipes

La Lata or El Bote (the Can)—In addition to the standard pipes described above, there were a number of makeshift pipes that were assembled as the main implements for smoking crack. The most common was the aluminum can that is converted to a pipe known as la lata, el bote, or el boiler (the can or the boiler). Other analogous names for this makeshift can pipe included mofle (muffler), Kentucky (in reference to the crackling of fried chicken sound heard as the crack rock is heated), and cohete (rocket). The popularity of this pipe is associated with the ease of accessing, adapting, and reusing discarded aluminum cans. The following field note describes the process of converting a can into a pipe:

The homemade pipe is obtained from an aluminum beer or soda can that is slightly crushed to cradle the drug. Next, holes are punched in the upper part of can using a safety pin or sharp object (i.e., nail, needle, toothpick, stay-on-tab from can) and three more are made on the side to serve as the igniter and respirator. This is known as the clutch [clutch]. Gently crushed tobacco cigarette ashes are placed on the holes on the top of the can where the crack is placed. This keeps the crack from being sucked into the can. The smoke is inhaled through the opening used to drink. Respondents indicate it takes five minutes to convert these cans.

Although the process of converting these cans into pipes is elaborate, many respondents reported a preference for this pipe because it is easy to discard if confronted by authorities. Moreover, discarded cans are ubiquitous in these colonias compared to other devices such as commercial glass pipes that are often unaffordable to some participants.

Gerber Bottles and Other Cans—Respondents reported that in the absence of aluminum cans, other types of commercial product containers are feasible to use as makeshift pipes. Respondents referred to an implement known by some of the younger smokers as the “Madame Sassu,” in reference to the vapor produced inside the pipe that they described as resembling the imagery in a popular TV commercial depicting smoke-filled crystal balls used by a fortuneteller. The pipe is made using glass baby-food containers (i.e., Gerber brand). Two holes are cut into the aluminum lid and metal straws (car or TV antennas) are inserted inside each hole. One straw is for the crack and the other is for inhaling the vapor. As Pedro, a 19-year-old male noted, “You have to put the straw right in the middle of the Gerber, put the copper filter, and light it up.”

A second makeshift pipe commonly reported was a polystyrene plastic bottle that contained a popular probiotic dairy drink (i.e. Yakult). Similar to the aluminum can, this device is made by punching a small hole at the bottom end of the plastic bottle. Using the aluminum material that forms a peel-off lid, users make small holes, place cigarette ashes, and the crack rock. Some respondents reported the added benefit of a sweet aftertaste from the dairy product residue left in the container. For example, Eduardo, a 23-year-old male stated, “It tastes so good in a Yakult bottle. It tastes like vanilla when you smoke it.”

Aluminum Foil—If none of the materials for the makeshift pipes is available, a minority of respondents indicated that any type of aluminum foil could be used to create a pipe, referred to as el comalazo. This approach requires placing a piece of crack on top of a sheet of aluminum foil. Using a lighter under the foil, the user proceeds to heat the piece of crack until vapor develops and is inhaled using a straw, typically created using a currency bill, a sheet of paper, or a plastic pen stem. Sonia, a 36-year-old woman reported, “You get the foil with the shiny side facing down then you put the crack on it and burn it from below”. Respondents who often employed this approach were usually highly dependent crack users, impoverished and embedded in networks almost exclusively of other crack users. This practice resembles “chasing the dragon” in the United States, Asia, and Europe where heroin is put on a piece of aluminum foil and heated with a cigarette lighter from below and resulting smoke is inhaled (Gossop, et al. 1988, Strang, et al. 1997).

Sharing Paraphernalia

The context and dynamics of crack smoking among this population often resulted in the sharing of paraphernalia. Although a minority report smoking alone in the context of their homes (Valdez et al. 2015), many participants described sharing equipment with friends, family members, or street acquaintances. The contexts in which the sharing occurred tended to either be in isolated public areas such as street corners, alleyways, or recreational spaces like basketball or soccer courts. For those who smoked in their residence, it usually was in bedrooms isolated from other family members or roommates. Griselda, a 31-year-old woman, learned how to smoke crack and make pipes with a group that included her brother. This group shared paraphernalia on a weekly basis: “I did it with all of them there at my brother’s house. We got together, began to suck on the pipe, all of us...we shared every week.” Alejandra, an unemployed 21-year-old female, detailed her crack use initiation and learning process of how to make a makeshift pipe:

I was hanging with people on the street I know from here. I saw how they take out a can, start poking holes in it, prepare the [cigarette] ashes, open a ...paper [crack rock packaging] and they place the [rock] in it. I see them start smoking. I said ... I’ll try it and a guy tells me how to do it. So I place my mouth where the can is. When I take a drag, that guy tells me, do it like this. Later it was every week that we smoked together.

These responses indicate the pervasiveness of sharing of crack implements and reveals the vectors by which infectious diseases and other maladies could spread within these groups.

Results indicate participants who reported using glass eyedropper pipes were less likely to share them. However, findings reveal that some individuals who owned these types of standard pipes often charged other users money to smoke with them. This process of sharing paraphernalia increases the risk of infections and other diseases.

Physical Harm

Physical injuries similar to those observed among crack users in other countries were documented among those in Mexico (Cheng, et al. 2015, Strike, et al. 2013). For instance, injuries associated with the use of standard glass or metal pipes included frequent burns on

the fingers and lips. Specifically, respondents reported the common occurrence of glass eyedroppers or metal pipes becoming extremely hot and painful to hold because of repeated lighting.

When probed about the manner in which users applied the flame, almost all respondents said that they hold the lighter in place until the rock had evaporated and they could inhale the vapors. Consequently, participants widely reported burning their fingertips and lips on the hot pipes. Similarly, respondents reported suffering burns from the lighter as they attempted to light up and smoke. Martha, a 50-year-old female who started smoking crack 12 years ago with her previous partner, described being severely burned using a metal pipe when she first began smoking: “Now I use a soda can, because with a pipe I’d burn my fingers really bad. I would place the lighter like this and it would burn me. I had my fingers really burned, like with huge blisters. But, well, I learned.” Guadalupe, a 31-year-old female reported continued use of glass pipes despite experiencing severe pain from blisters on her tongue and lips:

My tongue was all white and cracked. I couldn’t taste nothing. But the rock made me feel good, and the cracks on my tongue turned into larger splits. A time came in which maybe I had 10 papers [rocks] and I would smoke it, and my tongue would ...burn. At first, I didn’t know how to use a dropper and all my mouth was full of sores on the lip, it hurt really bad. But, I would keep smoking.

Respondents reported applying their saliva to cool down the pipe and continue consumption.

As previously described, wire screen filters (or ashes) were essential for metal and glass pipes to keep the crack from sliding through the pipe. Most used the palm of their hands to heat up the rolled-up ball of wire. As a result, many had visible scars and blisters on their hands. Carlos, a 25-year-old male who also reported use of marijuana and inhalants, stated, “See how my fingers are full of blisters from the burns? At one point, I couldn’t even feel my fingers. They were all burned.”

Respondents reported accidentally ingesting these wire filters as these were difficult to control. Respondents indicated that they had to make sure that the filter was not too big and tight that it would prevent the production of vapor for inhalation but also not so small that the wire filter could be dislodged and swallowed, causing severe mouth and esophageal burns. Hector, a 19-year-old man, described his experience swallowing a red-hot copper wire filter as he used his friend’s pipe to smoke:

I always tightened the copper so there would be no problem. One time, I was using my friend’s pipe. I smoked it and did not realize that the copper was loose. The piece of copper went into my mouth and I burned my tongue and throat.

The ashes used to prevent the crack from melting is a source of throat burns due to inadvertently inhaling some of these ashes while smoking from aluminum cans. Another source of burns were the inexpensive non-adjustable flame lighters bought by users in small stores located in these communities. With no control of the flame, users burned their fingers causing blisters that went untreated and became infected.

Overall, findings reveal many items that have unknown toxicity levels, such as the copper wiring used for pipes and push sticks. Moreover, the heating of such items, including Yakult plastic bottles and aluminum cans, needs further investigation to assess the potential negative health consequences for crack users. The unknown toxicity levels are magnified by the acquisition of paraphernalia items and the sharing of items that could heighten the spread of blood-borne infections, such as HIV and HCV. In addition, our data documents the processes by which participants modify and alter standard and makeshift pipes that make smoking crack possible. These alterations and practices place users at increased risk of physical injuries. Practices such as the sheathing of wiring, curing or burning copper wire in the palm of the hand, smoking from glass eyedropper pipes with sharp edges, and smoking from aluminum can mouthpieces can cause burns, cuts, and open sores that may lead to the transmission of contaminated blood particles. The common use of metal wires further exposes users to detrimental physical injuries associated with hot metal material and the potential for breakable and exploding pipes.

DISCUSSION

This study contributes to the existing literature by providing an in-depth overview of the health-related risks associated with the paraphernalia, practices, and physical injuries that are characteristic of users in this Latin American context. Findings indicate the complex nature of crack-smoking paraphernalia and their use and consequences in Mexico that have the potential for unprecedented health consequences. This phenomenon is conditioned by the context in which it is occurring that is distinct from those described in other countries. Research in Mexico City has documented the absence of such factors as transition patterns from intranasal powder to crack use; no intermediate period of free-basing; and the absence of large/extensive mass media coverage of the dangers of crack cocaine (Valdez et al. 2015). It is within this context, that the addiction process in Mexico City becomes accelerated with novel paraphernalia such as Yakult bottles that have not been documented by research in the U.S. and Europe. Moreover, crack use in Mexico City neighborhoods emerges within the context of poverty and marginalization and is compounded by incoherent law enforcement practices and the lack of specialized drug treatment services for crack dependence that is present in the U.S. and Europe (Jackson-Jacobs 2001, Jackson-Jacobs 2004, Cohen 1989).

Although some of the paraphernalia and practices are similar to those found in other countries, there is a need for a harm reduction approach tailored to the specific urban conditions in Mexico. Other modalities of harm reduction used for injecting drug users could be tailored to non-injection drug users. For example, mobilizing vendors who sell tobacco related paraphernalia or pharmacists who are the most accessible of health care professionals and are well positioned to help drug users manage their chronic disorders could be especially relevant to the situation in Mexico City (Tommasello 2004). Given the low-cost availability of paraphernalia items and standard pipes (e.g. glass eyedroppers, lighters) in local pharmacies and tiendas, health officials could distribute material educating crack users as well as the public about the management of the risks and adverse consequences associated with using such items for the purposes of crack use.

“Disruptive innovations” (Rotheram-Borus, et al. 2012) have been proposed as an approach to re-engineer existing evidence-based interventions in health on the basis of their most robust features. They introduce a simpler and less expensive alternative that satisfies the essential needs of the target group and makes the intervention more accessible, scalable, and sustainable. Such a “disruptive innovation” to the existing evidence-based harm reduction interventions of providing safer crack kits and inhalation facilities in this economically disadvantaged context might be to distribute adjustable flame wheel lighters through these pharmacies and tiendas with the branding of a treatment intervention program. Its transformation into a tool for referral to treatment intervention may provide both a more cost-effective harm reduction intervention than kits and facilities while concurrently promoting a treatment option for dependent users. A similar approach was implemented in the Heroin-Assisted Treatment intervention program in the Netherlands (Hendriks, et al. 2001, Blanken, et al. 2010) aimed at providing medical prescription of heroin to chronic users. As part of the program, the intervention diverted lighters into the community to promote this innovative treatment intervention among heroin users not enrolled in the program.

The generalizability of our findings is limited to samples and settings identified, with participant’s accounts of paraphernalia use as the basis of analyses. In addition, the relatively small sample requires further study on the prevalence of paraphernalia use with larger samples in diverse underdeveloped and developed regions in Latin America.

Findings of this study are timely, as they can inform policies and interventions aimed at preventing and curtailing the potential epidemic of crack use and harmful health consequences emerging in Mexico and Latin America (Dickson-Gomez, et al. 2006, Bastos, et al. 2011, Santos Cruz, et al. 2013). This knowledge is significant because in the face of limited harm reduction and treatment intervention programs in countries like Mexico, individuals may require more tailored responses than have been previously used in Canada and Europe. The research results of this study suggest that the lessons learned from interventions in the U.S, Canada and Europe might not be easily translatable to these countries. Innovations in harm reduction provide a promising starting point for early intervention in low resource contexts, including most of Latin America.

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