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Drug-scene familiarity and exposure to gang violence among residents in a rural farming community in Baja California, Mexico

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Abstract

We examined drug-scene familiarity and exposure to gang violence among residents of a migrant farming community in rural Baja California, Mexico. In October 2010, 164 members of a single *colonia* (community) underwent an interviewer-administered survey to assess ‘exposure to gang violence’ and ‘drug-scene familiarity’, as well as other health indicators. Logistic regression was used to identify correlates of exposure to gang violence. Overall, 20% of participants were male, the median age was 27 years, 24% spoke an indigenous language, 42% reported exposure to gang violence, and 39% reported drug-scene familiarity. Factors independently associated with exposure to gang violence included being younger (AOR=0.80 per 5-year increase, 95% CI=0.67–0.96), living in the community longer (AOR=1.47 per 5-year increase, 95% CI=1.11–1.72), higher educational attainment (AOR=1.70 per 5-year increase, 95% CI=1.07–1.12), and drug-scene familiarity (AOR=5.10, 95% CI=2.39–10.89). Exposure to gang violence was very common in this community and was associated with drug-scene familiarity, suggesting a close relationship between drugs and gang violence in this rural community. In a region characterised by mass migration from poorer parts of Mexico, where drugs and gangs have not been previously reported, emerging social harms may affect these communities unless interventions are implemented.

Keywords

drugs; gangs; violence; Mexico; migration

Introduction

Drug availability and the associated rise in risky drug-using behaviours contribute to the community’s potential adverse health outcomes, such as interpersonal violence and harms related to drug dependence, including HIV infection (Blumstein and Wallman 2000). In Mexico, drug gangs, or cartels, control the major illegal drug trade in the country. At the street level, gangs, or *pandillas*, are localised entities that engage in illegal activities such as drug distribution, intimidation, and violence. Street-level gangs are defined as peers with mutual interests, identifiable leadership, and an internal organisation who act to achieve

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specific purposes, including conducting illegal activities (Miller 1992). According to the UN Office on Drugs and Crime (2008), there has been a dramatic shift in drug-trafficking corridors from the preferred Caribbean corridors to the Mexico-Central America corridor. This trend is especially true for the trafficking of cocaine, which is not produced in Mexico, but is transported to Mexico by land or sea and follows pre-established trafficking patterns through western, central, and eastern Mexico to the United States. In addition to third-party trafficking, hundreds of tons of opium poppies and thousands of tons of marijuana are produced in Mexico and trafficked to the United States by the cartels (UN Office on Drugs and Crime 2008). Related, distinct patterns have been documented in the initiation of drug-use epidemics in other countries that range from having no history of drug use to becoming transit points, serving as trafficking areas, and ultimately becoming drug consuming countries (UN International Drug Control Programme 1997).

Drug-trafficking routes in western Mexico have been identified as coinciding with the routes traveled by migrants (Rachlis *et al.* 2007), where an elevated risk of drug-related violence exists along drug-trafficking routes in comparison to other areas (US Department of State 2010). Specifically, Baja California has been identified as a zone of transition for migrants from poorer regions of southern Mexico who aim to obtain seasonal agricultural work in Baja California or the United States (Garfein *et al.* 2010). Once limited to the border region, drug-gang violence and related drug-supply surpluses now affect non-border areas along the coastal drug corridor in Baja California (Stratfor Global Intelligence 2010). If risky behaviours such as unsafe sex and sharing of injection equipment increase as a consequence of greater access to drugs in these communities, it is likely that infectious diseases associated with substance abuse, including HIV and hepatitis C, will follow.

In addition to drug use increasing along trafficking routes, the increased availability of drugs in these areas can contribute to drug use in non-trafficking communities. The existence of 'exposure opportunities' may influence drug use in communities where drugs are available, in that individuals who have previously tried illegal drugs are more likely to initiate drug use with new drugs when they are exposed to them (Maxcy 1941, Wagner and Anthony 2002). Multiple studies from urban settings in the United States found that the availability of illegal drugs increased opportunities for exposure, and was associated with elevated drug use among community members (Crum *et al.* 1996, Dembo *et al.* 1985). While data have shown that drug availability and the prevalence of drug use have increased in the US-Mexico border region (Brouwer *et al.* 2006), there is scant literature focusing on rural Mexico outside the border region regarding current drug and violence trends. However, some published studies report the existence of drug use among gang members in Mexico. For example, a qualitative study in Nuevo Leon, Mexico, found that due to the focus on drug trafficking, drug use within gangs has been understudied. However, drug use is a common cultural practice among Mexican gang members (Guzmán-Facundo *et al.* 2011).

We define drug-gang violence broadly as any violence perpetrated by groups or individuals affiliated with a gang involved in drug trafficking or distribution upon individuals affiliated or unaffiliated with gangs. Such violence is associated with drug use, availability, and trafficking in literature examining data from a number of regions globally. For example, Clarke (2006) found 'gangs, guns, and ganja' inextricably linked in Jamaica, and that the Jamaican drug gangs' increased involvement in the cocaine trade during the 1980s and 1990s was connected to gang violence. In South Africa, urban communities and schools are subject to an interrelated trio of afflictions, consisting of violence, gangs, and drugs (Matthews *et al.* 1999). Likewise, elevated levels of violence in communities in the vicinity of Cali, Colombia, during the 1980s were coupled with a high concentration of drugs and gangs (Moser and McIlwaine 2004). The drug market for methamphetamine in Japan is partially controlled by the Yakuza gang, which uses selective violence to maintain its

dominance over the market (Friman 2009). All of these examples suggest that when both violence and drugs are present in a community, they may self-perpetuate to the extent that negative public-health outcomes emerge at epidemic levels (Lanier *et al.* 2010, Singer 1996, Short and Hughes 2006).

The Drugs-Violence Nexus Theory emerged as a framework to understand the relationship between illegal drugs and violence in communities (Goldstein 1985). Recently, researchers have used this theoretical paradigm to clarify the causal connections between drugs and outcomes of violence among adolescent street-gang members (Valdez *et al.* 2006). Findings reveal that drug use increases the propensity of gang members to commit violent acts, with examples in the literature demonstrating a relationship between drugs and gang-member violence (Fagan *et al.* 1989, Valdez and Sifaneck 2004). Three different mechanisms of violence have been proposed within this paradigm: pharmacological, economic-compulsive, and systemic; each of these mechanisms may presuppose a different manifestation of interpersonal violence (Valdez *et al.* 2006). A follow-up study of 300 adolescent youth from the United States found that gang involvement was a highly significant predictor of violent behaviour and substance use (Walker-Barnes and Mason 2004).

To our knowledge, the Drug-Violence Nexus Theory remains unexplored in the global literature outside of the United States and Mexico. However, researchers have examined the association between drugs and gang violence in many countries. In Brazil and other Latin American countries, for example, Rodgers (1999) found that gangs involved in drug trafficking tended toward more violent behaviour than gangs that were not involved with drugs (Rodgers 1999). Corroborating the evidence from Brazil, Zaluvar (1999) asserts that the increased rates of violent crime and murder in Brazilian cities cannot be understood without considering the link to drug trafficking by cartels (Zaluvar 1999). A 2008 article comparing youth gangs in Germany, Russia, and Brazil noted that disadvantaged neighborhoods in Russia under the control of drug factions face high rates of protracted violence (Zdun 2008). Violence may be used by gangs to control drug distribution and markets (De La Rosa *et al.* 1990). Because gang violence and drugs are often intertwined (Klein *et al.* 1991), individuals in communities that have gangs and a high availability of drugs may be adversely affected by both gang-member violence and high drug availability in the community.

As industrial farming and migration cause communities in Baja California to grow in number and size, new drug markets may emerge. To date, little is known about the prevalence of drug use, drug-scene familiarity, and exposure to gang violence in rural communities in Baja California outside the US-Mexico border region. Therefore, we conducted a survey to estimate the prevalence of drug-scene familiarity and exposure to gang violence in a rural farming community in northern Baja California. We hypothesised that those exposed to gang violence would have an increased familiarity with the drug scene.

Methods

A cross-sectional study was conducted over a two-day period in March 2010 among a planned sample of 175 residents of a predominately migrant farmworker community in San Quintín Valley, Baja California. We invited participants to complete an interviewer-administered questionnaire that included questions about substance use and gangs in their community. Institutional review boards at the University of California, San Diego and the Universidad Autónoma de Baja California (UABC) in Tijuana, Mexico, approved all study procedures.

Study setting

The study site is located in the San Quintín agricultural region of Baja California, approximately 200 miles south of the US-Mexico border. In 2009, an estimated 5000 residents lived in this community (CifrasXII 2011), the majority of whom were migrants from outside of Baja California (Garfein *et al.* 2010) employed by the fruit and vegetable export industry (Gonzalez-Fagoaga *et al.* 2009). Most roads in the *colonia* are unpaved, and dwellings range from having plumbing and electricity to having no plumbing and utilising outdoor pit toilets.

Sampling

We recruited study participants in two ways: (1) all eligible clinic patients were invited to participate after registering for a clinic appointment, and (2) residents of randomly selected households were invited to participate at their homes. In both settings, trained bilingual interviewers explained the study to potential participants and invited them to complete the survey. Eligibility criteria included the following: community residents age 13 years or older, ability to speak English or Spanish, willingness and ability to undergo a 30-minute interview, and ability to provide informed consent. Adolescents were included because some lifestyle factors assessed, such as substance abuse and sexual behaviours, often begin at an early age. All participants provided written informed consent prior to any involvement in study procedures. Before adolescents enrolled in the study, their parents provided informed consent and the minors gave their written assent. While only one adult per household was included in the study, all minors in the household could participate (in order to increase adolescent enrollment). Interviewers administered questionnaires in private areas in the language of the participants' choice (English or Spanish), and trained recorders marked participants' responses on a paper instrument. Participants received personal hygiene products as compensation for their time.

Recruitment

Within the community, teams of three trained interviewers administered surveys door-to-door. Using a map made from a 2008 aerial photograph of the community, we randomly assigned teams to blocks within the community. Each block was either selected or skipped based on a coin toss, until every block in the community had an opportunity to be sampled. Starting on the eastern side of the street and travelling clockwise around the block, interview teams approached each house on the circumference of the block. If the residents of a house were not home or refused to participate, the team continued to the next house. At the clinic, interviewers assessed patients' eligibility to participate while they waited to see a clinician; if eligible, they were invited to participate in the study. To avoid enrolling the same person at the clinic and in the community, we asked individuals during the screening process if they had already participated in the survey.

Survey instrument

Graduate students trained in research methods and ethics conducted interviews in the open, but out of earshot of others. The interviews lasted approximately 30 minutes. Surveys were written in English and translated into Spanish by a fluently bilingual physician. Mexican co-investigators checked the instrument for cultural sensitivity and appropriate language. A second bilingual investigator translated the instrument back into English and discrepancies were resolved on both versions. Surveys assessed socio-demographic characteristics; migration; tuberculosis (TB) knowledge; tobacco, alcohol, and illegal drug use by participants, friends, and family members; exercise, leisure-time activity, diet, and nutrition; knowledge and perceptions of gangs; sexual behaviour; and health history. Interviewers kept basic ethnographic notes during the study to capture observations and comments that were

not included in the questionnaire. To protect confidentiality, and since survey responses were not linked to health outcomes, personal identifiers (i.e., names or addresses) were not collected. Any adolescent who reported behaviours that appeared to be dangerous to himself or herself or to the community was encouraged to talk with a trained counselor at the clinic.

Socio-demographic variables collected included age, gender, level of education, occupation, primary language spoken, marital status, and number of children. Migration questions included place of birth, length of time lived in the community, and history of border crossing into the United States. Knowledge of community and personal use of alcohol, tobacco, and illegal drugs were the variables of primary interest for this analysis. Questions varied from less sensitive (e.g., 'Is it easy to get cigarettes in your community?') to more sensitive questions (e.g., 'Have you ever injected any illegal drug?'). To produce our independent variable, 'drug-scene familiarity', we created a summary variable composed of the following questions: 'Do you know of a person or of a place in your community where you can get drugs if you wanted them?' and 'Do any of your friends use illegal drugs?' We believe this combination of questions is a good measure for drug-scene familiarity because participants might answer them more honestly than questions about personal drug use, since social desirability might lead a drug user to answer falsely and introduce bias (van de Morte 2008). To prevent unwanted attention from gang members to our study, we did not directly ask participants if they were in gangs or had committed violent acts. Instead, the indirect question 'Have you or anyone you know ever been hurt by someone in a gang?' was used as a proxy measure to represent exposure to gang violence and served as the dependent variable in this analysis. We used the word *pandillas* to describe gangs, which is understood in this community to indicate street-level gangs, rather than larger criminally organised adult drug gangs, or cartels.

Statistical analysis

After examining continuous variables for normality, we compared those with exposure to gang violence to those with no exposure using the chi-square tests for categorical variables, Fisher's exact test for dichotomous variables, and Wilcoxon rank-sum tests for continuous variables. We used multivariate logistic regression to identify correlates of exposure to gang violence. Variables that were significant at the $p < 0.20$ level in univariate analysis were selected for potential inclusion in multivariate models. Only variables that maintained significance at $p < 0.05$ were retained in the final model. Sixteen (10%) of the 164 individuals included in bivariate analyses were excluded from multivariate analysis due to missing data for at least one variable contained in our final model.

Model building proceeded via manual backward stepwise selection, whereby likelihood-ratio testing was used to compare nested models. To control for confounding, we removed variables from the model individually and examined changes in associations among the remaining variables. We included interaction terms in the model to see if they were statistically significant and altered the odds ratios for other variables in the model. We used Pearson's residuals to identify outliers within the variables used in the final model; tolerance values tested the variables that were included in the final model for multicollinearity. Hosmer and Lemeshow's Goodness-of-Fit Test assessed whether the final multivariate model was a good fit. We used SAS 9.2 for all statistical analyses.

Results

Participant characteristics

A total of 164 of 175 individuals completed the survey; over one-half (58.3%) were recruited at the clinic. Most participants (79.6%) were female. The median age was 27 years

(range: 13–60), and 11.8% were under 18 years old. The median educational attainment was 6 years (inter-quartile range [IQR]: 3–8) and the median time lived in the community was 13.1 years (IQR: 9–18). Nearly one-half (46.4%) reported farmwork as their principal occupation. A majority (76.9%) of participants were born outside the state of Baja California (55% in Oaxaca State) and 24% spoke an indigenous language primarily. These demographic characteristics were similar to past studies conducted in this community (Garfein *et al.* 2010). Almost one-quarter (24.2%) reported having a friend who uses illegal drugs, 29.8% knew of a person or place in the community where they could get drugs, and 38.5% reported drug-scene familiarity. Twenty-two percent reported gangs to be a big/medium problem in the community and 42.1% reported exposure to gang violence.

Factors associated with exposure to gang violence

Those who reported exposure to gang violence were younger, had a higher level of educational achievement, and were more likely to speak Spanish as their first language rather than an indigenous language when compared to those who did not report being hurt by gang violence (Table 1). Compared to participants who were not exposed to gang violence, those who reported exposure to gang violence were more likely to report the following: having ever drank alcohol; perceiving that they could get illegal drugs in the community; knowing a local place to get drugs; having drug-scene familiarity; knowing an acquaintance, person, friend, or family member who uses illegal drugs; knowing someone who has used, snorted, or injected drugs; or knowing someone who used marijuana or methamphetamine. Those who reported exposure to gang violence were also more likely to know someone who is in a gang.

Multivariate analysis of exposure to gang violence

In multivariate analysis, factors independently associated with exposure to gang violence included being younger, having lived in the community longer, having a higher level of educational attainment, and having drug-scene familiarity (Table 2).

Interview site, gender, employment type, primary language spoken, and place of birth were considered for entry into the multivariate model. However, none was significantly associated with the outcome and their inclusion failed to significantly influence the relationship between the independent and dependent variables, so they were excluded. The inclusion of interaction terms (e.g., language/gender, age/gender) also failed to influence the relationship between the dependent and independent variables. Thus, these terms were not included in the final model. We found no evidence of outliers, multicollinearity, or confounding within our final model, and the goodness-of-fit test provided no evidence to reject the null hypothesis that the final model was a good fit. The R-squared was 0.2077 for the final multivariate model.

Discussion

This study found a high prevalence of exposure to gang violence that was strongly associated with drug-scene familiarity among residents of a rural farming community. Thirty-nine percent of participants reported drug-scene familiarity, and over 40% reported exposure to gang violence, suggesting a serious concern for this community. The pervasiveness of gangs was apparent in that 83% of those surveyed reported that gangs were active in the community. For example, some community members commented that *cholos* (gang members) occupy certain areas of the community, and that residents avoid these areas out of fear of being attacked. We found no statistically significant difference in perception of gangs being a medium or large problem among those who had been hurt by gangs versus those who had not. As gang violence proliferates throughout Mexico (Stratfor Global

Intelligence 2010), gang membership and associated violence may be increasing in small, non-border communities (Guzmán-Facundo *et al.* 2011). Monitoring of behavioural precursors to gang membership (e.g., deviant criminal behaviour) (Hill *et al.* 2001) could be used to inform interventions to prevent gang membership.

As hypothesised, those who reported exposure to gang violence also reported more familiarity with the illegal drug scene in the community than those with no history of exposure to gang violence. Participants who were hurt by gang violence were more than five times as likely to report drug-scene familiarity as those who were not exposed to gang violence. These results suggest a community link between the presence of drugs and gang violence. This relationship is supported by other studies outside of Mexico. For example, Klein *et al.* (1991) found that gang members in the United States were involved in the distribution of crack cocaine during its emergence, and that violence was associated with crack's presence in an area (Howell and Decker 1999, Klein *et al.* 1991). Studies from countries as diverse as Trinidad and Tobago (Katz and Fox 2010), South Africa (Matthews *et al.* 1999), Brazil (McLennan *et al.* 2008), and Russia (Zdun 2008) have described associations between violence, gangs, and drugs. In Mexico, the nexus between drugs and gang violence at the cartel level is clear; the Mexican Drug War between rival drug gangs was responsible for over 11,000 deaths in Mexico in 2010 alone – mostly in the US-Mexican border region (Stratfor Global Intelligence 2010). At the street level, in a study of notoriously violent gangs in Nuevo Laredo, 60% of those studied admitted to illegal drug use, suggesting a marriage of drug use and violence in Mexican gangs in the US-Mexico border region (Guzmán-Facundo *et al.* 2011). Literature describing the relationship between drugs and gang violence in Mexico outside of the border region is rare. However, the drugs-violence nexus described by Valdez *et al.* (2006) may provide a framework for future interventions in small Mexican communities where a high availability of drugs and gang violence are concomitant.

Somewhat surprising was that those who reported exposure to gang violence had a significantly higher level of educational attainment, contradicting previous work associating gang involvement with low achievement (Hill *et al.* 2001). It is possible that in the present study, educational attainment is a proxy for a greater exposure to social settings where gang recruitment and other activities take place. Past studies have found that gangs are common within school systems (Goldstein and Kodluboy 1998). A survey of 4,131 adolescent students in schools in the United States found that gang members were more likely to be involved in drug use, drug selling, and violent activities than non-gang members (Swahn *et al.* 2010). In Durban, South Africa, impoverished schools foster gang activity on school grounds, causing increases in violence and providing an environment to recruit new members (Griggs 1997, Matthews *et al.* 1999). Gangs in this community may be drawn to the school setting, where residents with more years of education would subsequently experience an increased exposure to gangs when compared to those who have spent time working in agriculture. In order to inform gang-membership prevention, future studies could investigate the role of gangs in San Quintín Valley schools.

In the present study, younger age was independently associated with exposure to gang violence. Gangs generally consist of adolescents and young adults (Hill *et al.* 2001, Rodgers 1999). Formation of youth gangs in communities involves myriad complicated intrapersonal and social factors. Many of these factors may be community-specific, while others may be common among gangs throughout regions of the world where gangs are common. For example, predictors of gang membership among youth globally include factors such as facing social rejection (Dishion *et al.* 2005) and exposure to urban poverty during childhood, as is the case in the majority of Latin American and Caribbean gangs (Rodgers 1999). Future research could seek to identify societal factors that are common to both the San

Quintín Valley and other regions of the world where gang violence is problematic. If gang recruitment is targeting youth in this present study's community, gang-prevention interventions in schools could be essential to prevent the harms associated with gang violence and drug use.

Those who reported exposure to gang violence were significantly more likely to have lived in the community longer. These residents were also more likely to primarily speak Spanish, although this result did not persist in multivariate analysis. Many community residents have recently migrated from southern Mexico and often speak indigenous languages. Being a Spanish speaker and living in the community longer may be proxies for being a non-migrant member of the community. Compared to long-term residents who may be more involved in the community, migrants are often more isolated and less integrated in the communities to which they have migrated (Hack-Pola 2008). Increased community involvement may provide more opportunity for exposure to gang violence and drugs in the present study's community (e.g., in the school system). Migration is associated with gang violence in other settings. For example, youth from El Salvador who emigrated from home to the United States and subsequently returned to El Salvador have often been documented as joining the gang Maras. These youth were commonly exposed to extremely violent gang behaviours in the United States, and they returned to El Salvador having adopted similar behaviours (Rodgers 1999). Researchers conducting further studies in the San Quintín Valley could consider examining the social networks within the community as a means of deducing levels of social isolation, community integration, and other potential correlates for gang exposure.

Our findings indicate that increased familiarity with the drug scene and exposure to gang violence may be creating a specific 'habitus' in this community whereby individuals and groups develop subjective strategies that are compatible with the existing objective conditions (Bourdieu 1990). That is, in this context of the US–Mexico border as an area where exposure to criminogenic structural conditions is creating an environment of comparatively greater tolerance and participation in these activities among the general public (Valdez and Kaplan 2007). Our findings are particularly timely given similarly documented phenomenon across other regions of the world, in which trafficking of drugs by criminal organisations contributes to increases in drug availability and use in communities along drug-distribution routes (Beyrer *et al.* 2000, McLennan *et al.* 2008, Rachlis *et al.* 2007, Renton *et al.* 2006). In our context, the drug-distribution corridor of Mexico's west coast is contributing to a spillover effect of drugs in the US-Mexico border region (Bucardo *et al.* 2005). Our research provides initial evidence of how drug use is extending from more urban border areas to more rural communities.

Certain limitations should be considered in interpreting these findings. Due to the study's cross-sectional design, we could make no causal inferences about drug-scene familiarity and exposure to gang violence. Social desirability may have decreased the reported frequency of some of the personal drug-use responses, and concerns about confidentiality may have led some participants to underreport exposure to gang activity. We recognise that secondhand reports of others' behaviours may be less accurate than self-reporting, but safety concerns prevented our team from asking about personal gang involvement. Therefore, we used proxies to obtain a suitable understanding of behaviours and perceptions in this community to motivate and inform future study designs. Additionally, because some participants may not have felt safe admitting to illegal behaviours, the use of variables that characterised participants' familiarity with the drug scene may have given a more accurate representation of community drug-use prevalence than questions about participants' own behaviours. Due to safety concerns, we did not ask about drug cartels or the possible relationship between local gangs (*pandillas*) and cartels. Future studies could consider collecting qualitative data to elucidate the possible relationships between the larger cartels and the local street-level

gangs. The Drugs-Violence Nexus outlines three typologies of violence that can emerge within the paradigm. However, our survey did not specifically ask about the mechanism or type of violence being reported within the community. Although our study may have limited generalisability outside of the San Quintín Valley, it does indicate the high availability of drugs in this community, which may be symptomatic of areas lying on the drug-trafficking route in Mexico. Males were underrepresented in this study because they were more likely than women to be working in the fields when we conducted our survey. However, controlling for gender did not affect the associations for any of the variables in our final model. Qualitative data were not collected in this study; a mixed methods approach is recommended for future studies. The potential for site differences was possible since we recruited from both the community and the clinic. However, differences persisted in less than 7% of our variables by location, which could easily be explained by chance variation.

Conclusions

Despite these limitations, our study found that exposure to gang violence was common among members of this community, and that it was independently associated with familiarity with the local drug scene. These findings suggest a close relationship between drugs and gang violence in this rural community. In a region where drugs and gangs have not been previously reported, and which is characterised by mass migration from poorer parts of Mexico, interventions are needed to prevent the impact of social harms that are manifesting in non-border communities from worsening.

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Table 1

Univariate analysis of participant characteristics and perceptions by exposure to gang violence^a among residents of a rural farmworker community in Baja California, Mexico, 2010

	Ever Exposed to Gang Violence n=69 n (%) ^b	Never Exposed to Gang Violence n=95 n (%) ^b	Univariate OR (95% CI)	p-value
Demographics				
Median age (IQR)	25 (21,32)	29 (23,39)	0.96 (0.93-0.99)	0.01
Interviewed at clinic	42 (60.9%)	53 (55.8%)	0.83 (0.44-1.56)	0.68
Male	16 (23.2%)	17 (17.9%)	0.70 (0.32-1.50)	0.46
Median years of education (IQR)	6 (3.5,9.0)	5 (2.5,6.0)	1.09 (1.01-1.18)	0.04
Have mobile phone	32 (46.4%)	50 (52.6%)	0.76 (0.41-1.42)	0.49
Occupation	--	--	--	
Homemaker	29 (42.0%)	27 (28.4%)	--	Ref.
Farmworker	28 (40.6%)	49 (51.6%)	1.62 (0.66-3.96)	0.30
Other	12 (17.4%)	18 (18.9%)	0.86 (0.36-2.04)	0.72
Spanish primary language	60 (87.0%)	64 (67.4%)	3.52 (1.50-8.27)	<0.01
Married	56 (81.2%)	78 (82.1%)	0.94 (0.42-2.09)	0.96
Born in vicinity	14 (20.3%)	14 (14.7%)	1.47 (0.65-3.35)	0.48
Born outside Baja	50 (72.5%)	78 (82.1%)	0.57 (0.27-1.21)	0.14
Median years lived in community (IQR)	15 (9.6,19.0)	13 (7.0,17.3)	1.04 (0.99-1.08)	0.14
Median household size (IQR)	5 (4,7)	5 (4,7)	0.97 (0.85-1.12)	0.71
Median number of children (IQR)	2 (1,3)	2 (1,4)	0.870 (0.74-1.02)	0.08
Ever crossed the border to USA	12 (17.4%)	18 (18.9%)	0.90 (0.40-2.02)	0.96
Drug Use				
Easy to get cigarettes in community	57 (82.6%)	64 (67.4%)	2.23 (0.91-5.45)	0.08
Current smoker	15 (21.7%)	20 (21.1%)	1.00 (0.99-1.00)	0.97
Ever drank alcohol	30 (43.5%)	24 (25.3%)	2.28 (1.17-4.42)	0.02
Could get illegal drugs in community	31 (44.9%)	24 (25.3%)	2.38 (1.10-5.15)	0.04
Ever been offered illegal drugs	15 (21.7%)	10 (10.5%)	2.28 (0.95-5.44)	0.10
Ever been offered drugs by a peer	8 (11.6%)	9 (9.5%)	1.22 (0.45-3.35)	0.44
Know someone who has used drugs	54 (78.3%)	42 (44.2%)	4.37 (2.17-8.83)	<0.001
Know a place to get drugs	29 (42.0%)	19 (20.0%)	3.18 (1.57-6.44)	0.001
Friend(s) who uses illegal drugs	26 (37.7%)	12 (12.6%)	4.13 (1.89-9.00)	<0.001
Drug-scene familiarity ^c	41 (59.4%)	24 (25.5%)	4.27 (2.19-8.33)	<0.001
Family member(s) have used drugs	22 (31.9%)	15 (15.8%)	2.52 (1.19-5.33)	0.02
Know someone who has snorted drugs	30 (43.5%)	24 (25.3%)	2.36 (1.21-4.62)	0.02
Know someone who has injected drugs	15 (21.7%)	6 (6.3%)	4.06 (1.48-11.10)	<0.01
Know someone who has used marijuana	51 (73.9%)	50 (52.6%)	3.06 (1.49-6.29)	<0.01
Know someone used methamphetamine	10 (14.5%)	4 (4.2%)	3.88 (1.16-12.99)	0.04

	Ever Exposed to Gang Violence n=69 n (%) ^b	Never Exposed to Gang Violence n=95 n (%) ^b	Univariate OR (95% CI)	p-value
Know someone who has used cocaine	10 (14.5%)	10 (10.5%)	1.25 (0.50-3.15)	0.81
Know someone who has used heroin	9 (13.0%)	6 (6.3%)	2.28 (0.77-6.75)	0.14
Ever used illegal drug	7 (10.1%)	4 (4.2%)	2.46 (0.69-8.75)	0.17
Ever used cocaine	3 (4.3%)	1 (1.1%)	5.25 (0.40-68.95)	0.47
Ever used marijuana	5 (7.3%)	1 (1.0%)	17.50 (1.22-250.4)	0.08
Gangs and Violence				
Much violence in the community	29 (42.0%)	47 (49.5%)	1.58 (0.83-3.00)	0.16
Gangs present in community	64 (92.8%)	77 (81.1%)	1.50 (0.48-4.69)	0.68
Gang problem big/medium	14 (20.3%)	22 (23.2%)	1.39 (0.65-2.99)	0.51
Know someone in a gang	44 (63.7%)	30 (31.6%)	3.79 (1.96-7.34)	<0.001

Abbreviations: STI = Sexually transmitted infection, IQR = Inter-quartile range, OR = Odds ratio, CI = Confidence interval

^a **Exposure to gang violence** = 'Have you or anyone you know ever been hurt by someone in a gang'?

^b All values represent the n and % unless otherwise stated.

^c **Drug-scene familiarity** = 'yes' if participant answered 'yes' to either question: 'Know a place to get drugs' and 'Friend(s) who uses illegal drugs'; otherwise, the variable = 'no'.

Table 2

Multivariate analysis of factors independently associated with exposure to gang violence among residents of a rural farmworker community in Baja California, Mexico, 2010 (N=148)

Variable	Adjusted OR (95% CI)
Age (per 5-year increase)	0.80 (0.67–0.96)
Time lived in community (per 5-year increase)	1.47 (1.11–1.72)
Education (per 5-year increase)	1.70 (1.07–1.12)
Drug-scene familiarity	5.10 (2.39–10.89)

Abbreviations: OR = Odds ratio, CI = Confidence interval