Brief Communication

Trends in Primary Methamphetamine-Related Admissions to Youth Residential Substance Abuse Treatment Facilities in Canada, 2005–2006 and 2009–2010

Marina Verdichevski[1]; Robin Burns, BSc[1]; James K Cunningham, PhD[2]; Joey Tavares[1]; Russell C Callaghan, PhD[3]

Objective: During the last decade, methamphetamine use and issues surrounding its toxicity have triggered major concern in the Canadian government, leading to significant changes in drug policy and funding strategies to limit the societal impact of methamphetamine-related harms. This concern appears justified by research which found in 2005–2006 that 21% of all youth admissions to inpatient substance abuse treatment centres in Canada were due primarily to methamphetamine abuse. Given these patterns of treatment use and targeted governmental initiatives, an open question is whether the demand for methamphetamine treatment found in 2005–2006 has decreased. Our study aims to provide follow-up estimates of admissions for 2009–2010, as well as important trend information for these periods.

Method: We developed a comprehensive list of all Canadian residential youth substance abuse treatment facilities. The executive director of each facility was asked about the site's annual caseload, and the proportion of cases primarily due to methamphetamine abuse within the past 12 months.

Results: Our survey data for the periods of 2005–2006 and 2009–2010 show marked reductions in admissions. In 2009–2010, we found that about 6% of all admissions were due primarily to methamphetamine abuse, a substantial drop from the 21% reported in our 2005–2006 study.

Conclusions: Our data show a significant national reduction in methamphetamine-related admissions. Other reports show that methamphetamine-related treatment admissions in the United States and Mexico declined sharply during 2005–2008, reportedly in association with Mexico's methamphetamine precursor chemical controls, raising the possibility that the controls may also be associated with the declines reported here.

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Clinical Implications

- National addiction-treatment data can be useful for monitoring the impact of methamphetamine abuse on youth substance abuse treatment programs.
- Understanding the scope of methamphetamine-related harms at provincial and national levels can support the rational allocation of clinical resources for methamphetamine abuse problems.
- Trends in treatment admissions can help to inform the potential impacts of national and international drug policy interventions designed to limit methamphetamine-related harms.

Limitations

- Our study relied on estimates provided by executive directors, and the reported values may not match administrative records exactly.
- Time lag between problematic drug use and treatment entry means that results may not reflect current trends of adolescent methamphetamine use.
- Our data only represent adolescents entering inpatient substance abuse treatment centres and likely exclude those who are unable or unwilling to access inpatient treatment centres.

Key Words: *methamphetamine, adolescents, substance abuse treatment, inpatient, Canada*

During the last decade, methamphetamine use and issues surrounding its toxicity have triggered major concern at federal and provincial levels in the Canadian government. This concern appears to be justified by research in 2005–2006, which found that 21% of all youth admissions to inpatient substance abuse treatment centres were due primarily to methamphetamine abuse.[1]

With the goal of limiting problems related to methamphetamine, there have been major changes in Canadian drug policy legislation,[2,3] as well as in provincial and federal targeted drug enforcement and funding strategies.[4] Given these governmental initiatives, an open question is, Has the pronounced demand for methamphetamine treatment found in 2005–2006 decreased?

Our study assesses methamphetamine treatment demand among Canadian youth in 2009–2010, and contrasts it with our previous findings for 2005–2006.[1] Our study is critical as it constitutes the sole source of information on national trends in methamphetamine treatment admissions among youth in Canada. As noted elsewhere,[1,5] Canada has no formal government data system for monitoring national substance abuse treatment patterns.

Method

Research Ethics

Both waves of our study were not considered research involving human subjects, according to the Centre for Addiction and Mental Health Research Ethics Board and, as a result, did not require ethics review or approval to proceed.

Sampling Frame

For our study, we used the same comprehensive list of all Canadian residential substance abuse treatment facilities for youth that we developed in our previous research.[1] This list was compiled using information from the Canadian Centre for Substance Abuse, Health Canada, the First Nation and Inuit Health Branch, each of the provincial and territorial ministries of health, all provincial drug and alcohol referral centres (for example, Drug and Alcohol Registry of Treatment in Ontario), and the executive directors (or equivalent) of the contacted centres. It is important to note that the 2009–2010 sampling frame differed slightly from the original because some centres merged, or changed their modality of treatment, and thus were excluded from our analysis.

Survey Questionnaire

The 2009–2010 survey included 7 questions, which were identical to those used in our prior survey.[1] In addition to inquiring about treatment modality and client characteristics, the survey included 2 questions relevant to our study: "Approximately how many adolescents are admitted to your program each year?" and "In the previous 12 months, approximately what percentage of clients sought treatment [at your centre] primarily for misuse of methamphetamine, including crystal methamphetamine?" The surveys were completed from October 2009 to February 2010.

Respondents

The executive director (or equivalent) of each facility provided the information for our survey.

Results

Even though the definition of youth varied across sites, the typical youth treatment centre in our survey provided service to adolescents aged 13 to 19 years. Our survey identified 49 eligible inpatient and (or) residential youth substance abuse treatment centres in Canada. We contacted each centre. Five centres chose not to participate. Forty-four eligible centres returned surveys, yielding a response rate of 90% (44 out of 49 centres). Among the 44 returned surveys, 4 lacked full data for both of the relevant study questions. Therefore, our final results included data from 40 treatment centres, with a combined estimated annual caseload of 3551 (down from 5169 in 2005–2006). Where the executive director provided an estimated range for the number of annual admissions and the proportion of those admissions primarily due to methamphetamine, we used the midpoint of the range.

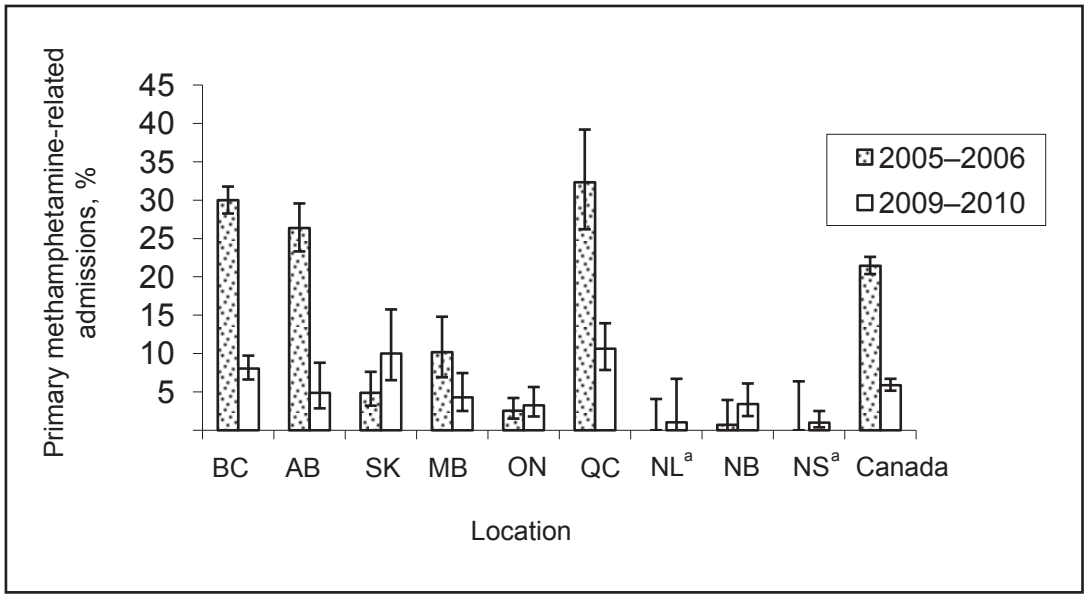
About 6% (209 out of 3551 admissions) of all inpatient youth substance abuse treatment admissions in 2009–2010 were reported to be due primarily to methamphetamine abuse, a large decrease from the 21% (1109 out of 5169 admissions) observed in 2005–2006.

For display purposes, we aggregated data from centres located in the same province by summing their caseloads and calculating a weighted mean of the proportion of admissions due primarily to methamphetamine use (Figure 1). The height of the bars in Figure 1 indicate the annual proportion of primary methamphetamine-related admissions in each province. The most prominent reductions occurred in British Columbia, Alberta, and Quebec—the 3 provinces with the highest levels of methamphetamine-related admissions in our 2005–2006 survey.

Discussion

Our survey data for 2005–2006 and 2009–2010 showed marked reductions in primary methamphetamine-related admissions to inpatient treatment centres for youth in Canada. Our previous paper estimated that 21% of all admissions to youth inpatient substance abuse treatment centres (for the 2005–2006 period) were due primarily to methamphetamine abuse,[1] while our follow-up survey for the 2009–2010 period indicates that this figure dropped to about 6%. In our previous survey, British Columbia, Alberta, and Quebec had the highest levels of methamphetamine-related admissions, and in 2009–2010, these provinces' corresponding proportions of admissions showed significant reductions (Figure 1). In fact, the reductions in these 3 most-affected provinces likely contributed disproportionately to the

Figure 1 Trends in primary methamphetamine-related admissions to youth residential substance abuse treatment facilities in Canada, 2005–2006 and 2009–2010



[a] In the 2005–2006 survey cycle, the point estimates for the proportion of methamphetamine-related admissions were zero in Newfoundland and Labrador (0/120 total annual admissions) and Nova Scotia (0/75 total annual admissions). As a result, we calculated a 1-sided 98% upper confidence interval using an adjusted Wald approach.

Information was not available in the 2009 survey cycle from Prince Edward Island and, as a result, trend data were not provided.

overall national reductions in primary methamphetamine-related admissions. In other provinces, methamphetamine-related admissions remained modest and low during the 2 time periods examined. Although small increases in methamphetamine treatment demand were observed for New Brunswick and Saskatchewan, these trends were not statistically significant.

In concert with this study, a population-based survey of Canadian alcohol and drug use also reported reductions in lifetime amphetamine use among youth, from 8.3% in 2004[6] to 3.3% in 2009.[7] In Ontario, a significant downward trend was reported among youth, with a decrease in past-year methamphetamine use from 5.1% (1999) and 2.6% (2005), to 1.4% (2009).[8] Also, in British Columbia, the rates of ever having used methamphetamine among youth dropped from 4% in 2003 to 2% in 2008.[9] Surprisingly, in Alberta, surveys of student past-year lifetime use of crystal methamphetamine showed little decrease between 2005 (1.2%) and 2008 (1.1%).[10] This finding for Alberta may be a floor effect; that is, when values are very low to begin with, there is little room for decrease. Generally, the available data demonstrate that the estimated prevalence of adolescent methamphetamine use appears relatively low, especially in comparison with the use of alcohol, tobacco, and marijuana.[8] It is important to note that most of the available adolescent drug use surveys have collected information on the more inclusive drug class of amphetamines rather than on methamphetamine specifically. Therefore, surveys reporting only amphetamine consumption provide an upper limit of methamphetamine use rather than a specific estimate.

Consistent with our study's findings, US methamphetamine-related treatment admissions for youth (aged 12 to 17 years) decreased from 7118 in 2005 to 2082 in 2009.[11] This decrease in US youth admissions was part of a general drop in total methamphetamine-related treatment admissions in the US population.[11] Methamphetamine-related treatment admissions in Mexico also dropped sharply during 2005 to 2008.[12] Recent research has shown that methamphetamine precursor chemical controls implemented by Mexico beginning in 2005 were associated with the decline in Mexico's methamphetamine-related treatment admissions, and in essentially identical declines in methamphetamine-related treatment admissions in Texas, one of the largest US states.[12] This raises the possibility that Mexico's controls also may be associated with the decrease in methamphetamine admissions among Canadian youth reported in our research. Research testing this possibility is needed.

Our results must be interpreted in light of several limitations. Our data only represent the drug use patterns of adolescents entering inpatient substance abuse treatment and likely exclude most adolescent drug users who are unable or unwilling to access inpatient treatment. Also, it is important

to note that a time lag exists between problematic drug use and treatment entry, and as a result, our data may not reflect current methamphetamine use trends. In addition, our study relied on the estimates of the executive directors (or equivalent personnel) about the annual caseload and primary methamphetamine-related admissions at their treatment centre. It is possible that the executive director estimates may not match exactly the formal records in their administrative databases.

Conclusion

Nonetheless, given the absence of a national addiction-treatment reporting system in Canada, our study provides unique and critical trend information about the impact of youth methamphetamine use on national patterns of treatment demand. Our findings can inform not only the rational allocation of resources designated for methamphetamine-related problems but also future work investigating the potential influence of national and international drug policies on addiction treatment use.

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[1] Research Assistant, Centre for Addiction and Mental Health, Social and Epidemiological Research Department, Toronto, Ontario.
[2] Social Epidemiologist, Department of Family and Community Medicine, The University of Arizona, Tucson, Arizona.
[3] Research Scientist, Centre for Addiction and Mental Health, Social and Epidemiological Research Department, Toronto, Ontario; Assistant Professor, Dalla Lana School of Public Health, University of Toronto, Toronto, Ontario.
Address for correspondence: Dr R C. Callaghan, Centre for Addiction and Mental Health, 33 Russell Street, Toronto, ON M5S 2S1; Russell_Callaghan@camh.net

Résumé : Tendances des premières admissions liées à la méthamphétamine dans des centres de traitements résidentiels pour les jeunes pour abus de substances au Canada, 2005–2006 et 2009–2010

Objectif : Dans les dix dernières années, l'utilisation de méthamphétamine et les questions à propos de sa toxicité ont provoqué de profondes préoccupations au sein du gouvernement canadien, lesquelles ont entraîné des changements importants des politiques sur les drogues et des stratégies de financement afin de limiter l'effet sociétal des méfaits liés à la méthamphétamine. Ces préoccupations semblent justifiées par la recherche qui a constaté, en 2005–2006, que 21 % de toutes les admissions de jeunes dans des centres de traitement résidentiels pour abus de substances au Canada étaient principalement attribuables à l'abus de méthamphétamine. Étant donné ces modèles de l'utilisation des traitements et les initiatives gouvernementales ciblées, une question ouverte consistait à découvrir si la demande de traitement pour la méthamphétamine observée en 2005–2006 a diminué. Notre étude vise à procurer des estimations du suivi des admissions de 2009–2010, ainsi qu'une importante information sur les tendances pour ces périodes.

Méthode : Nous avons dressé une liste exhaustive de tous les centres de traitement résidentiels pour abus de substances pour les jeunes au Canada. Le directeur général de chaque centre a répondu à nos questions sur le nombre de cas annuels, et la proportion de cas principalement attribuables à l'abus de méthamphétamine durant les 12 mois précédents.

Résultats : Les données de notre enquête pour les périodes de 2005–2006 et 2009–2010 indiquent des réductions marquées des admissions. En 2009–2010, nous avons constaté qu'environ 6 % de toutes les admissions étaient principalement attribuables à l'abus de méthamphétamine, soit une baisse substantielle par rapport aux 21 % déclarés dans notre étude de 2005–2006.

Conclusions : Nos données révèlent une réduction nationale significative des admissions liées à la méthamphétamine. D'autres études indiquent que les admissions pour traitement liées à la méthamphétamine aux États-Unis et au Mexique ont beaucoup baissé de 2005 à 2008, ce qui serait en association avec les contrôles de produits chimiques précurseurs de la méthamphétamine exercés par le Mexique, soulevant la possibilité que les contrôles puissent aussi être associés avec les baisses observées ici.