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Awareness, Utilization, and Preferences of Harm Reduction Interventions among Street-Involved Young Adults in Boston

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Abstract

Objectives: This study explores knowledge and utilization of, barriers to, and preferences for harm reduction services among street-involved young adults (YA) in Boston, Massachusetts.

Methods: This cross-sectional survey of YA encountered between November and December 2019 by a longstanding outreach program for street-involved YA. We report descriptive statistics on participant-reported substance use, knowledge and utilization of harm reduction strategies, barriers to harm reduction services and treatment, and preferences for harm reduction service delivery.

Results: The 52 YA surveyed were on average 21.4 years old; 63.5% were male, and 44.2% were Black. Participants reported high past-week marijuana (80.8%) and alcohol (51.9%) use, and 15.4% endorsed opioid use and using needles to inject drugs in the past six months. Fifteen (28.8%) YA had heard of “harm reduction”, and 17.3% reported participating in harm reduction

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Conflicts of interest

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services. The most common barriers to substance use disorder treatment were waitlists and cost. Participants suggested that harm reduction programs offer peer support (59.6%) and provide a variety of services including pre-exposure prophylaxis (42.3%) and sexually transmitted infection testing (61.5%) at flexible times and in different languages, including Spanish (61.5%) and Portuguese (17.3%).

Conclusions: There is need for comprehensive, YA-oriented harm reduction outreach geared toward marginalized YA and developed with YA input to reduce barriers, address gaps in awareness and knowledge of harm reduction, and make programs more relevant and inviting to YA.

Keywords

harm reduction; substance use; opioid-related disorders; opioid epidemic; young adult

Introduction

Young adults (YA) demonstrate high rates of substance use; of YA aged 18–25 years in Massachusetts, a 2019 survey found that 64% reported alcohol use, 31% reported marijuana use, and 7% reported illicit drug use other than marijuana in the past month, and 18% had a diagnosed substance use disorder in the past year - all significantly greater than national averages of young adults.[1] Street-involved youth, those who are unstably housed and protected or supervised by responsible adults, demonstrate even greater rates of substance use than stably housed youth, with some studies estimating that 20–50% of street-involved YA inject drugs.[2,3] YA are also more likely to exhibit higher risk substance use behaviors including polysubstance use and reuse of syringes for injection drug use.[4,5]

Harm reduction includes any strategies aimed at increasing substance use knowledge and reducing harms associated with substance use, including infections, overdoses, and substance use-related deaths, rather than focusing on abstinence.[6,7] Many YA who use substances do not know what harm reduction is or how to access it.[4,8–10] Others voice feeling uncomfortable and unwelcome at services geared toward adult participants.[10] Despite being more likely to report overdose than their older counterparts, YA are less likely to report awareness and possession of naloxone to reverse an opioid overdose.[4,9] Knowledge and awareness of harm reduction may affect how YA access and utilize these services.

Examples of effective harm reduction for YA exist, including school-based education programs to reduce alcohol- and cannabis-related harm.[11,12] A Canadian study on YA experience with a take-home naloxone program found that YA valued empowerment, respect, honesty, hands-on skill development, and practical youth orientation in harm reduction.[13] However, most harm reduction programs for alcohol, including Harm Reduction, Abstinence, and Moderation Support (HAMS) programs and Alcohol Management as Harm Reduction as promoted by Substance Abuse and Mental Health Services Administration (SAMHSA), and those for opioids and other drugs are not tailored to YA. Furthermore, existing harm reduction research frequently does not center YA preferences and patterns of utilization.[7,10,12–15] The current study explores knowledge of, engagement with, barriers to, and preferences for harm reduction services in a general

sample of street-involved YA to inform the development of accessible, YA-specific harm reduction services.

Methods

This cross-sectional survey was part of a quality improvement project to inform the expansion of a long-standing outreach program for YA experiencing homelessness in Boston and Cambridge, Massachusetts to include mobile van services. All YA ages 18 to 25 years who accessed services on the van were approached by outreach staff working on the van between November and December 2019 to complete a web-based survey through RedCap on an iPad.[16]

We collected information including age, gender, sexual orientation, race/ethnicity, and connection to health services. The survey, adapted from a prior study, assessed substances used in the last week (alcohol, marijuana, unprescribed opioids, cocaine, benzodiazepines, crystal meth, K2, Ecstasy) and the last six months (crystal meth, opioid pills, heroin/fentanyl), frequency of injection drug use, and whether the participant has overdosed.[17] We assessed knowledge and utilization of harm reduction tools, including possession of naloxone ("Narcan") and sterile syringes/needles. Participants defined "harm reduction" via free response. We assessed perceived barriers to treatment for substance use disorder (yes/no): waitlist, affordability, insurance coverage, unfriendliness toward youth, lack of knowledge, accessibility, and privacy. Finally, we asked what services should be offered on the van (food, beverages, sexually transmitted infection (STI) testing, condoms, needles, pre-exposure prophylaxis (PREP), medications for substance use disorder (SUD)), when (weekday mornings/afternoons/evenings, weekend mornings/afternoons/evenings), by whom (peers, medical providers, nurses, HIV/STD counselor), and in what languages (Spanish, Haitian Creole, Cape Verdean Creole, Portuguese, Vietnamese, Arabic).

We calculated descriptive statistics using *R*.[18] Two independent reviewers assessed the accuracy of free response harm reduction definitions with discrepancies adjudicated by a third author based on two criteria: (1) specifically mentioned reducing drug-related harm, or (2) named a specific example of harm reduction.

The Boston University Medical Campus IRB determined this study to be exempt from review because the project was undertaken as a quality improvement initiative.

Results

Of 59 YA approached, 52 (88.1%) agreed to participate (characteristics in Table 1). Most (47 participants, 90.4%) reported past-week substance use, most commonly marijuana (42, 80.8%) and alcohol (27, 51.9%). Regarding the six months prior, three participants (5.8%) reported using opioid pills and four (7.7%) reported using heroin/fentanyl. Eight (15.4%) participants reported injecting drugs within the last month. Seven (13.5%) participants reported ever having overdosed.

Only 15 participants (28.8%) had heard of the term "harm reduction", and nine (17.3%) reported participating (Table 2). While 29 participants (55.8%) had heard of intranasal

naloxone ("Narcan"), 18 (34.6%) knew where to acquire naloxone and only four (7.7%) carried it. Of those who reported a source of unused needles (4), participants reported obtaining needles from a friend (25%), partner (25%), pharmacy (25%), and/or needle exchange (50%). Only two of 40 respondents to the free text definition (3.8%) correctly defined harm reduction, with high reliability of ratings between scorers (95% agreement) (Table 2). Representative responses are included in Box 1.

Participants reported multiple barriers to receiving substance use treatment, with the most commonly reported barriers being waitlists (n = 13, 25%) and affordability (n = 12, 23.1%) (Table 2). Table 2 highlights additional services that YA want to receive as part of a harm reduction program. The most commonly desired services include food (86.5%) and beverages (82.7%), support for safety from STIs through testing (61.5%), condoms (59.6%), and PrEP (42.3%), medications for SUD (34.6%), and unused needles (26.9%). Participants suggested services be offered on weekday evenings (57.7%) and in Spanish (61.5%) and Portuguese (17.3%). Participants rated age as the most important characteristic of van staff (25%), above gender (15.4%) and race (7.7%), and suggested staffing by peers (59.6%), nurses (50%), medical providers (48.1%) and HIV/STD counsellors (42.3%) (Table 2).

Discussion

Our sample of YA demonstrated similar prevalence of alcohol and other drug use and a much higher prevalence of marijuana use compared to a 2019 survey of YA from Massachusetts, and lower prevalence of injection drug use than recent estimates among street-involved YA.[1,2] YA reported low awareness of and engagement with harm reduction services. Though some YA reported accessing harm reduction services and familiarity with specific harm reduction practices, such as carrying naloxone, few demonstrated understanding of the term "harm reduction" despite its widespread use among addiction service providers. Thus, participants may not understand the spectrum of harm reduction and how they may benefit. It is unclear how frequently harm reduction services are advertised as such and whether familiarity with the term affects rates of accessing services. Harm reduction knowledge may be especially limited among non-white, unstably housed YA, such as those in our sample, emphasizing the need to increase outreach to these marginalized YA.[4,9]

Moreover, many YA who know about harm reduction services do not utilize them. This could relate to true or perceived lack of need, underestimated risk of harm, perceived ineligibility, or barriers to access. YA frequently experiment with substances during adolescence and may underestimate their risk of substance-related harms and may not seek out harm reduction services.[9,10] YA may associate harm reduction with opioids, rather than alcohol and marijuana, or injection of other drugs. Thus, harm reduction should orient around participants' preferred substances and routes of administration to best engage participants.

Importantly, reported alcohol and tobacco use among our participants was much greater than reported opioid use, thus HR services tailored to this population should include practical advice about mitigating harms from these substances. Additionally, as 15% of participants

reported injection of substances, opioid or not, there is likely a need for education about safer injection techniques. The need for SUD treatment among participants is unclear, as the survey wasn't designed to gauge prevalence of SUD.

Another important finding was participant-reported logistic barriers in accessing treatment for substance use, including waitlists, unaffordability, insurance, and physical accessibility. They reported that existing programs are unfriendly toward youth, lack privacy, and perpetuate stigma, confirming previous findings.[9,10,19] Youth-specific treatment programs can reduce YA-specific barriers, and should seek YA input on how to increase engagement.[19]

Our findings suggest that harm reduction interventions should be staffed by peers of a similar age, with whom they may feel more trust and community, more so than staff of a particular gender or race.[20] Programs should offer services in languages specific to the local community and at flexible times, including weekday evenings and weekend afternoons to best cater to diverse YA. Participants were particularly interested in PREP, STI testing, and condoms, which may suggest perceived need and willingness to engage with these harm reduction practices. Participants suggested offering substance use medications on the van, which could reduce aforementioned treatment barriers.

This study is limited by its small, convenience sample, which includes YA with variable substance use who were connected to an existing outreach program. Thus, it may not generalize to all street-involved YA. Responses may be impacted by underreporting and variable interpretation, as some terms, such as "overdose," were not defined in the survey.

Conclusions

Our findings indicate the need for outreach harm reduction interventions geared toward marginalized YA and developed with YA input to reduce barriers, address gaps in awareness and knowledge of harm reduction, and make programs more relevant and inviting to YA. Further investigation should explore variations in harm reduction knowledge and engagement by demographics and qualitative assessment of harm reduction messaging and offerings that resonate with YA.

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Box 1.

Representative free text responses to a question asking participants to define “harm reduction”:

Responses graded as correct:

- “Narcan, keeping clean needles”
- “To reduce or prevent risk of injury or death”

Responses graded as incorrect:

- “Reducing urge to harm oneself”
- “Coping methods”
- “Self care”
- “Staying safe”
- “Pain reduction”
- “Violence prevention”
- “I need to stop doing drugs”
- “I don’t know”

Table 1 –

Characteristics and reported substance use of 52 street-involved young adults (YA) in Boston, Massachusetts participating in a survey on substance use and harm reduction.

	Total (n=52)
Age	
18–20 years old	18 (34.6%)
21–22 years old	15 (28.8%)
23–25 years old	19 (36.5%)
Gender	
Male	33 (63.5%)
Female	11 (21.2%)
Other	3 (5.8%)
Did not respond	5 (9.6%)
Heterosexual	41 (78.8%)
Homosexual	3 (5.8%)
Bisexual	2 (3.8%)
Other	4 (7.7%)
Did not respond	2 (3.8%)
Race	
American Indian or Alaska Native	3 (5.8%)
Asian or Pacific Islander	2 (3.8%)
Black or African American	23 (44.2%)
Latino	4 (7.7%)
White or Caucasian	13 (25%)
Mixed race	1 (1.9%)
Did not respond	6 (11.5%)
Latino	
Yes	14 (26.9%)
Did not respond	7 (13.5%)
Connection to services	
Currently connected to health services	29 (55.7%)
Currently connected to mental health services	17 (38.6%)
Substances used in the last week	
Marijuana	42 (80.8%)
Alcohol	27 (51.9%)
Cocaine	4 (7.7%)
Unprescribed opioids	2 (3.8%)

	Total (n=52)
Benzos	1 (1.9%)
Crystal Meth	1 (1.9%)
K2	1 (1.9%)
Ecstasy	1 (1.9%)
Other	1 (1.9%)
None	5 (9.6%)
At least one drug	47 (90.4%)
Substances Used in the Last Six Months	
Crystal Meth	3 (5.8%)
Opioid Pills	3 (5.8%)
Heroin/Fentanyl	4 (7.7%)
Use of Needles	
Have you used a needle to inject at least once in the last six months?	8 (15.4%)
Have you ever overdosed?	7 (13.5%)

Table 2 –

Reported engagement with harm reduction, barriers to, and preferences for substance use treatment of 52 street-involved young adults (YA) in Boston, Massachusetts participating in a survey on substance use and harm reduction.

	Total (n=52)
Engagement with and Knowledge of Harm Reduction	
Heard of harm reduction	15 (28.8%)
Been to harm reduction program	9 (17.3%)
Heard of Narcan	29 (55.8%)
Knows where to get Narcan	18 (34.6%)
Carry Narcan usually	4 (7.7%)
Describes “Harm Reduction” correctly (n=40)	2 (5%)
Where do you get your needles? (Heroin/Fentanyl only)	(n=4)
Close Friend	1 (25%)
Sex Partner	1 (25%)
Needle Exchange	2 (50%)
Pharmacy	1 (25%)
What services should be offered on the van?	
Food	45 (86.5%)
Beverages	43 (82.7%)
STI Testing	32 (61.5%)
Condoms	31 (59.6%)
PREP	22 (42.3%)
Substance Use Medication	18 (34.6%)
Needles	14 (26.9%)
Other	2 (3.8%)
When should services be offered?	
Weekdays	41 (78.8%)
Mornings	25 (48.1%)
Afternoons	26 (50%)
Evenings	30 (57.7%)
Weekends	34 (65.4%)
Mornings	24 (46.2%)
Afternoons	27 (51.9%)
Evenings	26 (50%)
Who should be on the van?	
Peers	31 (59.6%)
Medical providers	25 (48.1%)

	Total (n=52)
Nurse	26 (50%)
HIV/STD Counsellor	22 (42.3%)
Other	3 (5.8%)
Belief that the age of the staff members on the van is important.	13 (25%)
Belief that the gender of the staff members on the van is important.	8 (15.4%)
Belief that the race of the staff members on the van is important.	4 (7.7%)
What languages should be offered on the van?	
Spanish	32 (61.5%)
Portuguese	9 (17.3%)
Haitian Creole	7 (13.5%)
Cape Verdean Creole	7 (13.5%)
Arabic	7 (13.5%)
Vietnamese	6 (11.5%)
Other	5 (9.6%)
Barriers to Substance Use Disorder Treatment	
Waitlist	13 (25%)
Can′t afford it	12 (23.1%)
Insurance doesn′t cover it	5 (9.6%)
Unfriendly to youth	5 (9.6%)
Don′t know of programs	4 (7.7%)
No insurance	2 (3.8%)
Turned down previously	2 (3.8%)
Family might find out	2 (3.8%)
No programs nearby	2 (3.8%)
Other	2 (3.8%)