

Critical reflections on the National Addiction Surveys (ENAs) in Mexico

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Abstract

This paper analyzes the national surveys (ENA) that are the main policy instrument used to measure illegal drug consumption in Mexico. On different occasions, the government has used increased drug consumption rates to partially justify the “War on Drugs.” The paper reviews the 2008 and 2011 surveys, and highlights the methodological and conceptual flaws of the national surveys, such as faults in the sample and methodology; definitions of the categories “use,” “abuse,” and “dependence”; and the relationship established between consumption and prevention. It concludes that the ENAs are not clear regarding whether they want to measure consumption or dependence, and also unclear on their objective. The survey results do not allow precise measurement of the phenomenon of illegal drug consumption, which is of fundamental importance in creating and proposing effective public policies. It is hoped that this analysis contributes to the formulation of more appropriate surveys in the future.

Keywords

Dependency, drugs, Felipe Calderón, National Addiction Survey, public policy, prevention,

History

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Introduction

President Felipe Calderón cited drug consumption and an internal Mexican drug trade as important justifications for wide-reaching policies he implemented to combat drug trafficking and wage a “war on drugs” in Mexico during his administration from 2006 to 2012 (Ramos, 2010; Romero Vadillo, 2012). According to the National Health Program for 2007–2012 (Secretaría de Salud, 2007), the drug use is associated with growing social problems, such as violence and family disintegration. Nine out of every 10 arrests by Mexican police involve drug users, which is cited as proof of a relationship between drug use and committing criminal acts (even if the National Health Program text is ambiguous on whether this number includes illegal drugs and alcohol or only illegal drugs), (Madrazo & Guerrero, 2012). Given this background, it seems important to gain a more objective understanding of the scale and implications of drug consumption in Mexico.

The government’s main tool to measure and evaluate the consumption of illegal drugs is a series of reports known as the Encuestas Nacionales de Adicciones (National Addiction Survey), or ENA, published since 1988 (Tapia-Conyer, Medina-Mora, Sepúlveda, De la Fuente, & Kumate, 1990, p. 509). Six editions have been published so far 1988, 1993, 1998, 2002, 2008, and 2011. The 1988, 1993, and 1998 editions showed data only from urban areas, while after 2002,

data from rural areas were added, making it a more inclusive and useful study. In 2011, the five-year reporting cycle was changed to three years (Secretaría de Salud, 2009b, p. 11) by request of the President (Ramos, 2011). We assume that part of the intention was to be able to publish the ENA before the end of Calderón’s administration in 2012, and to announce some of the expected benefits of his policies. There is a clear relationship between his government’s anti-drug policies and the motivation behind both these ENAs. In its Foreword, ENA 2008 affirms,

The government of the Republic, led by President Felipe Calderón Hinojosa; who has taken on the responsibility to advance as never before in combatting the availability of illegal substances and who has, in conjunction with state governments, broadened efforts to build the most extensive network of Centers of Primary Care for Addictions; weaving a tapestry of public, private, and social institutions; is pleased to present these results in the certainty that they will contribute to the goal of providing both society and government with better foundations for addressing the challenge of addictions (Secretaría de Salud, 2009b, p. 11)

Likewise, in the opening section, ENA 2011 points out,

Since the beginning of this administration the Federal Government has taken on the principal task of safeguarding the health, well being, and safety of the country’s population. As for the drug trade, the government has dismantled groups dedicated to the production and sale of illegal substances, successfully confiscating such drugs and their precursors (Secretaría de Salud, 2012b, n.p.)

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Calderón has argued that, according to the ENA 2011, the progressive increase in drug consumption, observed from 2002 to 2008, was halted (Presidencia de la República, 2012; Rodríguez, 2012); his health secretary declared that the small increase in drug consumption from 2008 to 2011, also according to ENA 2011, was related to the government's prevention drug policies (García, 2012; Secretaría de Salud, 2012). While the survey is a primary indicator in the application of public health policies related to drugs, including treatment and prevention (Presidencia de la República, 2012; Secretaría de Salud, 2011), it is not totally clear at which point the ENAs are used to make decisions relative to security issues. However, there seems to be an appropriation of the ENAs by official government discourse in this regard (Presidencia de la República, 2012). It is important to point out that this official government appropriation may happen independently of the wish of those who produce the ENAs.

This paper compares the ENAs for 2008 and 2011, focusing on illegal drug use (which includes illegal uses of legal drugs, such as medically prescribed opiates, tranquilisers, sedatives, barbiturates or amphetamines). We excluded alcohol and tobacco from our analysis; they present their own specific set of problems for which other sources of data are available. These – ENAs 2008 and 2011 – were chosen because they correspond with the six years of Calderón's administration, and also coincide with the highpoint of violence associated with the War on Drugs in Mexico. Our methodology consisted of analyzing the ENAs in the light of the specialised academic literature, alongside official government reports and media articles where it is referenced.

The ENAs represent a systematic and rigorous initiative constituting a laudable attempt at data collection carried out by a multidisciplinary group of researchers from the top institutions devoted to medical and psychological studies in Mexico, as well as the most respected experts in these areas. They executed their work with the approval of ethics committees within the National Institute of Public Health and the National Institute of Psychiatry. This joint effort produced original data, which is exposed clearly and accessible to all citizens. All this makes the ENAs an important initiative that must be acknowledged. The surveys, however, have certain methodological and conceptual limitations that we will analyze here.

The National Addiction Surveys (ENAs)

ENAs are carried out by the National Council against Addictions (CONADIC) and the Sub-Secretary for Prevention and Promotion of Health, through the National Center for Prevention and Control of Addictions. The Ramón de la Fuente National Institute of Psychiatry designed the questionnaires; they were administered by the National Public Health Institute, and financed by the Secretariat of Health. The 2008 national survey was carried out in collaboration with the state-level Anti-Addiction Councils (CECAs), allowing for state-by-state results. Not all results are discussed in this paper, but full original data are available on-line (Secretaría de Salud, 2009a, 2012a). Here, we refer to the source of various results by the survey abbreviation followed by the year it was carried out (e.g. ENA 2008); we mention when data were extracted from the on-line database (e.g. ENA database, 2011).

Table 1. Trends of drug use in the last year, total population 12–65 years^a.

	Total			Men			Women		
	2002	2008	2011	2002	2008	2011	2002	2008	2011
Any drug	1.3	1.6	1.8	2.2	2.5	3	0.5	0.8	0.7
Illegal drugs	0.8	1.4	1.5	1.7	2.3	2.6	0.1	0.5	0.4
Marijuana	0.6	1	1.2	1.2	1.7	2.2	0.1	0.4	0.3
Cocaine	0.3	0.4	0.5	0.7	0.8	0.9	0	0.1	0.1

^aData from Figure 1 of the ENA 2011.

ENA 2008, the second to include data from rural areas, was carried out with support from the Secretariat of Health and Fundación Gonzalo Río Arronte, with additional support (field supervision, data analysis) by the United States Embassy in Mexico. Household surveys were conducted, interviewing one teenager (12–17 years old) and a second adult (18–65) per household, where possible. The sample size is estimated to represent about 12.2% of the population of each state, with a total of 50,688 households in the country, and an average of 1.4 people interviewed per household. This survey includes questions referring to people's attitudes towards drugs and drug use, treated in a separate section, although this theme is absent from the 2011 ENA.

ENA 2011 was carried out according to the same interview methodology: one teenager and one adult per household, if possible. A random sample of 17,500 households was surveyed with an average of 1.29 people interviewed per household. Both surveys ask questions about lifetime drug use (lifetime prevalence), use over the past year, and use over the past month.

According to the ENA 2011, marijuana is consumed by 1.2% of respondents, compared with 2008, and there was a statistically significant increase in the general population. However, this increase was statistically significant only in the case of men, presenting a percentage change of 1.7% to 2.2%. Cocaine is second, with 0.5% of the total respondents using it, similar to that observed in the ENA 2008 consumption. Consumption of other drugs in the last year is below 0.2% (Table 1).

Methodological limitations

Sampling

One of the main methodological problems in the ENAs is how the sample was chosen. The ENAs focus on people in households, excluding public places, prisons, hospitals, and other institutions and street populations, for example. This limitation is common in population surveys, but very problematic, rendering the study less representative because of the high levels of drug use among some of these populations (Díaz, 2012, p. 37). Indigenous populations were likewise excluded, which indicates the degree of their historical marginalisation in Mexican society. ENAs and its authors do, however, acknowledge these limitations in their publications (Villatoro, 2012).

ENA 2011 is largely concerned with comparing 2011 data with the previous edition in 2008, which is also problematic since the sample sizes are different. According to Hope (2012), the 2011 study samples from a total population size of

83 million between the ages of 12 and 65, while the 2008 study sampled a population of 75 million. This “increase of 10.6% between one survey and the other seems unlikely: it suggests an annual population growth rate of 3.4%. The difference is a result of the 2010 census, which reached a larger number of Mexicans than anticipated (4 million more)” (Hope, 2012, n.p.). To compare the absolute number of drug users, including alcohol and tobacco, “it would have been necessary to make an upward adjustment in the population data from 2008,” which is not yet possible “because CONAPO (National Population Council) has not retroactively updated its information” (Hope, 2012, n.p.). Thus, any arguments for supposed increases or decreases in the total populations employing different modalities of drug use need to be taken very cautiously. Hope also notes that the survey was not designed to measure minimum prevalence with any precision. Cross-referencing of the data is complicated, such that in situations of low prevalence, for example, the question in the ENAs about drug use over the past month, stratification by region, age group, drug type, and gender yields subgroups that are vanishingly small, subject to greater statistical errors than the overall population sample. These limitations are not always fully recognised when the press and the government announce ENAs findings.

Problems in the categorisation of drug uses

In addition to these sampling problems, the survey also presents a number of conceptual problems with the criteria used by ENAs to define different kinds of drug use. The title of the survey, “National Addiction Survey” is problematic, revealing from the outset a political and ideological bias towards the phenomenon that goes beyond a scientific approach. The title creates a predisposition to see all drug use as addiction, ignoring empirical variation among different types of usage as well as denying the possibility that there exist types of usage that are not harmful. This form of metonymic representation present in the title, taking a small part of the population to represent the whole, stigmatises drug users, reinforces negative social stereotypes, and thus openly fails in developing just and efficacious programs for prevention and treatment.

Given that the survey covers illegal drug use, ignoring alcohol and tobacco use, it is extremely important to know the different patterns of use identified in the study population. In different places, the text mentions “regular use,” “experimental use,” “habitual use,” “abuse,” “dependence,” and “addiction,” among other designations, and these terms are adopted and incorporated into data tables. Yet, there is no explanation as to what scientific criteria are used to arrive at these categories, other than a final glossary explaining the terms. These definitions themselves appear somewhat vague in the glossary, and there is no bibliography cited to justify them. These are the definitions from the ENA 2008 glossary, which make references to lifetime, last year or last month use (p. 169). In brackets, we added the few modifications made to these terms in the glossary of the ENA 2011 (p. 62):

- *Experimental consumption*: This is when a person reports having used one or more substances one to five times (maximum).

- *Regular consumption*: This is when a person reports having used one or more substances on five or more occasions (on more than five occasions).
- *Drug dependency*: This is when a person reports having shown three or more symptoms of dependency associated with drug consumption.
- *Dependency tending to abuse*: This refers to people who report having used one or more substances on more than five occasions in addition to showing drug dependency.

With these definitions in mind, we searched the literature for any references that would help us comprehend the criteria used in the ENA. According to authors who participated in designing the survey, the criteria adopted for defining dependency were taken from *The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*, or *DSM-IV*, of the American Psychiatric Association. Although we will not delve into the debate here, it is important to mention that some have questioned whether the use of the *DSM-IV*'s criteria is appropriate for establishing dependency (Fiore, 2007). We contacted those directly involved in the creation of the ENAs, and one of them responded as follows:

To define drug dependency last year, the criterion used is taken from the diagnostic criteria of the DSM and the ICD [International Classification of Diseases]. Its presence is positive when in answers to questions A079B, A085B, A087B, A092B, A093B, A094B, A095B, A096B, A097B, A098B, A0981B, A099B, and A100B at least three symptoms are present (ENA Collaborator, 2013).¹

This supposed combination of the criteria found in the *DSM-IV* and the *ICD* should have been made explicit in the actual ENAs. Such an ad hoc combination is neither widely known nor used in international scientific conventions, which could make Mexican data not easy to compare with other studies from different populations. Although these categories are not adequately defined or justified in the survey, much of the resulting data are presented according to this central, determining classification by levels of consumption. Here is an illustrative summary of the results according to different patterns of use from ENAs 2008 and 2011²:

- Use, given the opportunity³ (*uso dado la oportunidad*)⁴
- Abuse, given the use (*abuso dado el uso*)⁵
- Dependency, given abuse (*dependencia dado el abuso*)⁶
- Experimentation given the opportunity (*experimentación dada la oportunidad*)⁷
- Abuse given the opportunity (*abuso dada la oportunidad*)⁸
- Dependency given abuse (*dependencia dado el abuso*)⁹

¹A complete list of the questions from the original Database cited by the ENA Collaborator, and other related pertinent questions can be found in Appendix 1.

²We should note that ENAs refers in its 2008 version to “graphics” as “figures.” In its 2011 version, graphics are referred to as graphs.

³This concept is introduced in the ENA without further explanation.

⁴Table A41, Figure 15 ENA 2008.

⁵Table A41, Figure 15 ENA 2008.

⁶Table A41, Figure 15 ENA 2008.

⁷Table A40 ENA 2008.

⁸Table A40 ENA 2008.

⁹Table A40 ENA 2008.

Table 2. Factors associated with drug use in adolescents from 12 to 17 years.

Variables	Men			Women		
	OR	<i>p</i>	CI 95%	OR	<i>p</i>	CI 95%
Not exposed to prevention	7.82	<0.001	3.427–17.828	4.8	0.006	1.583–14.531
Exposed to drugs	21.68	<0.001	8.139–57.773	23.74	<0.001	9.234–61.009
Not in school/university	5.15	<0.001	2.211–12.007	1.21	0.701	0.454–3.234
Unemployed	1.7	0.237	0.705–4.106	1.23	0.777	0.291–5.205
Tolerates best friend's drug use	2.62	0.027	1.116–6.135	1.38	0.567	0.460–4.124
Low perception of drug risks	3.4	0.002	1.561–7.411	0.87	0.781	0.337–2.265
Southern region	1					
North Central region	1.16	0.850	0.245–5.515	0.38	0.210	0.084–1.725
Northwest region	1.42	0.625	0.350–5.732	0.13	0.086	0.013–1.330
North Eastern region	1.07	0.933	0.238–4.771	2.18	0.306	0.490–9.689
Western region	0.61	0.510	0.137–2.684	0.64	0.568	0.139–2.949
Centre region	0.42	0.270	0.089–1.966	0.75	0.696	0.175–3.199
Mexico City	0.84	0.853	0.134–5.280	0.97	0.972	0.174–5.392
South Central region	0.33	0.207	0.058–1.853	1.76	0.418	0.447–6.942
OR relative risk						

The analysis considers the design of the study sample and includes the region as a variable in order to control for changes in consumption in the country.

- Use without dependency¹⁰
- Dependency in regular users¹¹
- Dependency¹²
- Abuse¹³
- Use¹⁴
- Consumption¹⁵

In the noted tables and graphs, the terms appear either contradictory or else interchangeable, giving the impression that:

- Dependency is interchangeable with dependency given the abuse.
- Consumption, use, and use without dependency grade into experimentation or experimentation given the opportunity.
- Use given the opportunity is the same as experimentation given the opportunity.
- The term abuse is exchangeable with abuse given the opportunity.

A glance at this list makes it clear that ENAs mixes various existing gradations within the observed universe of drug use, confounding its own descriptive categories and thus calling into question the utility of the results. Understanding users' patterns of drug consumption is fundamental both to shaping any proposed health interventions and in getting a sense of the actual demand (and thus market) for illegal drugs: in this sense, the ENAs do not fulfill its primary objective.

Reductionism: the relationship between prevention and consumption

One of the ENA's goals is to evaluate the relationship between prevention and drug consumption. Some of the variables noted in ENA 2011 to determine if a person is at risk for drug consumption are covered in Table 2 and include

“not exposed to prevention,” “exposed to drugs,” “not in school/university,” “unemployed,” “tolerates best friend's drug use,” “low perception of drug risks” (Secretaría de Salud, 2012b, p. 41).

ENA 2011 asserts that there was a 14% increase in total prevention coverage over the prior three years, relating this to consumption by affirming that among adolescents, 1.2% (CI¹⁶ 95%, 0.547–1.827) of those exposed to prevention have consumed drugs, as opposed to 2.6% (CI 95%, 1.522–3.618) of those not exposed to prevention. Thus, the survey argues that not being exposed to prevention increases the probability of drug use, which in turn suggests that government policies are having results. Relating these variables directly with drug consumption is mechanistic and reductionist: drug consumption is a complex and multi-faceted phenomenon that cannot be determined by abstract numbers contrasting consumption among those who are supposedly exposed to prevention programs and those who are not. Evaluating the efficacy of prevention programs requires much more accurate and sophisticated methods relating results for specific populations with specific programs to which they are or are not exposed. There was undoubtedly wide variation in interpretation of the survey questions regarding prevention, no objective measurement of exposure to prevention, and no control or comparison group. In a separate article published by ENAs collaborators, the authors recognise that prevention programs should be adapted to the actual specific population groups, since not all individuals have the same problems, needs, personal histories or context of drug use (Medina-Mora, Real, Villatoro, & Natera, 2013, p. 70).

In contrast, the ENAs results do not explain why drug use without dependency should be considered a problem, or why even non-problematic consumers should receive treatment. Curiosity or drug experimentation is not necessarily a public health problem. Nor is there any distinction made between

¹⁰Tables A44, A45 and A43, Figure 27 ENA 2008.

¹¹Figure 27 ENA 2008.

¹²Tables A44, A45 and A43, Figure 27, Figure 10 ENA 2008; Table 4, Graph 5 ENA 2011.

¹³Figure 10 ENA 2008.

¹⁴Figure 15 ENA 2008.

¹⁵Figure 10 ENA 2008.

¹⁶CI: Confidence Interval. The confidence interval “gives an estimated range of values which is likely to include an unknown population parameter, the estimated range being calculated from a given set of sample data” (Easton & McColl, 1997).

different kinds of consumers and different kinds of prevention or care, which once again does not contribute towards the development of adequate policies or interventions. Such particularities make us question the overall objectives of the Mexican government with regard to prevention: whether to avoid only consumption that involves dependency, or consumption of any sort¹⁷ – which is naturally much more difficult and, realistically, even impossible. The goals of prevention campaigns in the harm reduction scenario must be hierarchical, so if one of these goals fails, another one could be still be achieved (Newcombe, 1992).

The question of adolescent drug use

The question of illegal drug use among adolescents generates especially intense public controversy. After receiving parental permission, the adolescents approached by ENAs were interviewed in their homes. This seems to be a questionable choice of method since, under such conditions, and given the social taboo associated with the issue, youth might not feel comfortable speaking the truth despite any guarantees of confidentiality. Other surveys about youth, such as the one carried out by the Centers for Youth Integration (CIJ), have chosen to conduct the interviews in different settings, like the Center itself, or in schools. When conducted in a school setting, however, the interviews will tend to exclude teenagers who do not attend school.

We call attention to the fact that ENA 2011 chose not to include in its first released report (Secretaría de Salud, 2012b) those data referring to consumption “at some time in life” and “in recent months.” While the criteria of consumption “at some time in life” is vague and does not represent a real health problem, in an adolescent subpopulation, this is an important piece of data: A positive answer to “some time in life” suggests that drug use began at a young age. Various authors have pointed out that adolescence is a period of especially high risk (Medina, 2013, p. 69) and thus it is important to delay the onset of use in order to avoid possible developmental problems that would require immediate preventive actions (Villatoro et al., 2012).

ENA 2011 may have excluded results for the question of drug use “at some time in life” due to the fact that the National Health Program had previously announced that its goal was to reduce by at least 10% the prevalence of drug use “at some time in life” among the adolescent population age 12–17 (Secretaría de Salud, 2011). According to the data published by the ENA 2011 later report (which included an annex with some missing data from the first released report), this stated objective had not only not been met, but also results had held steady and there had not been any sign of decline (Secretaría de Salud, 2012c). Among males age 12–17, results for illegal drug use “at some time in life” rose slightly from 3.5% to 3.9% between 2008 and 2011; from 3.7% to 4% for any kind of drug use; and an insignificant

reduction from 0.4% to 0.3% for medical drug use. In the same report, adolescent females showed a small increase in illegal drug use “at some time in life” from 1.6% to 1.9%, in use of any kind of drug from 2.1% to 2.6%, and use of medical drugs from 0.6% to 0.8%. However, as noted above, differences between the survey sample sizes would have to be accounted for to arrive at more definitive conclusions.

Some news reports affirm that the ENA underestimates illegal drug consumption among youth (Orquiz, 2012); therefore, it is striking how results for drug use “at some time in life” were omitted from ENA 2011. Apparently, levels of use had actually increased, although not at a statistically significant rate. In sum, the government did not attain its objective: consumption was not such a concerning matter before; neither is it now, according to the official data.

Conclusions

The ENAs set out to measure the consumption of illegal drugs, alcohol, and tobacco in Mexico. This important work represents one of the main governmental tools for planning and justifying drug policy – from treatment and prevention to the pursuit of drug traffickers. Naturally, measures as large as these will always have limitations considering the subject and will need to be complemented by coordinated efforts. Despite the improvements in the recent surveys compared with the previous editions, it is important to point out the numerous limitations noted above. It is not fair to criticize ENAs, as some have done, for not being able to explain the cause of violence or the size of the black market in illegal drugs. Nonetheless, the ENAs failed in its mission to provide adequate data for government and non-government agencies to better plan and evaluate their actions.

Among the methodological and conceptual problems of the ENA are: exclusion of significant populations of drug users from the household-based survey; the difficulty of comparing data between presumed exposure in different years; an excessive emphasis on the result of “consumption at some time in life” for the adult population; problematic interview methodologies with adolescents; a reductionist equation established between prevention and use; and the absence of coherent scientific criteria for defining categories such as use, abuse, and dependency.

The description of drug use in the population is very limited. Polydrug use is not contemplated in the survey, assuming that people consume only one drug at a time during any time period. It is interesting to note that in the original questions asked of the survey populations (from full data extracted from the on-line database for ENAs 2008, 2011), there are questions about different methods of drug use (injection, smoking, etc.) and frequency, but these results are not found in the published report. Importantly, topics like quantity of use were also not included in the study.

The survey, whose very title stigmatises all drug users as “addicts,” or sick people, does not make clear what it intends to measure, whether consumption or dependency, and to what purpose. Obviously, in such a situation, prevention programs find it difficult to navigate towards a coherent end, especially if they are expected to act in a direct, reductionist form to reduce experimental consumption in the population. And yet,

¹⁷The National Health Program (Secretaría de Salud, 2007) mentions the goal to reduce the use of illegal drugs by 10% in the category of “at some time in life.” We do not know of other official documents that explicate government goals with regard to prevention. Therefore, we can speculate that the government’s goals during Calderon’s term were designed to eliminate any type of drug consumption, not only problematic ones.

we should keep in mind that, according to ENA's results, the drug use has not reached epidemic proportions in Mexico – despite Calderón's statement that Mexico is “converting into a consumerist country.”⁷ Without underestimating the consumption and the related illegal market, this is an important point to make, since some government measures in the sector of public security appear to take it for granted that consumption is in fact epidemic.

Conscious of the complexity of the theme of drug consumption and the relationship that might exist to patterns of violence in Mexico in recent years, we highlight that our reflections here are intended to contribute to the preparation of more appropriate surveys in the future. In this sense, it is important to take into consideration the real situations of different categories of drug users, as well how drug users categorise drugs (Lee & Antin, 2011). This was the case with the First Survey of Illegal Drug Users in Mexico City, designed and implemented by the Collective for an Integrated Drug Policy, A.C. (Colectivo por una Política Integral hacia las Drogas, 2012), which is analyzed elsewhere (Labate & Ruiz Flores, manuscript).

We also point out the importance of developing specific surveys for specific populations (e.g. marginalised street populations, people in correctional facilities or health-care institutions, people using specific substances, such as inhalants), and improving their compatibility with multiple complementary surveys, using methods gained, for example, from other international research surveying street youth (Smart & Adalf, 1991). According to Lee and Antin (2011), the improvement of instruments that can detect patterns and problem areas may be able to point to viable directions for drug prevention programs. Finally, we call attention to the need to develop interdisciplinary research that reflects on the conditions of production of knowledge and takes into account qualitative aspects of drug use in the design of the research. In the words of Philippe Bourgois, “Critical theory needs to be brought back into public health research” (Bourgois, 2009, p. 267). Solutions for the complex problem of drugs should emerge from well-designed research, objective information, education, prevention, and treatment; not from war-like actions and strategies associated with worn-out stereotypes and cultural taboos, or public discourses about drug users being the source of broader problems related to violence and economics.

Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this article.

References

Bourgois, P. (2009). Anthropology and epidemiology on drugs: The challenges of cross-methodological and theoretical dialogue. *International Journal of Drug Policy*, 13, 259–269.

Colectivo por una Política Integral hacia las Drogas. (2012). *Primera encuesta de usuarios de drogas ilegales en la Ciudad de México* [First survey on illegal drug users in Mexico City]. Mexico City: Colectivo por una Política Integral hacia las Drogas.

Díaz, A. (2012, November 2). No consideró la ENA 2011 a poblaciones callejeras [ENA 2011 didn't consider the street population]. *La Jornada*. Retrieved December 3, 2013 from <http://www.jornada.unam.mx/2012/11/02/sociedad/037n3soc>.

Easton, V.J., & McColl, J.H. (1997). Statistics glossary. *STEPS*. Retrieved May 19, 2014 from http://www.stats.gla.ac.uk/steps/glossary/confidence_intervals.html.

Fiore, M. (2007). *Uso de “drogas”: Controversias médicas e debate público [Use of “drugs”: Medical controversies and public debate]*. Campinas: Mercado de Letras/ Fapesp.

García, A. (2012, October 30). Es la esclavitud del siglo XXI, asegura Felipe Calderón [It's the slavery of the century, assures Felipe Calderón]. *El Universal*. Retrieved December 3, 2013 from <http://www.eluniversal.com.mx/nacion/201397.html>.

Hope, A. (2012, November 5). Sobre la encuesta nacional de adicciones [About the National Addiction Survey]. *Animal Político*. Retrieved December 3, 2013 from <http://www.animalpolitico.com/blogueros-plata-o-plomo/2012/11/05/sobre-la-encuesta-nacional-de-adicciones/>.

Labate, B.C., & Ruiz Flores López, P. (manuscript). *Midiendo el uso de drogas ilegales en México: Reflexiones sobre las encuestas Nacionales de Adicciones y una encuesta independiente [Measuring illegal drug use in Mexico: Reflections on the National Addiction surveys and an independent survey]*. Aguascalientes: CIDE Región Centro.

Lee, J.P., & Antin, T.M.J. (2011). How do researchers categorize drugs, and how do drug users categorize them? *Contemporary Drug Problems*, 38, 387–427.

Madrazo, A., & Guerrero, A. (2012, January 12). Más caro el caldo que las albóndigas [The broth is more expensive than the meatballs]. *Nexos en Línea*. Retrieved December 3, 2013 from <http://www.nexos.com.mx/?P=leerarticulo&print&Article=2103069>.

Medina-Mora, M.E., Real, T., Villatoro, J., & Natera, M. (2013). Las drogas y la salud pública: ¿Hacia dónde vamos? [Drugs and public health: Where are we going?]. *Salud Pública de México*, 55, 67–73.

Newcombe, R. (1992). The reduction of drug-related harm: A conceptual framework for theory, practice and research. In Patrick Anthony O'Hare (ed.), *The reduction of drug-related harm* (pp. 1–14). London: Routledge.

Orquiz, M. (2012, December 28). Corrompió guerra antinarco aquí a miles de adolescentes [The Drug War corrupted thousands of teenagers]. *El Diario Mx*. Retrieved December 3, 2013 from http://diario.mx/Local/2012-12-28_b25e5757/corrompio-guerra-antinarco-aqui-a-miles-de-adolescentes.

Presidencia de la República. (2012, October 29). Primer encuentro nacional de Centros Nueva Vida [First national meeting of New Life Centers]. *Notas Informativas*. Retrieved December 3, 2013 from <http://calderon.presidencia.gob.mx/2012/10/primer-encuentro-nacional-de-centros-nueva-vida/>.

Ramos, J. (2010, June 25). Esfuerzo mayúsculo para reducir demanda de drogas: FCH [Major effort to reduce drug demand: FCH]. *El Universal*. Retrieved December 3, 2013 from <http://www.eluniversal.com.mx/notas/690446.html>.

Ramos, J. (2011, June 28). FHC pide a Ssa encuesta anual de adicciones [FHC requests SSA annual survey of addictions]. *El Universal*. Retrieved December 3, 2013 from <http://www.eluniversal.com.mx/nacion/186637.html>.

Rodríguez, R. (2012, November 1). Niegan “maquillaje” de la ENA 2008 [“Makeup” of the ENA 2008 is denied]. *El Universal*. Retrieved December 3, 2013 from <http://www.eluniversal.com.mx/nacion/201432.html>.

Romero Vadillo, J.J. (2012, November 2). Los palos de ciego de Calderón en política de drogas [The ‘blind man’s canes’ of Calderón’s drug policy]. *Sin embargo*. Retrieved December 3, 2013 from <http://www.sinembargo.mx/opinion/02-11-2012/10469>.

Secretaría de Salud. (2007). *Programa Nacional de Salud 2007–2012 [National Health Program 2007–2012]*. Mexico City: Secretaría de Salud.

Secretaría de Salud. (2011). Inicia capacitación para la aplicación de la encuesta nacional de adicciones [Training for the application of the national addiction survey]. *Comunicado de Prensa No. 185*. Retrieved December 3, 2013 from http://www.salud.gob.mx/ssa_app/noticias/datos/2011-06-01_5216.html.

Secretaría de Salud. (2012). Discurso del Secretario de Salud durante la inauguración del Encuentro Nacional de Centros Nueva Vida y presentación de la ENA 2011 [Speech by the Minister of Health during the inauguration of the First National meeting of New Life Centers and presentation of ENA 2011]. *Boletines de la Secretaría de Salud*. Retrieved December 3, 2013 from <http://portal.salud.gob.mx/>

- redirector?tipo=0&n_seccion=Boletines&seccion=2012-10-29_5989.html.
- Secretaría de Salud, Consejo Nacional contra las Adicciones, Instituto Nacional de Psiquiatría Ramón de la Fuente, Instituto Nacional de Salud Pública. (2009a). *Base de Datos, ENA 2008 [ENA Database, 2008]*. Mexico City. Retrieved December 3, 2013 from http://www.conadic.salud.gob.mx/pie/basedatos_ena2008.html.
- Secretaría de Salud, Consejo Nacional contra las Adicciones, Instituto Nacional de Psiquiatría Ramón de la Fuente, Instituto Nacional de Salud Pública. (2009b). *Encuesta Nacional de Adicciones 2008 [National Addiction Survey 2008]*. Mexico City: Secretaría de Salud.
- Secretaría de Salud, Consejo Nacional contra las Adicciones, Instituto Nacional de Psiquiatría Ramón de la Fuente, Instituto Nacional de Salud Pública. (2012a). *Base de Datos, ENA 2011 [ENA Database, 2011]*. Mexico City. Retrieved December 3, 2013 from <http://encuestas.insp.mx/ena/ena2011.html#UZabnbXrxQ4>.
- Secretaría de Salud, Consejo Nacional contra las Adicciones, Instituto Nacional de Psiquiatría Ramón de la Fuente, Instituto Nacional de Salud Pública. (2012b). *Encuesta Nacional de Adicciones 2011. Apartado de drogas. [National Addiction Survey 2011. Attachment on Drugs]*. Mexico City: Secretaría de Salud.
- Secretaría de Salud, Consejo Nacional contra las Adicciones, Instituto Nacional de Psiquiatría Ramón de la Fuente, Instituto Nacional de Salud Pública. (2012c). *Encuesta Nacional de Adicciones 2011. Apartado de drogas con anexo. [National Addiction Survey 2011. Attachment on Drugs with annex]*. Mexico City: Secretaría de Salud.
- Smart, R., & Adlaf, E. (1991). Substance use and problems among Toronto street youth. *British Journal of Addiction*, 86, 999–1010.
- Tapia-Conyer, R., Medina-Mora, M.E., Sepúlveda, J., De la Fuente, R., & Kumate, J. (1990). La Encuesta Nacional de Adicciones de México [The National Addiction Survey of Mexico]. *Salud Pública de México*, 32, 507–522.
- Villatoro, J., Medina-Mora, M.E., Fleiz, C., Moreno, M., Oliva, N., & Bustos, M. (2012). El consumo de drogas en México: Resultados de la Encuesta Nacional de Adicciones, 2011 [Drug use in Mexico: Results from the National Addiction Survey, 2011]. *Salud Mental*, 35, 447–457.

Appendix

Selection of original questions from the ENA database

- A079a – Have you ever realised that you need to use a greater quantity of drugs than previously used (for example, marijuana, cocaine, tranquilisers, or other substances) to achieve the desired effects?
- A079b – Has this happened in the last 12 months?

- A085a – Have there been periods in your life when you have wanted to stop or decrease your drug consumption (for example, marijuana, cocaine, tranquilisers, or other substances)?
- A085b – Has this happened in the last 12 months?
- A087a – In the hours or days after stopping or decreasing your drug use (for example, marijuana, cocaine, tranquilisers, or other substances) have you ever had side effects such as shivering, sweating, inability to sleep, headache, stomachache, etc.?
- A087b – Has this happened in the last 12 months?
- A092a – Have you ever had health problems such as an accidental overdose, persistent cough, convulsions, infections, hepatitis, abscesses, HIV/AIDs, health issues, or other injuries as a result of the use of substances (for example, marijuana, cocaine, tranquilisers, or other substances)?
- A092b – Has this happened in the last 12 months?
- A093a – Have you ever had emotional (anxiety) or psychological issues related to drug use?
- A093b – Has this happened in the last 12 months?
- A094a – Have you ever used drugs (for example, marijuana, cocaine, tranquilisers, or other substances) in such a way that you felt you needed or depended on them?
- A094b – Has this happened in the last 12 months?
- A095a – Have you ever felt sick after reducing or decreasing the use of any kinds of drugs (for example, marijuana, cocaine, tranquilisers, or other substances)?
- A095b – Has this happened in the last 12 months?
- A096a – Have you ever felt like you had loss of memory or concentration or lack of clear thinking due to drug use (for example, marijuana, cocaine, tranquilisers, or other substances)?
- A096b – Has this happened in the last 12 months?
- A097a – Have you ever had discussions with family members or friends regarding your drug use (for example, marijuana, cocaine, tranquilisers, or other substances)?
- A097b – Has this happened in the last 12 months?
- A098a – Have you ever had fights regarding your drug use (for example, marijuana, cocaine, tranquilisers, or other substances)?
- A098b – Has this happened in the last 12 months?
- A0981a – Have you ever been arrested or detained by the police for drug use (for example, marijuana, cocaine, tranquilisers, or other substances)?
- A0981b – Has this happened in the last 12 months?
- A099a – Have you ever had problems in school or work due to drug consumption (for example, marijuana, cocaine, tranquilisers, or other substances)?
- A099b – Has this happened in the last 12 months?
- A100a – Have you ever had economic problems due to drug use (for example, marijuana, cocaine, tranquilisers, or other substances)?
- A100b – Has this happened in the last 12 months?