

FOCUS ON

*Addiction
& Dependence*

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EDITORIAL

CJNR Goes Online: An e-Journal at Last!

What a lovely gift. This issue marks my 10th anniversary as editor of *CJNR*. It is quite coincidental that this milestone coincides with the inaugural publication of the electronic version of the Journal.

Any major change requires considerable thought and planning. The idea of bringing out an e-version of *CJNR* was considered more than 5 years ago. We investigated the matter and decided to wait. The question was not *whether* we would publish an e-version of the Journal but, rather, *when*. The technology was too new and there were too many issues that needed to be resolved by the academic community before we could embark on this initiative. At that time it was unclear how e-journals would be archived, how copyright would be handled, who would pay for online access, and so on. Some of these issues have been resolved; others continue to be debated.

Although we were not ready to launch an e-version of *CJNR* at that time, we began preparing for this eventuality nonetheless. We received a small grant from SSHRC through the Aid to Learned Journals division to begin the process. We identified the steps that would need to be taken in order to make the transition. We upgraded our hardware and software and redesigned the Journal's Web site with publication of an e-version in mind.

At the same time, we monitored the advances in online publishing technology. As the kinks were worked out, the price of publishing online went from prohibitive to affordable. For the past 2 years we have been ready to launch an e-version but have lacked the financial resources to do so. Most journals are run by large, for-profit publishing houses that have the human and financial resources to undertake major initiatives, as reflected in their higher subscription prices. We are one of the few scholarly journals to remain housed within an academic institution. As a non-profit journal we operate on a shoestring.

We were content to continue meandering along looking for funding to launch an e-version for a little while longer. However, a year ago our fortunes changed. Richard and Satoko Ingram, through their foundation, the Newton Foundation, made a generous donation to support the McGill University School of Nursing, and one of the initiatives they provided monies for was the launching of an e-version of *CJNR*. With

this unexpected but very welcome donation, we began preparing in earnest. We enlarged the *CJNR* team, who conducted extensive research into e-publishing in order to come to a decision about who we would contract to handle the electronic version of the Journal. We settled on Ingenta, a leader in electronic publishing. We changed our production schedule and published four issues within 6 months in order to bring our publishing schedule more in line with that of other journals. We also gave *CJNR* an updated look by redesigning the cover and layout.

Introducing an e-version of the Journal provided the opportunity to re-evaluate all aspects of *CJNR*. Those who have been loyal readers and subscribers have no doubt noticed that we have made significant changes during the past 10 years. The quality and hence the profile of *CJNR* have improved steadily over the years, drawing increasing attention from individuals and institutions abroad.

The e-version should make *CJNR* more visible and accessible to the international community. *CJNR* has a distinct Canadian character. Although Canadian scholars continue to be the major contributors in terms of submitting manuscripts and serving as reviewers and guest editors, in recent years there has been a notable increase in contributions from American and European scholars. We would like to encourage this trend.

Over the years, we have heard that some scholars assume that *CJNR* is intended for Canadians only and are reluctant to subscribe or to submit manuscripts. We have asked ourselves: How do you reconcile the need to transcend borders with the desire to retain a national flavour? This is a question that is being raised in many fields since the emergence of the new world of the Internet. Obviously the name conveys who and what you are. We debated whether to drop "Canadian" from the name but in the end decided against this. *CJNR* is known as a quality research journal and we must continue to grow under this banner. To do otherwise would confuse our readership. We came up with a solution that other editors, faced with a similar dilemma, have also opted for. We decided to keep the name but with a slight modification. From here on in the Journal will be identified by its initials, *CJNR*. This decision, we believe, maintains the reference to Canada but in a more oblique way. It also continues to say what we are — a nursing research journal.

Beginning with this volume, we have enlarged *CJNR*'s management team. I will continue to serve as Editor, Dr. Anita Gagnon will continue as Associate Editor, and Joanna Toti will continue as Managing Editor. We will still be responsible for ensuring the Journal's day-to-day operations. In keeping with our need for a more international presence, we have appointed three eminently qualified nurse scholars to serve as editors at large: Dr. Sean Clarke, University of Pennsylvania (United States);

Dr. Sioban Nelson, The University of Melbourne (Australia and Asia); and Dr. Kate Seers, Royal College of Nursing Institute (United Kingdom and Europe). Together we will plan, shape, and direct *CJNR*'s future.

These past 10 years have been most rewarding and exciting. I marvel at how far *CJNR* has come in a relatively short period of time. We have improved the quality of the Journal because of the contributions of many talented, dedicated, and committed guest editors and authors. I was fortunate to take the helm during a period when Canada reached its first critical mass of well-educated nurse scholars. The ranks of these nurse scholars have steadily grown, to include their students, who have also contributed greatly to *CJNR*. As the students of these "students" graduate, our numbers of talented scholars will grow exponentially. They will be joined by other talented nurse scholars from around the world. I can hardly wait to see what the next few years have in store for *CJNR*.

Laurie N. Gottlieb
Editor

GUEST EDITORIAL

**The Clarion Call
for Addictions Research:
The Contributions of Nursing
Scientists Are Very Much Needed**

Pamela A. Ratner

Perhaps it is living in Vancouver, but I cannot avoid the attention that the problems associated with addictions have attracted. Our recent municipal election focused primarily on the problems associated with drug addiction. To address some of the problems, Vancouver plans to open Canada's first supervised injection site for intravenous drug users. And the recent arrest and charging of Gordon Campbell, premier of British Columbia, for exceeding the legal limit for drinking and driving in Hawaii has made alcoholism a "water cooler" issue.

No matter where you live in Canada you are affected by the human, social, and economic costs of addiction. In Canada, in 1992, approximately one in five deaths (20.8%) were attributable to substance abuse and 23.1% of years of life lost were the result of substance abuse. In the same year, tobacco-related morbidity and mortality accounted for 17% of all deaths, 16% of total potential years of life lost, 6% of all hospitalizations, and 7% of all hospitalization days due to any cause. Alcohol misuse accounted for 3% of all deaths, 6% of total potential years of life lost, 2% of all hospitalizations, and 3% of all hospitalization days due to any cause. And illicit drugs accounted for another 0.4% of total mortality (Single, 1999).

When I was asked to serve as editor of this special issue on Addiction and Dependence, I was, albeit a little daunted because of my limited expertise, convinced that addictions are an important topic of concern for nurses. I have to report that, without meaning to cast any aspersions on the authors published here or the quality of their work, I was extremely disappointed to discover the limited involvement of nursing scientists in the field. Few manuscripts were submitted by nursing scientists and I found it challenging to find qualified peer reviewers in nursing. A joint initiative of the Addictions Research Centre, Correctional Service Canada, and the Canadian Centre on Substance Abuse has made available a database of individuals currently working in Canada

who are listed as authors of research publications in the addictions field (e.g., misuse of alcohol, tobacco, or pharmaceutical or illicit drugs; gambling problems) in the past 5 years and who have identified themselves as addictions researchers (<http://www.ccsa.ca/Databases/researchers.htm>). A quick search of the database revealed two nursing scientists, and one of them was me!

Nurses are surely not alone in their apparent neglect of the addictions problem. The Chair of the House of Commons Special Committee on Non-Medical Use of Drugs wrote in the foreword to the Committee's recently released report, "For too long Canadians have ignored the issue of substance abuse and its impact on our community" (Torsney, 2002, p. v). Of course, the harmful use of substances is not limited to illicit drugs; many Canadians are exposed to the risks associated with tobacco use, the harmful use of alcohol, inhalants such as gasoline and solvents, and prescription and over-the-counter drugs. Others suffer the consequences of impulse-control disorders such as pathological gambling. Although at times in our history the harmful use of substances has been treated as a problem of the criminal justice system, it is now recognized that the issue is primarily one of public health. A public-health approach is essential, and its pivotal strategies must include prevention, education, treatment, rehabilitation, and harm minimization and reduction.

We are most fortunate that our colleagues, mostly from cognate disciplines, submitted work, agreed to provide reviews, and attempt to outline some of the important roles that nurses can play in assisting those with addictions and in furthering the field of addictions research. The manuscripts published in this issue on Addiction and Dependence make significant contributions to our understanding of the magnitude of the problem, efficacious interventions, and the methodological and theoretical challenges that must be addressed if we are to close the gap between what we know and what we do not know.

Eastabrook et al. provide a brief report on the prevalence of substance-abuse disorders within the context of a multidisciplinary-service approach in which nurses constitute an essential element. Aimed at providing continuous, community-based care for persons with severe mental illness, the Assertive Community Treatment model is designed to respond to substance-abuse problems in a complex patient population. The recognition that many patients with mental health problems also struggle with substance abuse is newly emerging and is challenging conventional approaches to care. Weaver et al. (2001) report that substance misuse may be highly prevalent among psychotic patients, yet these patients do not receive appropriate treatment. These authors suggest that the development of evidence-based interventions is a priority. This is particularly true for the case of tobacco use. Tobacco dependence, the most common,

most lethal, yet most treatable mental health disorder, is often disregarded by mental health professionals. This is an area where nurses might have the greatest impact. It is encouraging to note that Johnson et al. at the University of British Columbia School of Nursing have recently been awarded funding from the Canadian Tobacco Reduction Initiative to "lay the groundwork" for studies of the complex relationships among individual, professional, and environmental factors that contribute to tobacco use among individuals living with severe and persistent mental illness.

The coupling of over-the-counter and prescription drug misuse with substance abuse is another frequently overlooked problem, even in substance-abuse treatment programs. Cormier presents data on the prevalence and frequency of tranquillizer use and concomitant substance abuse in women receiving residential treatment. She argues that the providers of substance-abuse treatment should identify, educate, and intervene with women who overuse tranquillizers. I suspect that the call could aptly be broadened to include all health-care providers in all settings. Further, as Cormier identifies, multidisciplinary teams of health professionals are needed to develop interventions designed to assist patients in the safe withdrawal from these drugs.

Hart et al. provide compelling evidence that adult children of alcoholics experience a greater number of serious health problems than others and that being raised in an environment imbued with alcoholism contributes to poor health in adulthood. They note the contributions of nursing researchers to this important area of study and propose several pathways that could be pursued to better understand the mechanisms that place the offspring of alcoholic families at greater risk. Wild provides an excellent basis for the systematic testing of these hypotheses and the advancement of addictions research in general, by explicating the need for multilevel or ecological conceptual models that can be employed to synthesize the findings from the many research methods used. These works help to set a research agenda for a new era of addictions research with ideas that fall within domains that have been explored by nursing researchers.

Adlaf et al. tackle another critical area of concern in the field of addictions: illicit drug use among youths. It is perhaps comforting to recognize that the picture is not as bleak as it might appear on first blush. Relying on data from a 1998 national survey of Canadian university students, Adlaf et al. report that cocaine use has declined over time and trends in other illicit drug use have remained relatively stable (at least among Ontario youths). Although the problems of binge drinking and tobacco use may be more significant health issues on Canadian campuses, we cannot neglect the 8.2% and 2.4% of undergraduate students who respectively used hallucinogens and ecstasy (MDMA) in the 12 months

preceding the survey. Regional differences and changing trends remain concerns and underscore the need for systematic surveillance.

If there are any common themes emerging from the manuscripts published here, the foremost is the need for multidisciplinary approaches. This is made ever so apparent in Dongier and Brown's fascinating overview of 15 years of alcohol-abuse research. What might be of particular interest to the nurses who read this paper is that after considering the role of genetics in alcohol abuse and dependence, the use of psychopharmacological agents in the treatment of alcohol craving, and the natural history of alcohol abuse, the authors conclude their work by emphasizing the efficacy of brief encounters between patients with alcohol-use disorders and their health-care providers. More research is needed to enhance the techniques used in such encounters, including motivational interviewing (Miller & Rollnick, 2002; see the book review by Miller in this issue), but there is clearly a role for nurses in treating patients with addictions.

Where do nurse researchers go from here? It is readily apparent that radical new approaches are required to advance the prevention and treatment of all addictions. It is also readily apparent that there is a serious shortage of researchers who are adequately prepared to conduct prevention, clinical, health-services, and treatment research in the addictions field. We must strengthen the addictions-research capacity of Canadian nurses; in so doing we can advance understanding, contribute meaningfully to the literature, and significantly advance efforts in addictions research. Nursing scientists have demonstrated their ability to design, develop, and test interventions that have the potential to prevent high-risk behaviour and promote behaviour change in diverse populations in various settings, including hospitals, clinics, homes, schools, and the streets. This expertise is transferable to the field of addictions research. At present, unfortunately, few of our academic programs have the requisite curricula and other essential elements relevant to preparing scientists for careers in clinical research with patients who have addictions. And few clinically based nurses are sufficiently sophisticated consumers of addictions research to evaluate and apply the evidence provided by science. We must enlarge the nursing infrastructure for training addictions researchers, forge cross-disciplinary and multidisciplinary research training opportunities, and further develop a cadre of addictions-treatment nurses who are adept in the application of research findings, in order to improve the health of thousands of Canadians tragically affected by addictions.

Like others who are enthusiastically involved in a project or cause, no matter how modest, I am perhaps too optimistic in my expectations for the impact of this special issue on *Addiction and Dependence*. I look forward to the papers published here inspiring action among nurses so

that we as a profession can contribute to a better understanding of addictions and the impact of such health problems on individuals, families, and communities. I look forward to the development and implementation of well-tested nursing interventions designed to identify and assist those with, and affected by, addictions. Policy-makers, politicians, community leaders, the general public, and health-care providers are seeking evidence-based answers to their questions about which strategies are most effective as they grapple with the pervasive, mounting, and devastating problems of addiction and dependence. Nursing scientists have the methodological expertise and clinical experience to advance the knowledge base. I believe that they also have a moral imperative and a civic duty to respond to the clarion call to find solutions to this public-health menace that has caused great misery for too many Canadians.

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Discourse

Nursing Research and Alcohol Problems: Learning from Recent History?

Maurice Dongier and Thomas G. Brown

Alcohol abuse and dependence are major public-health problems. They are more prevalent and lethal than problems related to the use of all illegal drugs combined, as well as many other diseases, including cancer. Among the emotional and psychological disorders faced by primary-care professionals, alcoholism is one of the most frequent.

In 1986, as a result of joint support from the Douglas Hospital Foundation and McGill University, the Alcohol Research Program (ARP) was launched at the Douglas Hospital Research Centre located in Verdun, Quebec, Canada. Its mission was to promote multidisciplinary research on alcohol abuse — its mechanisms, prevention, and treatment. The initial evidence that brought our group together was the familiar observation that alcoholism seemed to run in families. In addition, we shared a conviction that more could be discovered from the study of high-risk subjects, namely younger individuals in families with multiple members possessing a well-documented history of alcohol abuse, than from the study of alcoholic brains/minds deteriorated by years of abuse. Simultaneously, we launched treatment-outcome evaluations to test the hypothesis that genetic factors have a significant prognostic role in treatment outcome. In order to recruit research subjects, we sought collaborations with public and private facilities in the surrounding treatment community, most of which were residential centres at the time. We observed that much of the treatment community was strongly influenced by Alcoholics Anonymous (AA) and was sceptical about whether scientific research had more to offer than anecdotal observations and traditions developed since the 1930s.

A call for papers from *CJNR* prompted us to look back on some of the work carried out by ARP over the past 15 years. Admittedly, the logical development of this review is an a posteriori construction of the authors, and other members of our group might favour different trajec-

tories, objectives, and interpretations from those we privilege here. Specifically, in undertaking a purview that seems particularly pertinent to nursing research, teaching, and care in the alcohol area, we have downplayed some of the significant contributions made by our colleagues in arriving at our conclusions.

Initial Focus on Human Genetics

Genes substantially influence susceptibility to alcoholism (Heath, 1995). A positive family history is one of the most consistent predictors of risk for developing abuse and dependence, and first-degree relatives of alcoholics are two to seven times more likely than the general population to develop alcohol problems in their lifetime (Cotton, 1979; Kendler, Heath, Neale, Kessler, & Eaves, 1992). At the same time, no "gene for alcoholism" is likely ever to be identified: alcoholism is a polygenic disorder. Moreover, the current consensus is that a complex interplay of genetic, psychological, and environmental factors underlies the genesis of alcoholism. For example, we have found that vulnerability to psychological trauma, so often observed in alcoholic families, has a mixed base. As a family history of alcoholism subsumes the influence of shared family environment, our current research attempts to identify the processes by which the transmission occurs. In recent research in particular, our group (Stewart, Conrod, Samoluk, Pihl, & Dongier, 2000) is exploring heightened vulnerability to traumatic life events in an alcoholic environment. Unstable childhood predicts alcoholism, with marital discord and impaired parenting being most often implicated.

Underpinning Mechanisms of Genetic Transmission

Several "reward systems" in the brain, including dopaminergic (Wise & Rompré, 1989), serotonergic, and gamma amino-butyric acid (GABA) systems (Naranjo et al., 1987), as well as the opiate receptors (Volpicelli, Alterman, Hayashida, & O'Brien, 1992), are involved in the phenomenon of craving. The complex interaction between these neurotransmitters underlies the individual craving for alcohol. This vulnerability is not only genetically determined, but also increased by exposure; that is, dependence increases as months and years of excessive consumption increase neurotransmitter dysfunction. Two members of ARP, Robert Pihl (Pihl & Peterson, 1991) and Christina Gianoulakis (2001), have made worthy contributions to the literature on these mechanisms. One of the main findings of Pihl and his co-workers has been that the sons of alcoholics, before any significant exposure to alcohol, show a hyperactivity of the autonomic system when compared to control subjects. This is measured by increased heart rate. More importantly, exposure to a

test dose of alcohol has a significant dampening effect on this hyperactivity and normalizes the heart rate much more than the same dose given to control subjects. These observations provide a mechanism for explaining why sons of alcoholics are more likely than others to turn to alcohol at an early age.

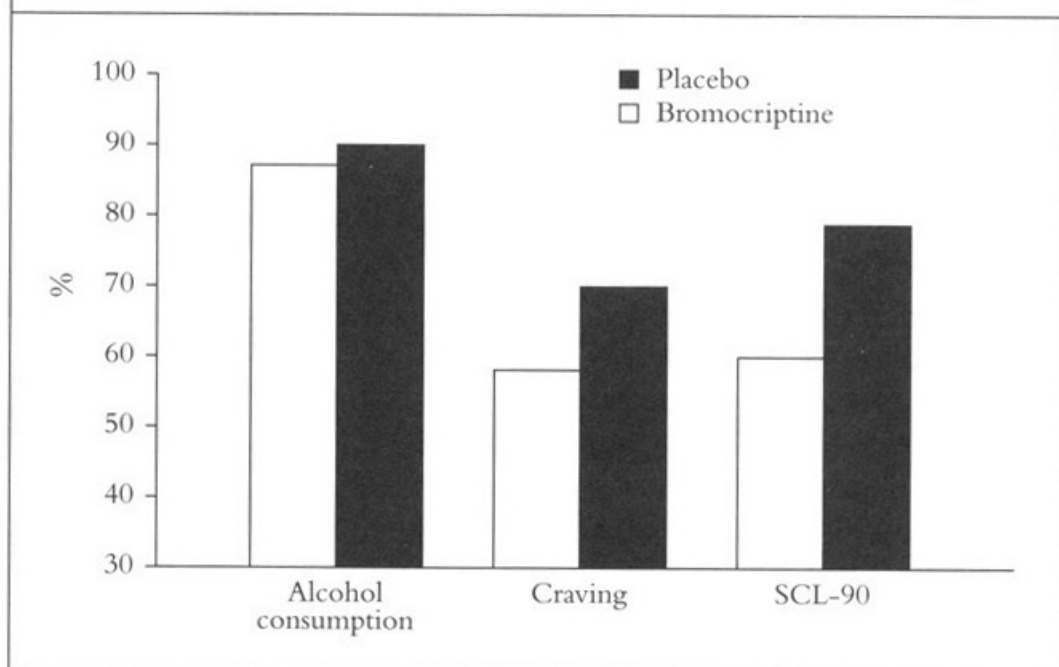
Another marker of predisposition discovered by Gianoulakis in our cohort of high-risk subjects is a lower than average plasma level of endogenous opioids such as beta-endorphins. A test dose of alcohol brings this level back to normal more quickly in these predisposed individuals than in normal controls (Gianoulakis, 2001). These findings provide evidence for a putative endogenous mechanism contributing to alcohol abuse. Predisposed individuals find alcohol a particularly effective self-medication for the behavioural correlates of these biological markers, namely anxiety and psychological distress. It was therefore logical, as other researchers had done before us, for us to turn to psychopharmacological agents in attempting to counteract neurotransmitter dysfunction. Even in the absence of genetic predisposition, such dysfunction is induced by long-term alcohol abuse.

An Alcoholic's (and a Biomedical Researcher's?) Dream: To Decrease Craving for Alcohol Through Medication

We, after others (Borg, 1983), used bromocriptine in double-blind, placebo-controlled studies (Dongier, Vachon, & Schwartz, 1991), with the rationale of activating the post-synaptic dopaminergic receptors that have been desensitized by long-term alcohol consumption. We observed spectacular improvements in craving, alcohol consumption, and associated psychological distress, as depicted in Figure 1. Bromocriptine produced only one significantly better outcome compared to the placebo group, namely that on psychological distress.

In another study, we observed similar results using buspirone, a serotonin partial agonist that modulated alcohol consumption in alcohol-preferring animal models (Malec, Malec, Gagné, & Dongier, 1996). Good outcome was observed with both active medication and placebo in study completers, with a small but significant advantage of the medication for measures of psychopathology. Other anti-craving agents (i.e., so-called antidipsotropics, or agents "directed against thirst") have been investigated. In particular, on the basis of Gianoulakis's (2001) above findings, blockers of opiate receptors such as naltrexone and nalmefene (Volpicelli et al., 1992) were used. The US Food and Drug Administration approved naltrexone for the treatment of alcoholism in 1994, nearly 50 years after disulfiram (Antabuse) had been approved. The bottom line (so far) is that pharmacotherapy for alcoholism produces relatively small

Figure 1 *Improvement on Indices of Alcohol Consumption, Craving Intensity, and Global Psychological Distress Measured Using the Symptoms Checklist-90 (SCL-90)*



effects. As shown in the above experiments, the effects on treatment retention and/or drinking outcomes are significant but modest. The placebo groups in these studies show so much improvement (Kranzler & Van Kirk, 2001; Malec et al.) that large patient samples are necessary to statistically demonstrate the anti-craving effect of active medications, as well as the effects on alcohol-induced psychopathology.

A Closer Look at Our Placebo-Treated Control Groups

The findings summarized above led us, a few years later (it shows how slowly we think), to take a closer look (Wood, Vargas, Schwartz, & Dongier, 2001) at the process of change in the 70 subjects who had received placebos in two of our double-blind controlled studies (Dongier et al., 1991; Malec et al., 1996). Apart from receiving the inactive pill, these severe alcoholics (average consumption: 14 drinks a day) were keeping a diary of alcohol consumption (putatively, an effective behavioural intervention in itself). Psychotherapeutic interventions were purposefully kept to a minimum in order to facilitate the assessment of the pharmacological effect. We observed that the dropout rates for the placebo group and the medication group were comparable — at more than 40% after 8 weeks — a routine observation in alcoholism treatment studies. However, the most illuminating findings, previously overlooked

in our published papers, were the following: (1) the attrition process began *before* commencement of the study; (2) 53% of the subjects did not keep the initial appointment following the telephone screening interview to assess inclusion/exclusion criteria; thus, the data analysis (partial data presented in Figure 1) includes only completers of the study — none of the patients dropping out during treatment (approximately 40%) were considered; and (3) more than half (59%) of the retained sample was abstinent from Day 1; the self-selection process continued up to the end of the study, as relapse into drinking was responsible for the majority of dropouts among those initially abstinent.

We concluded (Wood et al., 2001) that the findings, like those presented in Figure 1 as well as in most of the literature on the psychopharmacology of alcoholism, are considerably biased by the removal from analysis of subjects who self-select out of clinical trials at some point. It is reasonable to assume that the very selected cohort that reaches the end-point of a study is at a higher motivational stage (DiClemente & Hughes, 1990), which gives them the best possible prognosis. In readiness-for-change terms, they are at the action stage, arguably unlike the majority of untreated alcoholics.

To Drink or Not to Drink: “Spontaneous Remissions,” “Natural” History, and the Delicate Balance of Motivation

Many randomized trials in alcoholism, including our studies re-analyzed above, lack a perspective that takes into account the “natural” history of the disorder and the role of “spontaneous” remission. Vaillant’s longitudinal research, based on 35 years of follow-up data summarized in two epoch-making books (1983, 1995), has shed new light on what happens outside of the artificial world of treatment and most research. A majority of alcohol abusers (75–85%) never seek treatment and die prematurely without formal or informal treatment such as AA membership (Sobell, Ellingstad, & Sobell, 2000; Vaillant, 1983). Spontaneous remissions significantly outnumber remissions following treatment, as demonstrated by the results of the US National Longitudinal Alcohol Epidemiology Survey (Dawson, 1996). We also observed in our placebo groups, as well as in their counterparts who benefited from active medication, that a concentration of individuals became abstinent or drastically cut down on their consumption *before entering the clinical trial*.

Many researchers (King & Tucker, 1998; Klingemann, 1991; Sobell et al., 2000) have underlined the role of motivation in the natural history of alcoholism. As observed in our cohort (Wood et al., 2001), early signs of high motivation predict treatment outcome and stability. Abstinence right from the start is a good prognosis sign. A majority of subjects (41 vs. 29)

were already abstinent on Day 1, before commencement of the study, but this abstinence persisted for only about 50% of subjects. In fact, 90% of those who were drinkers at Day 1 eventually were treatment failures. Most remained heavy drinkers and very few reached abstinence. These findings are consistent with the hypothesis that readiness to change plays a major role in reducing alcohol consumption (Miller & Rollnick, 2002) and contributes much to the results attributed to either psychosocial or pharmacological treatment.

The Role of Brief Interventions, in Particular Motivational Interviewing

The search for new antidipsotropic agents goes on. However, the importance of motivation, which, in the absence of other treatment, is associated with outcomes that rival those seen with anti-craving drugs, has led to growing interest in brief interventions. A brief intervention is intended to increase motivation to change alcohol use with minimal clinician involvement (typically from several minutes to about four sessions over a flexible period of time). The most influential brief intervention currently, Motivational Enhancement Therapy (MET), has been developed over the past 20 years by Miller and Rollnick (2002). It is essentially a counselling style for eliciting rapid behaviour change by helping clients to explore and resolve their ambivalence with respect to changing substance use, as well as other health behaviours. Direct persuasion, argumentation, confrontation, and a paternalistic consulting style are avoided. Although inspired by Rogers's reflective and non-directive listening, it has distinctive features that seem to be shared by all effective brief interventions (Bien, Miller, & Tonigan, 1993). Full details can be found at www.motivationalinterview.org

In order to address brief intervention prospectively, while at the same time attempting to render the finding clinically useful, we (Brown, Dongier, Latimer, Kokin, & Ross Brown, 2002) devised a two-pronged research methodology. One arm (Experimental Arm) involved a controlled randomized clinical trial of two different brief interventions (i.e., two versus four sessions of treatment) in a naturalistic, community-recruited sample presenting with multiple substance-abuse disorders. The second arm (Clinical Arm) involved patients randomized into either a four-session MET or a four-session non-specific support group prior to their participation in 3-week outpatient treatment programs. All brief interventions were provided in a group format. Our findings revealed few differences between different brief interventions within both arms. Intriguingly, comparisons between the two arms also failed to discern significant differences in improvements in most measures of substance-

abuse severity at 6-month post-treatment follow-up. This means that outcomes for participants treated briefly (i.e., only 2–4 sessions) in our laboratory and those exposed to intensive treatment, *in addition to* our manipulation of brief pre-treatment programs, were quite similar. These findings are based on correlational data and cannot be attributed solely to exposure to either condition. Yet the data are consistent with the idea that brief intervention is a reasonable alternative to far more costly and intrusive intensive treatment.

Frontline health-care settings represent an important early-stage entry point into the health-care system for substance-abusing individuals.

A significant role for primary-care nurses and physicians in providing brief substance-abuse interventions in these settings seems logical. However, this might pose a challenge for many physicians, primary-care as well as specialist. Opportunistic brief intervention at the frontline requires systematic screening. Moreover, brief intervention requires physicians to go beyond reliance on entrenched but questionable approaches to substance abuse in many frontline settings (e.g., avoidance, prescription of AA attendance). However, up to 90% of primary-care physicians fail to recognize substance abuse in their outpatients (Danielsson, Rivera, Gentilello, & Maier, 1999; McPherson & Hersch, 2000). Even when broad physician-based brief screening and intervention programs have been implemented as part of a research investigation, they have largely failed to persist beyond study termination (Drummond, 1997; Heather, 1996).

Such findings underscore the complexities involved in translating research into practice. In our experience, it may be easier for nursing staff to “retrofit” their existing clinical interviewing skills to be consistent with those embodied in the brief motivational counselling style, which entails the presentation of information and objective, personalized feedback about substance use in a neutral yet empathic manner. However, in order to avoid earlier failures in bridging the gap between research and practice, research is needed to explore the program adaptations and conditions necessary to ensure optimal uptake of this knowledge by nursing professionals in frontline settings.

Conclusion

Over the past decade, research has succeeded in clarifying some of the mechanisms that underlie the risk for developing and reinforcing substance abuse. Incidental to these findings, powerful natural recovery processes have been observed, supporting the use of opportunistic, brief interventions in settings where substance abuse is often encountered, such as the frontline. The nursing professional seems exquisitely posi-

tioned to engage in effective yet brief intervention for substance-abuse disorders encountered in such settings. However, more research is needed to better adapt brief-intervention technologies to the realities confronted by nurses in the clinical setting.

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Résumé

La consommation de drogues illicites chez les étudiants canadiens du premier cycle

Edward M. Adlaf, Louis Gliksman,
Andrée Demers et Brenda Newton-Taylor

Cette recherche vise à identifier les taux et les pratiques de consommation de drogues illicites chez les étudiants canadiens du premier cycle, à les comparer à ceux de la population non universitaire et à décrire les tendances concernant la consommation de drogues chez les étudiants du premier cycle dans la province d'Ontario, entre 1988 et 1998. Une enquête postale a été menée à l'échelle nationale, selon une méthode à échantillonnage stratifié exécutée en deux étapes. L'échantillonnage comprenait 7800 étudiants canadiens du premier cycle, de 16 universités (52 % de répondants admissibles). Environ 47,5 % ont dit avoir consommé une drogue illicite au cours de leur vie, 29,6 % l'ayant consommée au cours des 12 derniers mois et 18,7 % depuis le début de l'année scolaire. Le cannabis était de loin la drogue la plus consommée (47,0 %, 28,7 % et 18,2 %, respectivement). Un grand nombre d'associations liées à l'appartenance sexuelle et au facteur géographique se sont avérées les mêmes que celles relevées dans les enquêtes ciblant la population générale. Les comparaisons à des pairs non universitaires n'ont pas révélé des taux particulièrement élevés chez les étudiants universitaires. Parmi les étudiants ontariens du premier cycle, les taux de consommation de cannabis, d'hallucinogènes, de méthamphétamines, de crack et d'héroïne sont demeurés stables entre 1988 et 1998. La consommation de la cocaïne a diminué, passant de 4,8 % à 1,7 %. Les taux de consommation de drogues illicites n'étaient pas beaucoup plus élevés que ceux relevés chez la population non universitaire. D'autres questions de santé publique, tels que la consommation abusive d'alcool et les problèmes de santé mentale, sont plus pressantes que celles liées à la consommation de drogues illicites.

Mots clés : consommation de drogues illicites, étudiants du premier cycle, Canada, enquête

Illicit Drug Use Among Canadian University Undergraduates

**Edward M. Adlaf, Louis Gliksman, Andrée Demers,
and Brenda Newton-Taylor**

The purpose of this study was to examine rates and patterns of illicit drug use among Canadian university undergraduates, to compare these rates with those for non-university samples, and to describe drug-use trends among university undergraduates in the province of Ontario between 1988 and 1998. A national mail survey was carried out based on a stratified 2-stage sample design. The sample comprised 7,800 Canadian undergraduates from 16 universities (52% of eligible respondents). Approximately 47.5% reported use of an illicit drug during their life, 29.6% in the previous 12 months, and 18.7% since the beginning of the academic year. Cannabis was by far the most widely used drug (47.0%, 28.7%, and 18.2%, respectively). Many of the gender and regional associations were similar to those found in general-population surveys. Comparisons to non-university peers did not indicate elevated rates among university students. Among Ontario university undergraduates the use of cannabis, hallucinogens, methamphetamines, crack, and heroin remained stable between 1988 and 1998. The use of cocaine declined from 4.8% to 1.7%. Rates of illicit drug use were not appreciably higher than those among their non-university peers. Other public-health issues, such as heavy drinking and poor mental health, override those related to illicit drug use.

Keywords: illicit drug use, undergraduates, university students, Canada, survey

The university campus is a physical and social environment conducive to elevated health-risk behaviours, including heavy drinking (Gliksman, Newton-Taylor, Adlaf, & Giesbrecht, 1997; Wechsler, Dowdall, Maenner, Gledhill-Hoyt, & Lee, 1998) and cigarette smoking (Gfroerer, Greenblatt, & Wright, 1997). There is reason to speculate that rates of illicit drug use would also be elevated, given the new-found freedom of campus life coupled with the finding that young adults report the highest rates of illicit drug use (Poulin, 1997; Substance Abuse and Mental Health Services Administration, 1999).

The prevalence and pattern of health behaviours such as illicit drug use have important implications for the nursing profession. First, decreasing the rate of illicit drug use, especially among young adults, has been identified as a key health objective of the Healthy People 2010 target (US Department of Public Health and Human Services, 2000). This target is that no more than 3% of adults aged 18 and older will have used

an illicit drug within a 1-month period. In Canada, the most recent available estimates are for Ontario adults, about 6% of whom report monthly use of marijuana (Adlaf & Ialomiteanu, 2001). Second, for those working with young adults, the co-occurrence of illicit drug use and other conditions such as mental illness can complicate diagnosis, intervention, and treatment. Finally, illicit drug use and other health-related behaviours have become more dominant in nursing education (Floyd, 1991; Hayes, 2002; Ott & Haertlein, 2002) and in the field of student services (Thorne, 1996).

There are three key epidemiological issues regarding illicit drug use among university students: prevalence, rates compared to those among their non-university peers, and trends. The first prerequisite in evaluating illicit drug use among university students is to establish prevalence, preferably based on large, multi-campus, representative samples. As mentioned, prevalence estimation is especially relevant in this population because young adults tend to have the highest rates of illicit drug use (Substance Abuse and Mental Health Services Administration, 1999). The longest study of drug use among university students is derived from follow-up samples of the US Monitoring the Future (MTF) study — specifically, high-school graduates 1 to 4 years past high school who are enrolled full-time in a 2-year or 4-year program (Johnston, O'Malley, & Bachman, 2002). In addition, national campus-based surveys conducted by researchers at Harvard University (Campus Alcohol Survey – CAS) have recently been established. These American national surveys (Gledhill-Hoyt, Lee, Strote, & Wechsler, 2000; Wechsler et al., 1998) have found that over one third of college undergraduates used an illicit drug during the previous year (37.9% MTF2001); about one third used cannabis (35.6% MTF2001; 27.4% CAS99) and about one in eight used an illicit drug other than marijuana (16.4% MTF2001; 12.5% CAS99). Generally, use of drugs other than marijuana or hallucinogens does not exceed 5%. Although cross-national comparisons are limited, these American rates appear to be higher than those for university undergraduates in other countries such as Austria (lifetime use estimated at 41% for any drug and 37% for marijuana; Mangweth, Pope, Ionescu-Pioggia, Kinzl, & Biebl, 1997) and Spain (previous-year use estimated at 16.7% for any drug and 13.3% for cannabis; Martinez, Carmen Del Rio, Lopez, & Alvarez, 1999). Although a handful of single- or multi-campus studies have been conducted in Canada (Caleekal-John & Goodstadt, 1983; Gliksman et al., 1997; Mathieson, Faris, Stam, & Egger, 1992; Spence & Gauvin, 1996), there has never been a national probability survey of Canadian university students to assess the extent of illicit drug use.

Although behaviours such as drug use are multi-causal, a few key factors have been identified. First, general demographic factors such as

sex, age, and region remain significant predictors of drug use among post-secondary undergraduates, just as they do in the general population (Bell, Wechsler, & Johnston, 1997; Gledhill-Hoyt et al., 2000; Johnston, O'Malley, & Bachman, 1999). However, one of the most robust factors is living arrangement. Generally, students living at home with family report the lowest rates of use and those living in fraternities or sororities the highest (Bell et al.; Gfroerer et al., 1997; Gledhill-Hoyt et al.; Gliksman, Newton-Taylor, Adlaf, DeWit, & Giesbrecht, 1994).

The second key issue centres on population differences. This matter is particularly important for prevention and intervention programming both on campuses and in high schools. For example, historically drug-use diffusion has changed with time in the United States. In the 1960s illicit drug use was generally first adopted among university youths and diffused to younger populations. However, in the resurgence of drug use in the 1990s it appears that many drugs have been first adopted by high-school students and diffused upward to university students (O'Malley & Johnston, 2002). Although internationally the evidence is scanty, American data have been quite consistent in showing rates of illicit drug use to be generally lower among university students than their non-university peers. For example, the 1998 MTF follow-up showed that use of about six of 15 drugs (any illicit drug excluding marijuana, LSD, cocaine, amphetamines, barbiturates, and tranquillizers) during the previous year was notably lower among university respondents than similarly aged non-university respondents (Johnston, O'Malley, & Bachman, 2000b). A recent synthesis of these data shows that the largest differences between university and non-university respondents are in cocaine use (O'Malley & Johnston). These simple comparisons, however, have been tempered by findings indicating substantial variation in drug use among subgroups of both university and non-university respondents. For example, pooled data for the years 1991 to 1993 from the US National Household Survey on Drug Abuse (Gfroerer et al., 1997) show that although previous-month marijuana use was 12.4% among university students versus 13.8% among non-university students, use among university students varied from 8.4% (those living with parents) to 16.3% (those not living with parents) and use among non-students varied from 12.4% (high-school graduates living with parents) to 18.6% (high-school dropouts living with parents). Logistic regression analyses based on educational status and living arrangement did not reveal a significant difference between university students and non-university high-school graduates in previous-month marijuana use (OR = .88; 12.4% vs. 12.4%); however, this comparison was significant for previous-month cocaine use (OR = .43; 1.0% vs. 2.2%). Thus, although variation in drug use exists in both university and

non-university populations, the data typically show higher rates of use among non-university respondents.

The third key epidemiological issue is trends in drug use. Results from the MTF sample show large declines in illicit drug use during the 1980s. For example, the prevalence of previous-year use of any illicit drug dropped from 56% in 1980 to 29% in 1991. This downward trend was also noted in several other American college samples (Meilman, Gaylor, Turco, & Stone, 1990). Since 1991, illicit drug use has increased, rising to 38% in 2001. The upward trend was recently documented in a national campus survey (Gledhill-Hoyt et al., 2000). However, this trend in drug use is part of a widespread secular change among high-school students (Adlaf, Paglia, Ivis, & Ialomiteanu, 2000; Johnston, O'Malley, & Bachman, 2000a) and others not attending college (Johnston et al., 1999).

While trends in illicit drug use among university students seem consistent and well-documented for the United States (Gledhill-Hoyt et al., 2000; Johnston et al., 1999), this is not the case internationally. Indeed, few international studies are available across time, and those that are available are often restricted to single-campus or regional samples. For example, survey results from a single university in Spain found a similar downward trend in past-year illicit drug use between 1984 (22%) and 1990 (15.6%) but no significant resurgence in the mid-1990s (16.7% in 1994) (Martinez et al., 1999). Campus surveys in the United Kingdom have suggested increases in cannabis use among university students, but national trends are available mostly for universities with medical faculties (Webb, Ashton, Kelly, & Kamali, 1996, 1997). In sum, international trend data on drug use among university students remain underdeveloped.

The purpose of this paper is three-fold. First, we describe the prevalence of illicit drug use among Canadian university undergraduates surveyed in 1998 and evaluate several risk factors; second, we assess secular trends in drug use among samples of Ontario undergraduates surveyed in 1988, 1993, and 1998; and third, we briefly compare rates of drug use between our university sample and samples derived from other youthful populations.

Methods

CCS Sample

The 1998 Canadian Campus Survey (CCS) employed a stratified two-stage cluster selection of students enrolled in full-time undergraduate studies at accredited universities during the 1998/99 academic year. (In Canada the post-secondary school system consists of colleges — diploma-granting institutions typically for applied-skill training — and

universities — publicly funded degree-granting institutions.) In 1998, the Canadian university system was represented by almost 50 universities with almost 450,000 full-time undergraduates. The sampling frame consisted of 49 universities (defined as administrative sites — i.e., affiliates of large universities in different geographical locations were treated as separate sampling units). The sample was stratified into five regions: British Columbia; Prairies (Manitoba, Saskatchewan, and Alberta); Ontario; Québec; and Atlantic Provinces (Newfoundland, Prince Edward Island, Nova Scotia, and New Brunswick). Four universities per region were selected with probability proportional to size. Presidents of selected universities were solicited for their approval to survey students and to provide the necessary postal information. Sixteen of the 23 universities approached agreed to participate. Within each university, 1,000 students were randomly selected with equal probability regardless of year or field of study.

A total of 16,000 questionnaires were mailed, of which 15,188 were deemed eligible mailings (non-eligibles included incomplete and foreign addresses). Four mailings (a questionnaire, a reminder card, a second questionnaire, and a second reminder card) were made during a 5-week period beginning on October 20, 1998. Returned questionnaires were accepted until December 15, 1998. To enhance the response rate, lottery incentives were offered. A total of 7,800 eligible and useable completions were returned, for a 51% completion rate. The 7,800 students in the sample represented about 442,000 Canadian undergraduates.

One means of evaluating the potential bias caused by non-response is to compare the responses of those who respond early with the responses of those who respond late (Henry, 1990). Although such call-back analysis does not fully resolve the non-response problem, given that it assumes that non-responders resemble late responders, it can still provide useful information (Lohr, 1999). This comparison revealed few differences between early and late responders. Although some alcohol measures differed by response time, none of the factors used in this analysis (i.e., gender, year of study, residence, region, and illicit drug use) differed significantly by response time. As well, available comparisons between the CCS sample and a subsample of 1,000 post-secondary respondents derived from Canada's national health survey (i.e., 1996 National Population Health Survey) revealed no significant differences for sex, age, cigarette use, and frequency of alcohol use (comparisons of illicit drug use are not available). Earlier research based on this population also found no significant differences between responders and non-responders on demographic and drug-use measures (Gliksman, Smythe, & Engs, 1992).

The demographic data and weighted percentages are as follows: *sex* — men, 2,884 (45.6%); women, 4,916 (54.4%); *region* — BC, 1,795 (9.8%); Prairies, 1,467 (18.4%); Ontario, 1,277 (40.5%); Quebec, 2,306 (22.5%); Atlantic, 955 (8.8%); *year of study* — first, 1,903 (25.9%); second, 1,910 (25.3%); third, 2,044 (25.4%); fourth, 1,943 (23.4%); *living arrangement* — university residence, 1,254 (15.3%); off-campus with parents, 3,433 (48.0%); off-campus not with family, 3,072 (36.7%).

Ontario Samples, 1988, 1993

To assess trends, we also used surveys of Ontario university undergraduates conducted in 1993 and 1988 (Gliksman, Engs, & Smythe, 1989; Gliksman et al., 1994). The 1993 survey employed stratified two-stage probability sampling to select 14,000 full-time students from seven Ontario universities. In the first stage of selection, four universities were selected with probability proportional to size, while three self-representing universities (chosen because of their involvement in an independent community-based study) represented the second strata. In the second stage of selection, 2,000 students were randomly selected with equal probability within each of the selected universities. Within each university the 2,000 students were equally allocated among the four academic years ($n = 500$). One of the four universities representing the first strata chose not to participate at a late stage in the fieldwork and could not be replaced; consequently, only 12,000 students from six universities were mailed questionnaires. In January 1993 the students were mailed a package that included an introductory letter, a questionnaire with a pre-stamped return envelope, coupons for pizza discounts, and a coded, pre-stamped return card. Overall, 5,954 questionnaires were returned, representing a completion rate of 52.9% (280 questionnaires were undeliverable).

The 1988 study surveyed 4,911 students from four Ontario universities; in this study, however, universities were purposively chosen to represent both urban and rural locations and four geographic regions in the province. Although universities were not randomly selected, 4,000 students were randomly selected from enrolment information within each university (1,000 per year of study). In September 1988 students were mailed a package consisting of an introductory letter, a questionnaire, and a self-addressed envelope. Two weeks later, reminders were sent to students with mailboxes and advertisements were placed in university newspapers reminding students to return questionnaires. Of the 13,014 eligible questionnaires (186 of the 13,200 were undeliverable), a total of 4,911 (38%) useable surveys were returned. Regarding the Ontario university population, it is important to note that enrolment in Ontario universities represents approximately 40% to 45% of the national enrolment.

Measures

The 16-page CCS questionnaire contained a total of 320 scan-coded items and assessed a range of issues including alcohol use and abuse, illicit drug use, and other health behaviours. Substance use was measured using the question "When was the last time, if ever, that you tried the following drugs?" The possible responses were "(1) never in life, (2) in life, but not in past 12 months, (3) in past 12 months but not since September, (4) since September." The list of drugs included cannabis, heroin, methamphetamines, powder cocaine, crack cocaine, LSD, hallucinogens, anabolic steroids, and MDMA (ecstasy). For prevalence of drug use, we present the percentage reporting use at least once during lifetime, during the 12 months preceding the survey, and during the period commencing in September. Other illicit drug use refers to the use of at least one of seven drugs (heroin, methamphetamines, cocaine, crack, LSD, hallucinogens, and MDMA). Drug-use estimates derived from the 1988 and 1993 Ontario samples were restricted to previous-12-months prevalence.

For descriptive purposes, we restrict attention to four subgroup factors previously identified as important predictors of drug use (Gfroerer et al., 1997; Gledhill-Hoyt et al., 2000; Wechsler et al., 1998): sex (male, female); year of study (first through fourth); living arrangement (university housing; off-campus with family, off-campus not with family); and region (British Columbia, Prairies, Ontario, Quebec, Atlantic).

Our analysis employs Taylor linearization methods available in *Stata* (StataCorp, 1999) in order to ensure proper variance estimation for weighted complex sampling (Korn & Graubard, 1999). Any percentage less than 0.6% for the total sample (based on a coefficient of variation exceeding 15.0) was suppressed due to unreliability. Subgroup analyses were conducted by gender, year of study, living arrangement, and region. Adjusted odds ratios (OR) were based on logistic regression models and the significance of group effects was determined by adjusted Wald statistics (Korn & Graubard).

We also make selected comparisons of our CCS data with three samples. The first is a 1998 sample of 1,440 American full-time college students drawn from the national MTF study (Johnston et al., 1999). The second is based on data from senior high-school students (Grade 13) derived from the 1997 and 1999 Ontario Student Drug Use Survey (Adlaf et al., 2000). The third is a 1998 general-population survey of Ontario adults aged 18 to 29 derived from the Ontario Drug Monitor (Adlaf, Paglia, & Ialomiteanu, 1999). These samples were chosen because they were fielded in 1998 and contain items of similar measurement.

Table 1 *Percentage Reporting Use of Illicit Drug — CCS, 1998*
(n=7,800)

Drug	Lifetime		Past 12 Months		Since September	
	%	95% CI	%	95% CI	%	95% CI
Any drug	47.5	(42.6–52.5)	29.6	(26.5–32.8)	18.7	(16.5–21.1)
Cannabis	47.0	(42.1–51.9)	28.7	(25.6–31.8)	18.2	(15.7–20.6)
Other illicit drugs						
Heroin	0.7	(0.2–1.1)	*		*	
Methamphetamines	5.8	(4.7–6.9)	1.8	(1.4–2.1)	0.8	(0.4–0.9)
Powder cocaine	5.1	(3.9–6.4)	1.6	(1.3–2.0)	0.6	(0.3–0.9)
Crack cocaine	0.9	(0.7–1.2)	*		*	
LSD	12.4	(9.9–14.9)	1.8	(1.2–2.5)	0.5†	(0.3–0.8)
Hallucinogens	19.6	(16.4–22.7)	8.2	(6.8–9.7)	3.0	(2.2–3.8)
Ecstasy (MDMA)	4.2	(3.1–5.3)	2.4	(1.4–3.3)	1.2	(0.7–1.8)

* Data suppressed due to unreliability; † caution: percentage is unstable.

Results

As shown in Table 1, 47.5% of students reported use of an illicit drug at least once in their life, 29.6% during the previous 12 months, and 18.7% since the beginning of the academic year. Cannabis is by far the most widely used (47.0% during lifetime, 28.7% during past year, and 18.2% since September). The next most prevalent substance is hallucinogens, with LSD being used by 12.4% during lifetime, 1.8% during past year, and less than 1% since September, and other hallucinogens such as mescaline and psilocybin being used by 19.6% during lifetime, 8.2% during past year, and 3.0% since September. With the exception of cannabis, rates of illicit drug use during the since-September period do not exceed 3%. The percentage reporting any injection-drug use during their lifetime was 2.3% (95% CI, 1.8–2.9%) (data not tabled). Subgroup estimates were too small for further analysis.

Table 2 shows rates of past-year and since-September cannabis use by sex, year of study, living arrangement, and region. As noted, only living arrangement and region have significant effects. Holding other factors constant, those not living with parents are about one and one half times more likely than those living with parents to have used cannabis. Also notable is the fact that these differences increase in magnitude for the

since-September period. Regionally, the effect-coded contrasts show that, compared to the national average, the prevalence of past-year and since-September cannabis use is highest in Quebec (OR = 1.31 and 1.43, respectively) and lowest in the Prairie provinces (OR = 0.82 and 0.70, respectively). The remaining regions do not differ significantly from the average. Gender and year of study are not significantly related to either outcome.

Table 2 *Percentage Reporting Cannabis Use in Past Year and Since September, by Gender, Year of Study, Living Arrangement, and Region — CCS, 1998*

	Past 12 Months			Since September		
	%	95% CI	Adjusted OR	%	95% CI	Adjusted OR
Total	28.7	(25.6–31.8)		18.2	(15.7–20.6)	
Gender	ns			ns		
Men	29.6	(27.4–32.0)	1.09	19.8	(18.0–21.8)	1.23
Women	28.0	(24.1–32.3)	—	16.8	(13.7–20.5)	—
Year of Study	ns			ns		
First	29.3	(26.6–32.1)	—	18.8	(16.7–21.1)	—
Second	31.5	(26.8–36.7)	1.11	19.3	(16.7–22.2)	1.04
Third	28.2	(26.0–30.5)	0.95	18.2	(16.4–20.1)	0.97
Fourth	25.7	(20.8–31.3)	0.87	16.3	(11.7–22.3)	0.9
Living Arrangement	***			***		
University housing	35.8	(31.2–40.7)	1.59***	24.3	(21.1–27.9)	1.75***
Off-campus with family	24.7	(21.7–28.0)	—	14.5	(12.3–17.0)	—
Off-campus not with family	31.2	(28.5–34.0)	1.38**	20.7	(18.0–23.4)	1.52**
Region	*			*		
British Columbia	30.3	(21.2–40.8)	1.11	18.8	(11.6–29.0)	1.09
Prairies	24.1	(21.3–27.2)	0.82*	12.8	(9.8–16.6)	0.70*
Ontario	27.2	(21.0–34.4)	0.93	17.1	(12.8–22.9)	.90
Quebec	35.6	(31.0–40.5)	1.31**	24.7	(21.5–28.3)	1.43**
Atlantic	26.5	(26.5–26.5)	0.9	17.3	(16.2–18.3)	0.97

Notes: * $p < .05$; ** $p < .01$; *** $p < .001$, ns = not significant; group effects are based on adjusted Wald statistics; reference groups are women, first year, off-campus with family; effect-coded reference group for region is Ontario.

Table 3 *Percentage Reporting Illicit Drug Use¹ in Past Year and Since September, by Gender, Year of Study, Living Arrangement, and Region — CCS, 1998*

	Past 12 Months			Since September		
	%	95% CI	Adjusted OR	%	95% CI	Adjusted OR
Total	10.2	(8.5–11.7)		4.2	(3.2–5.1)	
Gender	*			*		
Men	11.7	(10.1–13.7)	1.35*	5.2	(4.5–6.0)	1.59
Women	8.9	(7.2–11.0)	—	3.3	(2.5–5.0)	—
Year of Study	ns			ns		
First	12.1	(9.3–15.7)	—	4.5	(2.8–7.2)	—
Second	9.6	(8.1–11.4)	0.74**	4.7	(3.1–6.8)	0.96
Third	10.1	(7.9–13.0)	0.76	4.0	(2.9–5.6)	0.81
Fourth	8.9	(6.4–12.0)	0.63**	3.4	(2.7–4.3)	0.64
Living Arrangement	***			**		
University housing	13.9	(11.2–17.2)	2.00***	6.1	(3.8–9.8)	2.38**
Off-campus with family	7.4	(6.3–8.6)	—	2.6	(2.1–3.3)	—
Off-campus not with family	12.5	(10.4–14.9)	1.95***	5.4	(3.8–7.7)	2.34**
Region	*			**		
British Columbia	14.3	(9.8–20.5)	1.69**	6.7	(4.4–10.1)	1.92***
Prairies	8.9	(6.9–11.4)	0.95	2.8†	(2.0–3.9)	0.75
Ontario	11.2	(8.3–14.9)	1.17	5.0	(3.3–7.4)	1.0
Quebec	9.4	(8.4–10.4)	0.88	3.3	(3.0–3.7)	0.76
Atlantic	5.9	(5.8–6.0)	0.60***	2.7†	(1.7–4.1)	0.07

¹ Excludes cannabis use; † caution: percentage is unstable; * $p < .05$; ** $p < .01$; *** $p < .001$; ns = not significant; group effects are based on adjusted Wald statistics; reference groups are women, first year, off-campus with family; effect-coded reference group for region is Ontario.

As seen in this table, living arrangement and region are also significantly associated with both past-year and since-September use of illicit drugs other than cannabis. As we found with cannabis use, those not living with parents are about twice as likely to use other illicit drugs than those living with parents. Again, this effect is more noticeable for the since-September period. Regionally, past-year and since-September use of illicit drugs is highest in British Columbia (OR = 1.69, 1.92) and past-year use is below average in the Atlantic provinces (OR = 0.60).

Table 4 Sample Comparisons

	US MTF (College) 1998	US CAS (College) 1999	Ontario High School 1997/99	Ontario Adults 1998
Population	High-school follow-up respondents, 1 to 4 years past high school and registered Oas full-time students in 2- or 4-year college	Full-time undergraduates in a 4-year college (n = 128 colleges)	13th-graders (OAC) derived from province-wide Ontario Student Drug Use Survey	18-29-year-old non-students derived from CAMH Monitor
Age (years)	19-22	23% freshmen; 22% sophomores; 25% juniors; 30% seniors	18.3 (1997); 18.1 (1999)	24.3
Sex (% male)	41	39	46	54
Interview mode	Self-administered mail	Self-administered mail	Self-administered in classroom	Computer-assisted telephone interview
Measures				
Question Stem	"On how many occasions (if any) have you used... in the last 12 months?"	"How often, if ever, have you used any of the drugs listed below?"	"In the past 12 months, how often did you use...?"	"How many times, if any, have you used...during the past 12 months?"
Cannabis	"... marijuana (weed, pot) or hashish (hash, hash oil)"	"Marijuana (or hashish)"	"...cannabis (also known as marijuana, grass, pot, hashish, hash, hash oil)"	"...marijuana or hash"
Crack	"... 'crack' (cocaine in chunk or rock form)"	"Crack cocaine"	"...cocaine in the form of crack"	Not available
Cocaine	"...cocaine in any other form"	"Other forms of cocaine"	"...cocaine (also known as coke, snow, snort, blow)"	"...cocaine"
LSD	"...LSD ('acid')"	"LSD"	"...LSD or 'acid'"	Not available
MDMA		"Ecstasy (MDMA)"	"...MDMA or 'Ecstasy'"	Not available

Table 5 Percentage Reporting Past-Year Drug Use — CCS Versus Other Populations

Drug	CCS98	US MTF (College) 1998 (n = 1,440)	US CAS (College) 1999 (n = 13,986)	Ontario 13th-Graders 1997 (n = 917)	Ontario 13th-Graders 1999 (n = 447)	Ontario 18-29- year-olds 1998 (n = 332)
Cannabis	28.7 (25.6-31.8)	35.9	27.4	31.9 (29.7-34.1)	43.3 (29.6-58.1)	25.6 (20.4-31.7)
Cocaine	1.6 (1.3-2.0)	4.6	3.6	2.1 (0.6-3.6)	6.4 (1.8-19.9)	2.7 (1.3-5.8)
Crack	†	1.0	0.9	0.8 (0.1-1.3)	1.1 (0.3-4.1)	na
LSD	1.8 (1.2-2.5)	4.4	3.7	7.1 (3.3-10.9)	6.9 (2.0-21.2)	na
MDMA	2.4 (1.4-3.3)	3.9	4.7	3.9	7.8	na

† Data suppressed due to unreliability; entries in parentheses are 95% CIs; n's might vary due to missing values.

To provide some context for the CSS data, in Tables 4 and 5 we present drug-use comparisons for other populations. In Table 5, the first two columns are based on the US MTF (Johnston et al., 1999) and CAS (Gledhill-Hoyt et al., 2000) samples. The next two are based on surveys of Ontario 13th-graders in 1997 and 1999 (Adlaf, Paglia, & Ivis, 1999). The final column presents estimates based on a general-population sample of Ontario non-students aged 18 to 29 derived from the Ontario Drug Monitor (Adlaf, Paglia, & Ialomiteanu, 1999). Without knowledge of the specific variance and related confidence intervals for all samples, we cannot directly compute statistical tests. Instead, to evaluate sample differences we assess whether estimates of the comparison samples are bounded by the CCS confidence intervals. Table 5 suggests that rates of drug use in the CCS sample rarely exceed rates for other populations. First, rates for past-year use of cocaine, LSD, and MDMA are lower than those among US college students (1.6% vs. 4.6% MTF and 3.6% CAS; 1.8% vs. 4.4% MTF and 3.7% CAS, and 2.4% vs. 3.9% MTF and 4.7% CAS, respectively). The use of other drugs is similar across samples. Second, drug use in the CCS sample is generally lower than that among 13th-graders. Finally, the prevalence of cannabis and cocaine use in the CCS sample is comparable to that among Ontarians aged 18 to 29.

Table 6 *Trends in Past-Year Illicit Drug Use Among Ontario Undergraduates, 1988, 1993, 1998*

Drug	1988 (n = 4,911)	1993 (n = 5,954)	1998 (n = 1,277)
Cannabis	31.9	27.0 21.7–33.0	27.2 16.2–41.9
Hallucinogens (excluding LSD)	7.7	7.6 4.5–12.8	9.2 4.9–16.8
Cocaine	4.8	2.6 2.3–3.0	1.7 0.8–3.7
LSD	3.2	7.0 4.1–11.8	1.7 0.2–10.5
Crack	†	1.3 1.2–1.5	†
Heroin	†	1.2 1.0–1.4	†
Methamphetamines	1.6	2.0 1.5–2.6	2.1 1.4–3.4

CI's available only for 1993 and 1998; † estimate unstable.

Table 6 presents trends in drug use among Ontario university undergraduates between 1988 and 1998. Three general patterns emerge from these data. First, the use of cannabis, hallucinogens, methamphetamines, and — because of their low prevalence — crack and heroin remained stable. Second, the use of cocaine declined from 4.8% in 1988 to 1.7% in 1998, a finding that corresponds to trends in other populations. LSD, on the other hand, fluctuated (from 3.2% to 7.0% to 1.7%).

Discussion

Our findings should be tempered by the limitations of our study. First, although we did employ methods shown to enhance validity of self-reports such as self-administration (Harrison & Hughes, 1997), we nonetheless consider our estimates to be understated. Second, estimates could be biased due to non-response. Still, as noted earlier, a cursory evaluation of potential non-response bias did not identify any obvious problems. Finally, we intentionally restricted our analysis to key demographic and campus factors and thus ignored other potential factors. These data, however, still provide important findings related to campus public health.

Perhaps one of the most robust findings relates to living arrangement. For all substance-use indicators, those living with family were significantly less likely to report use of any drug. This finding is perhaps one of the most robust in the literature (Bell et al., 1997; Gfroerer et al., 1997; Wechsler et al., 1998). Nonetheless, its interpretation remains ambiguous since we cannot separate selection from causal processes (i.e., whether those seeking normative freedom are drawn to campus residence or whether the campus ecology leads to increased drug-taking). Still, an important implication of this finding is that the influence of living arrangement is similar for illicit and licit drugs. Thus, prevention programs for heavy alcohol use directed towards those living away from family may influence other health behaviours as well.

Our findings regarding region and gender are likely reflections of differences in the general population. The most recent Canadian national substance-use survey, conducted in 1994 (Poulin, 1997), also found higher rates of illicit drug use in British Columbia and lower rates in the Atlantic provinces. Unique to our data is the finding of lower rates of cannabis use in the Prairies and higher rates in Quebec. Evaluation of this regional variation will require more recent estimates. The finding that men are more likely than women to use illicit drugs on campuses is also typical for general-population surveys. For example, the 1994 Canada Alcohol and Other Drug Survey found that men were more likely than women to report past-year use of any illicit drug (10.1% vs. 5.1%), cannabis (10.0% vs. 4.9%), and LSD (1.3% vs. 0.6%) (Poulin). Given that

the gender-related odds ratios were not particularly large in our study, one future research focus would be to evaluate whether gender differences are smaller in university undergraduate populations than in non-university populations.

Although comparison of our CCS estimates to those for other populations is crude, our substantive findings are comparable to the findings of other research. Our findings show that drug use among Canadian university undergraduates is no higher than that among comparably aged respondents in the general population, while other studies have found drug use to be lower among university than non-university respondents (Gfroerer et al., 1997; Johnston et al., 1999, 2002; O'Malley & Johnston, 2002). Although cannabis use is comparable for Canadian and American undergraduates, cocaine use is lower for Canadians, a finding similar to the findings of comparative studies with younger students (Ivis & Adlaf, 1999). Finally, rates of drug use among Canadian university students are generally lower than those among the most senior high-school students, a finding also evident in the US MTF study (Johnston et al., 1999).

Regarding trends, with the exception of cocaine, which showed a decline in use, drug use among Ontario university students displays nominal change compared to that among US university students and Ontario high-school students. For example, both the MTF and CAS samples show an increase in past-year cannabis use between 1993 and 1997/98 (from 27.9% to 35.9% and from 24.0% to 28.0%, respectively) (Gledhill-Hoyt et al., 2000; Johnston et al., 1999). However, the rate remained stable among Ontario university students (27.0% vs. 27.2%). This stability is also interesting given the increase in cannabis use among Ontario 13th-graders, from 21.6% in 1993 to 31.9% in 1997 (Adlaf, Paglia, & Ivis, 1999). This group of students represents a significant proportion of the undergraduate population in Ontario in 1998. One important issue that could not be addressed in our study is the increase in MDMA use, which is more striking in university than in high-school populations (Strote, Lee, & Wechsler, 2002).

Given our findings, then, what are some of the wider implications of illicit drug use on Canadian campuses for public health and for the nursing profession? In our view, the data suggest that other public-health issues override those related to illicit drug use. Indeed, we found that illicit drug use on campuses was typically lower, or did not exceed, the rates for non-university populations. Moreover, unlike the case for tobacco and alcohol, it is well established that most drug users report infrequent use during the prevalence period. Indeed, heavy drinking episodes (i.e., five or more drinks on a single occasion) are far more prevalent among university undergraduates and typically exceed rates found in non-university populations (Gliksman et al., 1994; Johnston et

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Résumé

**La toxicomanie chez les clients
d'un programme de suivi intensif
dans le milieu au Canada :
implications pour la planification
et la prestation des services**

**Shirley Eastabrook, Terry Krupa, Salinda Horgan,
Gary Gerber, Robert Grant, Joanne Mayo,
Marie Leeder, et Nalini Stiemerling**

Ce bref article fait état d'une recherche au cours de laquelle on a étudié les diagnostics, les auto-évaluations et les estimations des cliniciens pour évaluer la prévalence de la consommation abusive de drogues, d'alcool et de tabac chez un échantillon aléatoire de 174 clients, traités par quatre équipes de suivi intensif dans le milieu dans le sud-est de l'Ontario, au Canada. On a constaté que les taux de consommation abusive de drogues et d'alcool étaient inférieurs à ceux que rapportent la documentation, alors que la consommation de tabac correspondait aux taux élevés relevés dans cette dernière. Le programme de suivi intensif dans le milieu est guidé par des normes formelles qui présupposent de hauts taux de consommation abusive. Les auteurs avancent qu'il faudrait étudier le profil des populations locales et en tenir compte dans les programmes de suivi intensif dans le milieu.

Mots clés : suivi intensif dans le milieu, toxicomanie

Substance Abuse in a Canadian Population of Assertive Community Treatment (ACT) Clients: Implications for Service Planning and Delivery

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This brief paper reports on a study that used diagnosis, client self-reports, and clinician ratings to estimate the prevalence of drug, alcohol, and tobacco abuse among a random sample of 174 clients of 4 Assertive Community Treatment (ACT) teams in southeastern Ontario, Canada. Drug and alcohol abuse rates were lower than those reported in the literature, while high rates for tobacco use were consistent with published reports. ACT service delivery is guided by formal standards that assume high rates of substance abuse. It is argued that local population profiles should be monitored and considered in the development of ACT intervention practices.

Keywords: assertive community treatment, substance abuse

Assertive Community Treatment (ACT) is a model of continuous, community-based service delivery that promotes the community adjustment of persons with severe mental illness who are high service users (Stein & Test, 1980). Nursing is considered a critical element of the multi-disciplinary service and typically an ACT team includes at least two full-time-equivalent registered nurses (National Alliance for the Mentally Ill [NAMI], 1996). The model has proven effective in reducing hospitalization (Bond, Drake, Mueser, & Latimer, 2001) and has been replicated internationally.

ACT services have developed to address coexisting problems that compromise community adjustment. In response to US reports that substance-abuse rates are over 40% among those with severe mental illness (Regier et al., 1990), ACT standards include a full-time substance-abuse specialist and the active identification and treatment of abuse, including group therapy (NAMI, 1996).

Substance abuse among persons with severe mental illness is a complex phenomenon that appears to be sensitive to social and environmental context. For example, Graham and colleagues (2001) report lower rates of substance abuse (24%) among persons with severe mental illness

in the inner cities of the United Kingdom than in the United States. Such variation suggests the need to develop ACT services based on an understanding of locally determined population profiles.

There is a lack of information on the prevalence of substance abuse among Canadian ACT clients. The few existing Canadian prevalence studies suggest that the co-morbidity of psychiatric disorder and substance abuse ranges from 33 to 65% (Cochrane et al., 2000), although no studies focusing on Canadian ACT clients were found. The present study contributes to our knowledge of ACT in Canada by reporting on the rates of alcohol, drug, and tobacco use among clients of four ACT teams in southeastern Ontario.

Method

Data related to substance use were collected as part of a larger study investigating processes and outcomes associated with ACT (Eastabrook, Krupa, & Gerber, 1998). Approval was obtained from the research ethics committees of both Queen's University and the University of Ottawa. A random sample of clients with severe mental illness across four teams was recruited and informed consent was obtained. Sixty percent of all the clients were approached to participate. When a client declined, another was randomly chosen until the numbers approached 50% of the total population (approximately 370), for a refusal rate of approximately 22%. Although the clients came from across the region, they primarily lived in two small cities where secondary- and tertiary-care centres offer services for the entire area.

The data were collected in late 1998 and early 1999. The research assistants received training in the administration of each instrument and a structured protocol for data collection was followed. Consistent with recommendations that several sources be used to develop a reliable descriptive profile of substance use (Drake, Alterman, & Rosenberg, 1993), the following measures were taken: (1) clinical diagnosis as it appeared in the ACT clinical records; (2) case managers' ratings of client abuse of substances in the previous 6 months on the Clinician Rating Scales for Alcohol (AUS) and Drugs (DUS) (Drake, Mueser, & McHugo, 1996) — these are five-point scales that rate abstinence, use without impairment, abuse, dependence, or dependence with institutionalization; substance abuse was defined as a rating of abuse or dependence; and (3) client self-reports of alcohol, drug, or tobacco use, in response to 12 questions from the Ontario Drug Monitor (Adlaf, Ivis, & Ialomiteanu, 1997); the participants identified the frequency of substance use over the previous year, the types of substances used, and occasions of heavy use. Substance abuse for alcohol, drug, or tobacco was defined on the basis of

frequency using the following ratings: drinking alcohol at least two or three times per week, using drugs at least once per week, or smoking at least 25 cigarettes per day.

Results

Table 1 presents the characteristics of the sample ($n = 174$). Table 2 presents the results of the substance-use measures. Fifteen percent of the sample had a secondary diagnosis of substance-related disorder, and this was the most prevalent secondary diagnosis across all four teams.

Clinicians rated 9% ($n = 16$) of the sample as alcohol abusing. On self-report, 10% of the sample indicated that they drank two or three times over the previous week. Ten percent of the 100 participants rated as abstinent by case managers indicated that they did drink. Beer and wine were reported as the most frequently used alcoholic beverage.

Clinicians rated 11% ($n = 18$) of the sample as drug abusing or dependent. On self-report, 24% of the sample ($n = 41$) admitted using drugs in the previous year, with 11% ($n = 18$) using drugs at least once per week. Eighteen percent of the 152 participants rated as abstinent by case managers reported some level of drug use. Cannabis was the drug of choice, followed by over-the-counter drugs, dimenhydrinate, anxiolytics and sedatives, and, finally, cocaine.

Tobacco was the substance of choice among the participants. The overall frequency of smoking was 62% ($n = 108$), with 48% ($n = 84$) smoking 25 or more cigarettes per day.

Across the four teams, self-report rates for frequent alcohol use varied from 0 to 22%, for drug use from 0 to 13%, and for smoking from 40 to 80%.

Variables	Mean	(SD)
Age	44 years	(10.18)
	Number	(%)
Gender	96	(55) male
Diagnosis	127	(73) schizophrenia
Marital status	144	(83) not married
Education	80	(46) high school incomplete
Housing	130	(75) private housing/apartment
Work	134	(77) no work previous 9 months

Table 2 *Rates of Substance Abuse Based on Clinical Diagnosis, Clinician Ratings, and Self-Report*

	Sample N = 174	Males n = 96	Females n = 78
Secondary diagnosis of substance-related disorder	26 (15%) (10%, 20%)*	19 (20%) (12%, 28%)*	7 (9%) (8.9%, 9.1%)*
Clinical rating of alcohol abuse or dependence	16 (9%) (8.6%, 9.4%)*	13 (13%) (12%, 28%)*	3 (4%) (0.0%, 8%)*
Self-report of alcohol use at least 2 or 3 times per week	18 (10%) (6%, 14%)*	14 (15%) (3%, 17%)*	4 (5%) (0.0%, 10%)*
Clinical rating of substance abuse or dependence	14 (8%) (4%, 12%)*	8 (8%) (3%, 13%)*	6 (8%) (14%, 2%)*
Self-report of drug use at least once per week	18 (10%) (7%, 17%)*	8 (8%) (3%, 13%)*	10 (13%) (6%, 20%)*
Self-report of smoking at least 25 cigarettes per day	84 (48%) (41%, 55%)*	55 (58%) (48%, 68%)*	29 (37%) (27%, 48%)*

* 95% confidence intervals.

Discussion

Given the problems associated with the reliability of substance-use data, the prevalence rates from this study are likely underestimates. While multiple methods of data collection were used, Drake and colleagues (1993) recommend laboratory tests and information from collateral sources to enhance detection. These methods were beyond the resources of the present research and, given their invasive nature, might be more applicable in the context of a substance treatment program. It is also important to note that the participants were not new to ACT, and it may be that the low rates of alcohol and drug use were at least partially the result of effective treatment.

The rates of substance abuse were remarkably similar for clinical and self-report ratings. This finding runs counter to the assumption that people are likely to conceal or deny substance use. Wright, Gournay, Glorney, and Thornicroft (2000) suggest that agreement rates are sensitive to the differences in measurement scales between clinical and self-report ratings. In the present study, clinicians were asked to rate abuse while participants were asked to comment on their actual frequency of use without making judgements about abuse or its implications, which may have facilitated the participants' willingness to share information about their use of drugs and alcohol.

The alcohol- and drug-abuse rates for the sample were lower than those reported in the literature for persons with mental illness and no higher than those reported for the general adult population in Ontario (Adlaf & Ialomiteanu, 2001). The sample was drawn from a semi-rural region and a large number of participants had a history of long-term institutionalization. Both of these factors have been associated with lower rates of substance abuse (Farrell et al., 1998; Mueser, Essock, Drake, Wolfe, & Frisman, 2001). If these factors do confer some immunity from pressure to use substances, it will be important to monitor prevalence rates and patterns over time as the socio-demographics of the ACT population and the community undergo change.

The actual rates of substance use have implications for ACT service delivery, given that the model's standards are based on assumptions of high substance use. When rates are lower than expected, intervention practices will need to be modified accordingly. For example, group therapy may be less feasible than individual strategies. Substance-use profiles can also provide information about the nature of substance use to be considered in service planning.

Consistent with the findings of previous studies, the smoking rates for the sample were found to be much higher than those for the general adult population (Lasser et al., 2000). To date, ACT standards have not focused on tobacco use. While not typically associated with relapse and behavioural disturbances, smoking does compromise physical health and the economic sustainability of individuals in the community. There are heavy health-care costs associated with the sequelae of smoking. Furthermore, the current marginalization of smokers in public settings can restrict active community participation. With its role in public health, mental health, and smoking cessation, nursing may be the ideal discipline to develop and deliver programming in this area.

Substance abuse amongst persons with mental illness is a serious problem that requires direct consideration and systematic, evidence-based treatment approaches. The findings of this study do support the need to consider local context in the planning and delivery of substance-related services. While well-defined models such as ACT provide clear standards for practice, local profiles would provide important information for determining specific organizational and clinical features of substance-abuse treatment.

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Résumé

**Les adultes ayant un parent alcoolique
ont-ils une santé précaire?
Une comparaison de trois groupes
visant à repérer la présence de biais
dans l'auto-signallement**

Kenneth E. Hart, Dorrie L. Fiissel et Margaret McAleer

Cette étude vise à déterminer si les adultes ayant un parent alcoolique [adult offspring of alcoholics (AOA)] en traitement ont une santé relativement précaire. Un échantillonnage de AOA et deux groupes de référence se sont soumis à un protocole dont le but était d'évaluer le signalement de problèmes de santé ayant été diagnostiqués par un médecin ainsi que les perceptions des participants concernant une symptomatologie médicale mineure. La névrose-stabilité (tonus mental négatif) est le trait de personnalité utilisé comme covariable statistique, en combinaison avec des variables démographiques choisies qui correspondent, selon les données, à la condition des AOA. Une analyse des covariables a révélé que les AOA signalent un plus grand nombre de problèmes de santé graves diagnostiqués par un médecin, comparativement aux participants des groupes de contrôle traités et non traités. Les résultats des trois groupes étaient semblables en termes de signalement de symptômes mineurs lorsqu'il y avait contrôle du facteur névrose-stabilité. Toutefois, lorsque la névrose n'était pas utilisée comme covariable, les groupes affichaient des résultats différents en termes de symptômes mineurs, ce qui suggère un état de santé plus précaire chez les AOA. Les résultats soutiennent, de façon partielle et préliminaire, la thèse selon laquelle la vie dans un milieu alcoolique à l'étape de l'enfance et de l'adolescence est liée à la manifestation de problèmes médicaux graves à l'âge adulte. Les résultats indiquent que les études sur les AOA qui ont recours à un protocole d'auto-signallement de symptômes physiques mineurs doivent tenir compte du biais associé à la personnalité névrosée pouvant influencer l'auto-signallement.

Mots clés : adultes ayant un parent alcoolique, santé physique, santé, biais associé à la personnalité névrosée, biais pouvant influencer l'auto-signallement

Do Adult Offspring of Alcoholics Suffer from Poor Medical Health? A Three-Group Comparison Controlling for Self-Report Bias

Kenneth E. Hart, Dorrie L. Fiissel, and Margaret McAleer

This study examined whether adult offspring of alcoholics (AOAs) who are in treatment have relatively poor medical health. A clinical sample of AOAs and 2 comparison groups completed measures that assessed reports of physician-diagnosed health problems and participant perceptions of minor medical symptomatology. The personality trait of neuroticism-stability (negative affectivity) served as a statistical covariate together with selected demographic variables found to correlate with AOA status. Results of analysis of covariance showed that AOAs reported a greater number of physician-diagnosed serious health problems than both treatment and non-treatment controls. The 3 groups did not differ in terms of minor symptom reports when neuroticism-stability was controlled. However, when neuroticism was not covaried, the groups differed in terms of minor symptoms, suggesting poorer health among AOAs. In general, the results were interpreted as providing partial and preliminary support for the contention that living in an alcoholic environment during childhood and adolescence plays a role in the manifestation of serious medical problems in adulthood. The results also suggest that future studies of AOAs that utilize self-report measures of minor physical symptoms should control for the self-report bias associated with the personality trait of neuroticism.

Keywords: adult offspring of alcoholics, adult children of alcoholics, physical health, medical health, neuroticism bias, self-report bias

Prior to the publication of Sullivan and Handley's (1993) landmark article "Alcohol and Drug Abuse," alcohol abuse was a much neglected concern for nursing theory, research, and practice. A survey of the concerns of medical-surgical nurses caring for hospitalized alcoholics found that a priority was the negative impact of patients' drinking on the well-being of their offspring (Bartek, Lindeman, Newton, Fitzgerald, & Hawks, 1988). This concern is shared by pediatric nurses, who are concerned with fetal alcohol effects, and by other providers of health care to children and adolescents (e.g., Anonymous, 2002; Bartek, Lindeman, & Hawks, 1999). Ideally, assistance to disadvantaged people such as the offspring of alcoholics should be driven by approaches that are rooted in evidence. While preliminary research with the offspring of alcoholics has

been conducted in the field of nursing (Bartek et al., 1999; Emshoff, 1999; Gournay, 2001; Haack, 1990; Johnson, 1999; Kumpfer, 1999; Tweed, 1997; Tweed & Ryff, 1996), much remains to be done. Best-practice nursing care for alcohol-affected families requires that nurses and allied health professionals be aware of how parental alcohol abuse can affect the well-being of offspring. The present study sought to provide an empirical basis for enhancing nurses' readiness and ability to detect health problems in offspring of alcoholics in a timely fashion. Research in this area may eventually contribute to improved quality of service to AOAs in the prevention and management of illness.

A recent epidemiologic study found that the proportion of children and adolescents affected by family alcohol problems ranged from 15% to 43%. These estimates, which vary as a function of the time frame used, are derived from interview data from an impressive study of over 42,000 households in the United States (Grant, 2000). Briefly, this study found that 43% of children (28 million) had been exposed at some time before the age of 18 to familial alcohol dependence (alcoholism), alcohol abuse, or both. For the year 1992 alone, it was estimated that approximately 15% of offspring under age 18 (10 million children) were exposed to familial alcohol abuse or dependence. There is every reason to believe that prevalence figures in Canada approximate the US estimates. These data suggest that the negative familial effects of alcohol abuse are likely to be very widespread.

A growing body of research has specified the nature of these adverse effects. Evidence suggests that parental alcoholism can have consequences for the physical health, emotional well-being, and behavioural adjustment of offspring. In short, findings suggest that offspring of alcoholics suffer negative consequences in many domains. Furthermore, some of these consequences may persist throughout childhood and into adulthood. For example, one of the most consistent findings in the literature is that children of alcoholics are at increased risk of developing alcoholism as well as other substance-abuse problems (Cuijpers, Langendoen, & Bijl, 1999; Harter, 2000; Jacob & Windle, 2000; Jacob, Windle, Seilhamer, & Bost, 1999; Myland, Idle, Cuevas, & Meehan, 2002; Sher, 1997; West & Prinz, 1987). Children from alcoholic families have also been shown to have higher rates of depression, anxiety, phobias, panic disorders, schizophrenia, and eating disorders (Cuijpers et al.; Harter; Jacob & Windle; Mathew, Wilson, Blazer, & George, 1993; Myland et al.; Sher, 1997; West & Prinz). Furthermore, self-regulation deficits, antisocial symptoms, attention deficits, academic difficulties, and lower self-esteem have all been identified as characteristics of children of alcoholics relative to controls (Harter; Jacob et al.; Jacob & Windle; Mathew et al.; Sher).

While considerable research has examined the behavioural, emotional, and cognitive-social characteristics of children and adolescents of alcoholics (Ellis, Zucker, & Fitzgerald, 1997; Sher, 1997; Windle, 1997), relatively little attention has been given to the study of physical health and medical status. Even less is known about the medical status of *adult* offspring of alcoholics. Research that has examined health-care utilization rates has been interpreted as suggesting that children of alcoholics suffer from poor physical health. Roberts and Brent (1982), for example, examined physician-utilization rates among members of alcoholic families (excluding the alcoholic member) and found that they had a significantly greater number of visits to a physician per year than members of control families. Woodside, Coughy, and Cohen (1993), in a study involving health-insurance claims, investigated whether young children from alcoholic homes had higher hospitalization rates than those from non-alcoholic homes. Results showed that they had higher rates over a 3-year period. In addition, for each admission the duration of hospital stay was longer, suggesting that the offspring of alcoholics had more serious conditions. Finally, Dobkin, Tremblay, Desmarais-Gervias, and Depelteau (1994) compared physician-utilization rates for children with alcoholic fathers and children with non-alcoholic fathers and found no differences. Thus, results of this body of evidence are mixed.

Other studies have examined indicators of biomedical health status and medical symptom reporting. In one of the earliest of these, Roberts and Brent (1982) found that offspring of alcoholic families had significantly more medical diagnoses than controls. While Roberts and Brent conclude that "their higher rates of specific diagnoses suggest that [these offspring] are...less well than members of nonalcoholic families" (p. 125), Dobkin et al. (1994) conclude that the physical health of children of alcoholics is not worse than that of children of non-alcoholics. Thus, this body of evidence is also mixed.

To summarize, results from studies that have investigated health-care utilization rates and medical symptomatology provide only preliminary evidence to support the contention that offspring of alcoholics suffer from unusually low levels of physical health. Such a conclusion must be considered tentative, given the inconsistent pattern of results. Moreover, much of the research examining health in offspring of alcoholics is methodologically flawed, yielding results that are difficult to interpret with a sufficient degree of certainty. For example, given that offspring of alcoholics have higher psychiatric morbidity, the extent to which higher health-care utilization rates can be attributed to *medical* dysfunction per se is unclear. It is possible that the reasons for seeking medical care in studies published to date are *psychiatric* in nature. Also, even if research were to show conclusively that offspring of alcoholics seek care for

medical complaints more readily, it is possible to interpret differential physician utilization as reflecting differential symptom labelling and illness behaviour — in the absence of differential organic pathology. Such a cognitive and behavioural bias among offspring of alcoholics, if it exists, might lead physicians to “over-diagnose” illnesses among “hypochondriacal” individuals who are worried but well. Lack of proper control groups also opens the possibility that ill health and help-seeking behaviour are equally high in offspring of other types of dysfunctional families. If this is the case, the link to ill health may not be unique to alcoholic offspring status. A final limitation of this body of research is that no studies have examined *clinical* samples of AOAs. To date, research has tended to focus on non-clinical samples of young children and adolescents.

The present study sought to extend and refine the evidence base pertaining to the physical health status of AOAs by comparing and contrasting three samples of middle-aged adults — two clinical samples and one normal. The main group of interest was a clinical (i.e., treatment-seeking) sample of middle-aged AOAs who were attending or had attended psychotherapy or self-help support groups for AOA-related issues. The first comparison group was a clinical sample of distressed adults who were in treatment or who had availed themselves of mental health services for non-AOA-related issues. The second comparison group was a non-clinical sample of same-aged non-AOA adults who had not sought treatment.

In addition to utilizing multiple control groups, another methodological strength of the present study was that it assessed serious and minor health problems using a multidimensional measure with known reliability and validity (Moos, Cronkite, Billings, & Finney, 1984). In particular, we examined physician-diagnosed medical conditions as well as the subjective perception of minor physical symptoms (possible indicants of ill health). Finally, a variety of potential confounds were assessed and, where appropriate, statistically controlled.

One particular confounding factor that served as a primary covariate was the (normal) personality trait of neuroticism–stability (negative affectivity). An individual who scores high on negative affectivity is one who tends to experience negative emotions, distress, and upset. This construct is of interest to nursing researchers and health-care professionals because previous research shows that it is related to dissatisfaction with health and health complaints but *not* to actual biomedical disease (Watson & Pennebaker, 1989). Dispositional neuroticism is considered a particular threat to the internal validity of research with AOAs because previous studies show that: (1) AOAs score higher than controls on neuroticism (Jacob & Windle, 2000; Sher, Walitzer, Wood, & Brent, 1991); and (2) self-reports of physical health are confounded by (inflated) neuroticism (Brett,

Brief, Burke, George, & Webster, 1990; Jorgensen & Richards, 1989; Watson & Pennebaker). In addition to employing the personality trait of neuroticism as a statistical covariate to equate the three groups, we controlled for anxiety-related sources of response bias in our measure of minor medical symptoms. In particular, we removed selected physical symptom items from the minor health symptoms inventory that we judged as potentially tapping "distress-related" somatic anxiety. For example, we deleted the following items that are likely physical indicators of anxiety: "pounding heart," "hot and cold spells," "dizziness," "lump in throat," "nervousness," "restlessness," and "trembling." Again, we reasoned that the omission of these emotional-distress items would minimize confounding with anxiety-related response bias. Minimizing bias associated with distress was of particular concern because, as noted above, we anticipated that the AOA group would be more distressed than the comparison groups. Our intent, therefore, was to determine whether there are health differences among the three groups that cannot be explained by correlated differences in levels of emotional distress.

To summarize, the pilot study reported here sought to test the hypothesis that childhood exposure to an alcoholic home environment plays a role in the development of physical health problems that manifest in adulthood. Specifically, it was expected that, after statistically controlling for the biasing effects of neuroticism-related response bias and selected demographic confounds, AOAs would show more diagnosed health problems. It was also expected that AOAs would have more minor medical symptoms than participants in both of the control groups.

Method and Procedure

Participants

The initial pool of participants consisted of a convenience sample of 173 adults recruited through newspaper advertisements, flyers on bulletin boards, and personal and professional referrals in Long Island, New York, USA. The 173 participants formed three subgroups, two clinical samples (people who had sought psychological treatment) and one non-clinical sample (people who had not sought psychological treatment). Thirteen participants were excluded from the data set to maintain the validity of the differential group membership assignments. These 13 people were from the control groups and had tested positive on the screening question involving parental alcoholism. Thus, the total useable sample consisted of 160 adults forming three groups: (1) a clinical sample of treatment-seeking AOAs, (2) a clinical sample of treatment-seeking controls, and (3) a non-clinical sample of no-treatment controls. The first group consisted of 55 adults who were involved, either at the time of the study

or within the previous year, in AOA mutual-aid groups (Al-Anon, CODA, or ACA) or professional counselling/therapy for AOA-related issues. The second group consisted of 52 non-AOAs who were involved in professional counselling/psychotherapy at the time of the study or within the previous year for non-AOA-related issues. The third group consisted of 53 non-treatment adults employed by a high-school district, none of whom had been involved in mutual-aid groups or counselling/psychotherapy during the previous year and none of whom came from alcoholic family environments.

Data to support the construct validity of these "known groups" are provided below.

Instruments and Measures

Participants were treated in a manner consistent with American Psychological Association ethical guidelines. After signing the consent form, participants completed two research instruments that assessed different aspects of physical health. The first scale assessed participant reports of "diagnosed health problems" and the second assessed minor health symptoms ("perceived medical symptoms"). Participants also completed a variety of demographic and background variables describing their family of origin. They also completed a personality inventory that assessed individual differences in the trait known as neuroticism-stability. This personality measure served as a statistical control for neuroticism-related response bias, which is a threat to the validity of self-report measures of physical health. Where appropriate, selected demographic and background variables also served as covariates in analysis of covariance tests that compared the three groups in terms of physical health.

Criterion Measures

Participant reports of physician-diagnosed health problems. A slightly modified form of the Diagnosed Health Problems (DHP) subscale from Health and Daily Living Form B (HDL-B; Moos et al., 1984) was used to assess self-reported physician-diagnosed health problems. The DHP subscale of the HDL-B asked participants to report from memory whether a physician had diagnosed any of the medical conditions listed in the inventory within the previous year. The DHP HDL-B subscale includes "cancer," "chronic liver trouble," "diabetes," "serious back trouble," "high blood pressure," and "ulcers." Asthma and bronchitis, also from the HDL-B, were combined to form a "respiratory trouble" item. In addition, based on anecdotal reports culled from the clinical literature, we added "bowel trouble" and "reproductive-organ trouble." Thus, the scale consisted of nine items, to which participants responded Yes or No, so that scores on the modified DHP index could range from 0 to 9 (no

problems diagnosed to nine problems diagnosed). Reliability and validity evidence for the original DHP subscale of the HDL-B have been reported by Moos and colleagues (Cronkite & Moos, 1984; Moos et al.).

Perceived minor medical symptomatology. Self-perceptions of minor medical and physical symptomatology were assessed using an 11-item hybrid scale containing five items from the HDL-B (Moos et al., 1984) and six items from the Somatization subscale of the SCL-90-R (Derogotis, 1977). The Minor Medical Symptoms (MMS) subscale asked whether a symptom (e.g., "acid stomach" or "indigestion") was experienced "fairly often in the last 12 months." Participants responded Yes or No to each item (Yes = 1, No = 0). The following seven physical-symptom items from the SCL-90-R Somatization subscale were excluded: "pounding heart," "hot and cold spells," "dizziness," "lump in throat," "nervousness," "restlessness," and "trembling." We judged that these seven items might have been contaminated with emotional distress associated with somatic anxiety, and omitted them to minimize confounding our measure of physical health with response bias reflecting emotional health. Minimizing bias associated with this form of distress was of particular concern because we anticipated that the AOA group would be more distressed than the comparison groups. Removing these items allowed us to determine whether there were health differences among the three groups that could not be explained by correlated differences in levels of emotional distress. Thus, scores on the MMS index could range from 0 to 11. Internal reliability in the present study was satisfactory ($\alpha = .82$). The psychometric features of the original physical symptoms subscale of the HDL-B and the somatization scale of the SCL-90-R have been reported to be good (Cronkite & Moos 1984; Derogotis).

Potential Demographic/Background Confounds

In order to identify potential demographic confounds that might covary with AOA status, we obtained selective demographic and background information to describe the three groups. We identified variables on which group differences were found. These variables then became covariates in subsequent group comparisons testing for health differences. The demographic data are reported in Table 1. Analysis of variance showed that the three groups differed on age ($F = 8.34, p < .001$). Follow-up tests showed that no-treatment controls differed from both AOAs and treatment controls. As can be seen in Table 1, no-treatment controls were older. Chi-square analysis showed that group status was related to education ($\chi^2 = 29.0, p < .001$). Compared to the two control groups, a smaller percentage of AOAs were college graduates. Chi-square analysis showed that group status was related to family income ($\chi^2 =$

Table 1 *Demographic Data for the Three Groups*

	AOAs	Treatment Controls	No-Treatment Controls
Total number	55	52	53
Number of males	21	21	23
Number of females	34	31	30
Mean age	37	39	44
Number of whites	51	47	50
Number of non-whites	4	7	3
Percentage of college graduates	20	56	68
Percentage with income > \$40,000	61	82	92

23.0, $p < .01$). Specifically, as shown in Table 1, treatment controls had the highest income and AOAs the lowest. In terms of family income, the treatment controls fell midway between the two extremes. There were no significant differences among the three groups in terms of female:male ratio or ethnic/racial distribution.

Because age, education, and family income were all significantly related to group membership status, proper interpretation of results pertaining to the hypotheses had to be based on analyses that statistically control for these three sources of potential confounding. For this reason, we performed ANCOVAs in which age, education, and family income were entered as covariates.

Potential Psychological Confound

As noted above, individuals who score high on negative affectivity show a tendency to experience negative emotions, distress, and upset. This psychological construct is of interest to nursing researchers and health-care professionals because previous research shows that it is related to subjective dissatisfaction with health and health complaints but *not* to actual biomedical disease (Watson & Pennebaker, 1989). For this reason, dispositional neuroticism is considered a particular threat to the internal validity of nursing research involving self-reports of medical well-being.

Because of findings suggesting that the personality trait of neuroticism-stability systematically distorts self-reports of physical health status, medical problems, and physical symptomatology (Brett et al., 1990; Jorgensen & Richards, 1989; Watson & Pennebaker, 1989), participants were asked to complete the Negative Emotionality subscale from the Multidimensional Personality Questionnaire (MPQ; Tellegen, 1982). This scale consists of 14 items that tap individual differences in disposition to

experience feelings of nervousness, apprehension, sensitivity, and emotional lability, and has been shown to be both valid and reliable (Watson & Pennebaker). In the present study, an alpha of .88 was found, indicating a high level of internal consistency.

To examine whether group differences existed in terms of neuroticism-related response bias, an ANOVA was conducted. This analysis was significant ($F = 12.8, p < .001$). Follow-up analyses revealed that the two control groups did not significantly differ from one another ($M = 4.8$ and $3.9, SD = 3.5$ and 3.4 for treatment and no-treatment controls, respectively). However, AOAs ($M = 8.0, SD = 3.6$) had significantly higher scores than both control groups. Thus, neuroticism represented a potential confound and was statistically controlled in further analyses.

Validity Checks on Group Membership

History of parental alcoholism. It was assumed that, relative to the two control groups, participants in the AOA treatment group would have had greater exposure to an environment of parental alcoholism. In order to ensure the accuracy and integrity of this assumption (i.e., "known groups validity"), participants in all three groups were asked to respond to the following question: "During your childhood, from birth to age 18, was either your mother or father alcoholic?" (yes = 1, no = 0). As noted earlier, 13 subjects who were not in the AOA group screened positive for this question. After these subjects were excluded from the data set, chi-square analysis showed that the three groups differed, as expected, in terms of history of parental alcoholism ($\chi^2 = 47.6, p < .001$). Dunn-Bonferroni comparisons revealed that the AOA group had a significantly higher score than the treatment and no-treatment controls. This finding supports the accuracy and integrity of the group membership assignment by indicating that participants in the AOA group had been differentially exposed to parental alcoholism during their formative years.

History of family dysfunction. History of family dysfunction was assessed by having all participants respond to the following question: "During your childhood, from birth to age 18, did your parents have serious marital difficulty?" (yes = 1, no = 0). Chi-square analysis showed that the three groups differed in terms of history of family dysfunction ($\chi^2 = 35.2, P < .001$). Dunn-Bonferroni comparisons revealed that the AOA group had a significantly higher score than the treatment and no-treatment controls. These findings support the accuracy and integrity of the group membership assignment by indicating that participants in the AOA group did indeed come from families that were more "dysfunctional" than the families of control participants.

History of treatment utilization. History of treatment-seeking behaviour was assessed by having all participants respond to the following

question: "Indicate the total amount of time you have spent in counseling, psychotherapy, or self-help programs [e.g., individual, marital, family, group counseling/therapy, or AA, AL-Anon, or other self-help 12-step groups]: (1) none, (2) less than one year, (3) one year and less than two years, (4) two years and less than three years, (5) more than five years." Chi-square analysis showed that the three groups differed in terms of history of treatment utilization ($\chi^2 = 14.21, P < .001$). Whereas the means for the two treatment-seeking groups did not differ ($p > .05$), both of these groups differed from no-treatment controls (both p 's $< .001$). These data serve to validate group membership status by confirming that participants in the AOA treatment group and the treatment control group were both *clinical* samples who had sought and received professional mental health services to a degree greater than the normal control group.

Results

To examine the levels of physical health among the three groups, analyses of covariance (ANCOVAs) were conducted on the two indices of physical health (Diagnosed Health Problems and Minor Medical Symptomatology), with age, education, income, and neuroticism as the covariates.

Reports of Diagnosed Health Problems

The ANCOVA for participant reports of physician-diagnosed health problems was significant ($F = 18.03, p < .001$). The mean number of diagnosed health problems for each of the three groups can be seen in Table 2. Follow-up analyses revealed that the AOA group had a greater number of diagnosed health problems than the treatment control group ($F = 13.9, p < .001$) and the no-treatment control group ($F = 15.0, p < .001$). The two control groups, however, did not differ from one another ($F = .85, ns$).

	Diagnosed Medical Problems*		Reported Physical Symptoms	
	Mean	SD	Mean	SD
AOA treatment group	1.30	1.2	4.60	3.0
Non-AOA treatment controls	.52	1.0	2.60	2.8
No-treatment controls	.47	0.8	1.60	2.1

* Physician diagnosis as reported by participant.

Although we did not set out to compare the three groups in terms of specific types of diagnosed health problems, we did have the data and felt that this question merited post-hoc exploration. To explore which specific health problems discriminated the three groups, we conducted a series of chi-square analyses comparing proportions of respondents in each group reporting specific conditions. Results showed that the three groups differed on high blood pressure ($\chi^2 = 6.26, p < .05$), ulcers ($\chi^2 = 9.62, p < .01$), serious back trouble ($\chi^2 = 8.45, p < .05$), and bowel trouble ($\chi^2 = 9.99, p < .01$). A greater percentage of AOAs reported these problems than participants in either control group. Specifically, 22% of AOAs reported that a physician had diagnosed them as hypertensive in the previous year (12 of 55 respondents), compared to only 6% of treatment controls (3 of 52 respondents) and 11% of no-treatment controls (6 of 53). Ulcers had been diagnosed in 16% of AOAs (9 of 55), 2% of treatment controls (1 of 52), and 4% of no-treatment controls (2 of 53). A diagnosis of serious back trouble was reported by 25% of AOAs (14 of 55) but only 10% of treatment controls (5 of 52) and 8% of no-treatment controls (4 of 53). Lastly, 27% of AOAs (15 of 55) reported a diagnosis of bowel trouble, compared to 10% of treatment controls (5 of 52) and 7% of no-treatment controls (4 of 53).

Perceived Minor Medical Symptomatology

An ANCOVA tested whether the three groups differed on perceived minor physical symptomatology independent of the influence of age, education, income, and dispositional neuroticism. This analysis was not significant ($F = 3.5, ns$), suggesting that AOAs, treatment controls, and no-treatment controls experienced a similar number of physical symptoms. In an attempt to determine the source of this non-significant finding, we conducted a second ANCOVA. Because of the suggestion that neuroticism possibly inflates reports of physical symptomatology (Brett et al., 1990), the second analysis *excluded* neuroticism as a covariate. Interestingly, when the three groups were compared without controlling for neuroticism, statistically significant symptom reporting was found ($F = 10.3, p < .01$), with the pattern of results being the same as the pattern found for diagnosed health problems. The group means and SDs are shown in Table 2. On the ANCOVA that excluded neuroticism as a covariate, the two control groups did not differ significantly from one another.

Discussion

This investigation compared the physical health status of a clinical sample of AOAs who had sought psychological treatment with two types of

non-AOA control groups. Our research design allowed us to determine whether health differences existed among the groups independent of a number of "nuisance" variables that were shown to be correlated with AOA group membership status. In particular, we statistically controlled for the possibility that poor health among AOAs was confounded by the biasing effects of neuroticism-related response style as well as demographic variables such as age, education, and income. The findings support the conclusion that AOAs have a greater number of serious health problems than non-AOAs. However, they were found not to differ in terms of minor medical symptoms.

The AOA group reported a significantly greater number of physician-diagnosed health problems than either of the control groups. Moreover, this effect was not an artifact that could be attributed to factors correlated with AOA status such as dispositional neuroticism, age, education, or family income. One possible interpretation of this finding is that living in an alcoholic environment during childhood and adolescence plays a role in the development of serious physical health problems that manifest in adulthood.

However, because the AOAs who participated in this study consisted of a clinical sample who had sought professional (psychological) treatment, an alternative explanation is possible. The increased number of physician-diagnosed problems observed may reflect a differential behavioural tendency of worried-but-well AOAs to more readily seek professional help. However, this explanation seems unfeasible given that the study design included a clinical sample of non-AOA treatment-seeking controls. If seeking help from psychological professionals predicts a tendency to seek help from medical professionals, the clinical control group should not have differed from the AOA group on diagnosed health problems. This was not the case. Results for diagnosed health problems were unique to the clinical sample of AOAs. To summarize, we conclude that there is little support for the hypothesis that the poorer health of AOAs is an artifact of concurrent status as a distressed treatment-seeker. In addition, poorer health among AOAs was found to be independent of not only a neuroticism bias but also bias due to age, education, or family income. For this reason, the relatively poorer health of AOAs cannot be explained by reference to these three demographic factors, which were shown to be correlated with AOA group membership status.

However, it should be pointed out that the data for diagnosed health problems were not obtained from actual medical charts kept by a physician. Instead, they were based on participant recollections of physician diagnoses. Results based on such a proxy measure most likely include a degree of error variance unrelated to the presence of objectively verifiable organic medical pathology. Therefore, the conclusion that AOAs have

particularly poor health is tentative, requiring confirmation by additional research employing physician records.

Nevertheless, the present results are consistent with those of Roberts and Brent (1982), who found that members of alcoholic families had a greater number of physician-diagnosed health problems than controls. They are also consistent with research demonstrating increased health-care utilization rates among offspring of alcoholics (Roberts & Brent; Woodside et al., 1993) and with results suggesting that severity of medical problems is greater for offspring of alcoholics (Woodside et al.). When considered in the aggregate, the emerging pattern of findings suggests that childhood exposure to an alcoholic family environment may contribute to the development of physical health problems that manifest in adulthood. Moreover, consistent with the results of Woodside et al., our results suggest that these health problems are serious enough to receive a physician diagnosis. The present study found AOAs to have relatively higher rates of hypertension, ulcers, serious back trouble, and serious bowel trouble. The finding pertaining to bowel trouble is consistent with results reported by McGann (1990), who compared two subsamples of non-alcoholic adult medical patients attending a family practice clinic and found that patients from alcoholic and non-alcoholic families differed in terms of functional bowel syndrome. Furthermore, the findings pertaining to hypertension are consistent with research suggesting that non-alcoholic female offspring of alcoholic families exhibit an unusually high prevalence of hypertension (Miller, Finn, Ditto, & Pihl, 1989). Results of the present study help identify the nature of the particular types of medical problems that AOAs are at risk for developing. These results, however, are based on post-hoc exploratory analyses and should be considered tentative and suggestive. Nursing and allied health professionals concerned with understanding the specific health vulnerabilities of AOAs should conduct further research on this important question. The present findings are a first step in this direction.

When the three groups were compared in terms of minor medical symptomatology, analyses that adjusted for the effects of neuroticism and other potential confounds failed to support the expectation that AOAs would report more minor symptoms than non-AOAs. These null results for perceived symptoms were based on an ANCOVA in which neuroticism-stability, age, education, and income served as covariates. Moreover, as described in the Methods section, the null results were based on a measure of symptomatology that was stripped of item contamination associated with emotional distress. Results showing no differences in perceived symptomatology are inconsistent with the present results for diagnosed health problems, and also with the results of previous research (Roberts & Brent, 1982; Woodside et al., 1993). One interpretation of

these null results is that they fail to support the hypothesis that AOAs suffer from particularly poor health.

In an attempt to uncover the source of the null effect for perceived physical symptoms, we conducted an ANCOVA that *excluded* dispositional neuroticism as a covariate (but included the demographic confounds). This analysis found significant differences favouring greater physical-symptom reporting among AOAs relative to both comparison groups (see Table 2). We interpret the differing patterns of results for the two sets of ANCOVAs as indicating that neuroticism is a significant and serious statistical confound in AOA research involving self-reports of minor medical symptomatology (MMS). In other words, the divergent findings for MMS indicate that researchers who fail to control for neuroticism-related response bias may produce statistically significant — but spurious — findings linking AOA status to reports of minor physical symptoms. Thus, a major contribution of the present study is that it alerts nursing researchers to the existence of a neuroticism confound in self-report research examining health and medical problems among AOAs. Identification of this potential methodological pitfall has implications for nursing research. In particular, it highlights the importance of controlling for neuroticism bias when examining self-reports of physical symptoms in AOAs.

The question remains as to why AOAs might be at elevated risk for medical problems serious enough to be diagnosed by a physician. Because the health status of AOAs is a neglected topic, the evidence in this regard is limited and one can only speculate. More research on the mechanisms of influence is clearly warranted. Nevertheless, we offer the following speculations. One explanation for the increased risk is that AOAs may not consider health a priority and thus fail to engage in preventative health practices such as exercise or nutritious eating. A second explanation is that AOAs may engage in higher levels of health-destructive behaviours such as alcohol misuse or smoking. This speculation is consistent with previous research showing that AOAs have more drinking problems than controls (Cuijpers et al., 1999; Jacob & Windle, 2000; Jacob et al., 1999) and that drinking contributes to ill health (Arria, Tarter, & Van Thiel, 1991; Zakhari, 1991).

Another set of mechanisms has less to do with the behaviour of the AOAs themselves and more to do with the behaviour of their alcoholic parents. In particular, AOAs may have a greater number of serious medical problems during adulthood because, during their childhood and adolescence, their parents displayed high rates of nicotine dependence. Chronic exposure to high levels of second-hand cigarette smoke, therefore, might account for more health problems in AOAs relative to controls. Moreover, if the alcoholic parent was the mother, alcohol misuse

during pregnancy may have resulted in subtle types of long-lasting fetal alcohol effects that increase biological vulnerability to disease onset and progression during adulthood.

Another possible theoretical explanation for poorer health among AOAs revolves around the unique pattern of apparently discrepant results showing that significant group differences in serious health conditions coexist with no group differences in minor health symptoms. In this connection, recall that AOAs were found to have a greater number of serious health problems yet did not differ from controls in terms of indicators of minor health concerns. One possible interpretation of this incongruity is that AOAs are less subjectively aware of "minor" symptomatology. If AOAs lack awareness of subtle physical indicators of ill health, as the present results suggest, they may also display a pattern of dysfunctional illness behaviour characterized by excessive delay in seeking medical help. Delay, in turn, may result in nurses and physicians making diagnoses that are more severe. This process may account for our findings pertaining to diagnosed medical conditions as well as the findings reported by Woodside et al. (1993). One corollary of the "discrepancy model" is that non-neurotic AOAs are older than controls when they enter the health-care system. Clearly, additional research is needed to test competing models that purport to explain health outcomes related to AOA status. In this connection, establishing the validity of the proposed discrepancy model would seem to be a particularly fruitful direction for future research.

One final theoretical model merits consideration. This alternative model might be proposed by sceptics who believe there are no "real" baseline differences in objectively verifiable medical status between AOAs and controls. This sceptical model also posits the existence of differential symptom perception and illness behaviour in AOAs relative to non-AOAs. The chain of reasoning, however, is unique. Essentially, this is a "heretical" model because it posits that previous research on AOA health may have inadvertently capitalized on a type of neuroticism-related methodological bias in which high levels of negative affectivity contributed to a hypervigilance to health symptoms among AOAs, prompting them to engage in higher levels of treatment-seeking behaviour. The model posits that a tendency towards hypochondriacal behaviour in AOAs causes them to display high rates of health-care utilization — rates that do not match objective rates of biomedical illness. It further posits that differential health-care utilization rates cause AOAs to receive more physician diagnoses in the absence of a proportionately higher prevalence of objectively verifiable disease. This hypochondriacal-behaviour explanation is consistent with theory and research (Brett et al., 1990; Jorgensen & Richards, 1989) suggesting that emotional distress associated with high

levels of neuroticism can lead individuals to incorrectly label themselves as ill, which, in turn, can lead them to over-utilize medical services. Finally, because high levels of neuroticism make patients more likely to complain, nurses and doctors may be compelled to over-diagnose AOAs. To summarize, sceptics might interpret more medical diagnoses in AOAs relative to controls as reflecting the logical outcome of inflated opportunities for receiving medical diagnoses. Sceptics might propose that these inflated opportunities are the end result of two antecedent processes: the fundamental over-representation of AOAs in clinical settings, and the tendency of AOAs to be more emotive when expressing their health complaints to nurses and doctors. These two influences may combine, causing nurses and doctors to over-diagnose AOAs relative to controls.

Limitations

The present results should be interpreted with caution. A number of factors place limits on the study's internal and external validity. For example, it examined only AOAs who had sought psychological treatment. Thus, the findings may not generalize to a non-clinical (non-treatment-seeking) AOA group. Future research should examine both clinical and non-clinical samples of adult AOAs. Moreover, the present study relied solely on self-reports to assess medical health status. Given the questions about the validity of these types of self-reports, it is recommended that future studies consider assessing a diversity of "objective" and "subjective" indicators of medical well-being. In this connection, future research should also be careful to obtain measures of treatment-seeking tendencies and confounding variables such as dispositional neuroticism. Moreover, AOAs should be compared to a wider variety of control groups. Specifically, researchers could strengthen their designs by including a clinical control group from non-alcoholic but "dysfunctional" families (e.g., offspring of depressed parents). In this way, the unique effects of exposure to the alcoholic family environment can be teased apart from the more general effects of exposure to an "abnormal" family environment. Pediatric nursing researchers and other health professionals considering research in this area may wish to consult Volume 21 of *Alcohol Health and Research World* (1997), which is devoted exclusively to a discussion of concepts, findings, and methodological issues associated with research on offspring of alcoholics.

Finally, future studies will benefit from obtaining information describing variability in the length and amount of exposure to these dysfunctional home environments, and by quantifying more precisely the severity and patterning of various types of family dysfunction. In this connection, recent evidence supports the use of the Children of

Alcoholics Screening Test (CAST; Charland & Cote, 1998; Sheridan, 1995).

Summary and Nursing Implications

In spite of the limitations of the study, the results provide preliminary empirical support for the hypothesis that exposure to an alcoholic family environment during childhood and adolescence contributes to the development of serious medical problems in adulthood. Relative to non-AOA treatment-seeking controls and non-AOA non-treatment-seeking controls, treatment-seeking AOAs reported a greater number of serious physician-diagnosed health problems. This effect was independent of the biasing effects of a number of confounding variables, including dispositional neuroticism and demographic variables. When neuroticism-related response bias was statistically controlled for, AOAs did not differ from the control groups in terms of subjective perceptions of minor physical symptoms. Yet when the effects of neuroticism were not covaried, the three groups differed in a pattern identical to that for diagnosed health problems. These contrasting sets of findings suggest that future studies of AOAs that utilize self-report measures of minor health symptomatology should be careful to adjust for the potentially biasing influence of neuroticism.

We hope the results of the present study stimulate greater interest among nursing teachers, researchers, and practitioners in identifying offspring of alcoholics and understanding the negative long-term health effects of familial exposure to alcohol abuse. The results suggest that nursing training programs that include a curriculum on substance-abuse disorders should ensure that attention is given to the long-term medical effects of parental abuse. While fetal alcohol syndrome would naturally be included in such a curriculum, the scope should be broader still. In terms of screening, pediatric and other nurses should be more vigilant to the need to diagnose clients as offspring of alcoholics. The CAST (Charland & Cote, 1998; Sheridan, 1995) is available for this purpose. Once identified in the primary-care or hospital setting, these clients might further be screened for signs and symptoms of hypertension, ulcers, and serious back or bowel trouble.

More research in this neglected area of concern will contribute to improved core competencies for nurses and other health professionals with responsibility for the care of family members who live in or come from alcoholic home environments. A minimal level of competence would involve knowledge of the characteristics of these types of individuals and understanding the nature of the likely medical, emotional, and behavioural effects of long-term exposure to an alcoholic family environment. We also hope that additional research in this area will stimulate

the development of empirically determined guidelines for preventative and remedial interventions that strengthen families, maximizing opportunities for enhancing the health of at-risk offspring of alcoholics. In this connection, nursing professionals interested in prevention and intervention may wish to consult a recent review by Price and Emshoff (1997). Given the sizeable number of AOAs in Canada and the United States (Grant, 2000), it would seem prudent for public health nurses to become increasingly concerned with prevention and early identification.

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Résumé

**L'usage des tranquillisants
chez les femmes suivant un programme
de traitement de la toxicomanie**

Renée A. Cormier

La surconsommation des tranquillisants (p.ex. Valium, Ativan, Xanax) est une question souvent oubliée dans le traitement de la toxicomanie. Cet article présente des données sur la prévalence et la fréquence de l'usage des tranquillisants et de la consommation simultanée de substances intoxicantes chez les femmes toxicomanes suivant un traitement. Quatre-vingt-dix-huit femmes réparties dans neuf centres de traitement de courte durée en établissement pour femmes seulement, situés dans la province de l'Ontario, au Canada, ont répondu à un questionnaire visant à évaluer leur consommation avant le début du traitement. Quarante-trois répondantes ont rapporté qu'elles avaient consommé des tranquillisants pendant les six mois précédant le début du traitement, 70 % d'entre elles y ayant eu recours au moins deux à quatre fois par semaine. La durée de la consommation variait de un mois à 20 ans, avec une moyenne de quatre ans. La majorité des participantes (86 %) ont rapporté qu'elles prenaient au moins une substance autre que les tranquillisants. Les données obtenues indiquent qu'une proportion significative des femmes toxicomanes en traitement pourraient aussi avoir développé une dépendance à l'égard des tranquillisants. L'article se termine sur une discussion des conséquences de la surconsommation des tranquillisants en milieu de traitement.

Mots clés : femmes, toxicomanie, dépendance, tranquillisants, benzodiazépines, traitement

Brief

The Use of Tranquillizers Among Women Undergoing Substance-Abuse Treatment

Renée A. Cormier

Overuse of tranquillizers (e.g., Valium, Ativan, Xanax) is frequently overlooked in substance-abuse treatment. This paper presents findings on the prevalence and frequency of tranquillizer use and concurrent substance use in women undergoing substance-abuse treatment. Ninety-eight women in 9 short-term, residential, women-only treatment centres in the province of Ontario, Canada, completed questionnaires assessing their pre-treatment substance use. Forty-three percent reported that they used tranquillizers in the 6 months preceding their treatment, and 70% of these reported using tranquillizers at least 2 to 4 times per week. Duration of use ranged from 1 month to 20 years, with an average of 4 years. The majority of participants (86%) reported using at least 1 other substance in addition to tranquillizers. The findings suggest that a significant proportion of women in substance-abuse treatment may be dependent on tranquillizers in addition to other substances. Implications for the intervention of tranquillizer overuse in substance-abuse treatment settings are discussed.

Keywords: women, substance use, substance abuse, addiction, dependency, tranquillizers, benzodiazepines, treatment

The over-prescription of tranquillizers (benzodiazepines in particular) was first identified as a critical health-care issue among Canadian women through the pioneering work of Ruth Cooperstock and colleagues, who reported that women were prescribed tranquillizers at twice the rate of men (Cooperstock, 1976; Cooperstock & Hill, 1982; Cooperstock & Lennard, 1979). Guidelines specify that minor tranquillizers should be prescribed for 7 days to 4 weeks, but there is evidence that individuals are regularly prescribed these drugs for periods far in excess of 10 days and in some cases as long as 20 years (Ashton, 2002). Prolonged use of tranquillizers results directly in a variety of health problems such as increased risk of hip and femur fractures and impairments in memory and general intelligence (Ashton; www.benzo.org.uk).

The purpose of the present study was to investigate the pervasiveness of tranquillizer use and misuse in a specific population — women undergoing substance-abuse treatment. The following questions guided the research: (1) *What are the prevalence rate and frequency of tranquillizer use among women in substance-abuse treatment?* (2) *What is the average duration of tranquillizer use among women in substance-abuse treatment?* (3) *Do women who have been using tranquillizers longer than 4 weeks (safe prescription levels) perceive their use to be problematic?* (4) *What are the rates of tranquillizer use and concurrent alcohol or other substance use among women in substance-abuse treatment?*

Method

Participants

Twelve treatment centres in the cities of Milton, Port Colborne, St. Thomas, Sudbury, Thamesville, Hamilton (2), Windsor (2), and Toronto (3) were approached by the researcher to participate in the study. These 12 represented all of the treatment centres providing women-only, short-term (21–28 days) residential treatment in the year 1998 in southern Ontario and the city of Sudbury. Three treatment centres declined to participate for various reasons (e.g., conflict with on-going research, too few clients to participate). Participants were recruited from nine substance-abuse treatment centres. All clients undergoing treatment over a 3-month period at six of the participating centres were approached. Due to low response rates, only one group of clients from the remaining three centres was approached to participate.

Informed consent was obtained from 98 of the 112 women in treatment (88.4%) approached by the researcher. Participants ranged in age from 15 to 59 years with an average age of 34 years ($SD = 9.67$). The majority of participants identified themselves as Caucasian ($n = 81$; 82.7%) and heterosexual ($n = 85$; 86.7%). In describing their living situation, the majority of participants indicated that they were either single ($n = 46$; 46.9%) or married/cohabiting ($n = 39$; 39.8%). Forty-nine percent of participants ($n = 48$) indicated that they had a high-school education or less. Forty-seven percent indicated that they were on social assistance ($n = 26$) or had no income ($n = 20$). One third ($n = 32$; 32.6%) of the participants reported that they were employed either full-time, part-time, or occasionally. The remaining 20% ($n = 20$) reported that they either were collecting disability insurance or employment insurance or were retired. Fifty-nine percent ($n = 54$) of participants had an annual household income of less than \$20,000; a significant minority ($n = 19$; 20.7%) reported an annual income exceeding \$50,000.

Measures

Demographic information for each participant was collected. Participants were asked their age, marital status, ethnicity, sexual orientation, education, and income.

The Pre-treatment Alcohol and Drug Use History form (adapted from Addiction Research Foundation, 1994) was used to determine pre-treatment levels of alcohol and other substance use and to identify multiple substance users. Information collected from this form included frequency of alcohol and other substance use, identification of primary substance of choice, and problematic use of substances. Participants were asked if they used alcohol, marijuana, cocaine, heroin, tranquilizers, opioids/pain medication, inhalants, or any other substances in the 6 months preceding their treatment and how often they used each substance (once a month, twice a month, three to four times a month, two to four times a week, or more than five times a week).

A substance was identified as problematic if it met one of the following criteria: (1) the participant identified it as the primary chemical of choice, (2) the participant indicated using it more than five times per week, or (3) the participant indicated its use as problematic. If more than one substance met these criteria, the participant was identified as using multiple substances.

Procedure

This study was part of a larger longitudinal study investigating factors predicting relapse in women who undergo substance-abuse treatment. Only the procedure and findings relevant to the present study will be presented.

Clients were recruited within 1 week of their treatment discharge date, either during a scheduled "break time" in their treatment program or during a group session. Clients were told by a staff member beforehand that a student researcher from the University of Windsor would be inviting them to participate in a study looking at what happens after women leave substance-abuse treatment. The purpose and general methodology of the study were disclosed by the researcher to all clients without staff present. Clients interested in participating were given a package that included a consent form and the measures. In order to reduce the effects of low literacy, the researcher went over the instructions and consent form with the participants and remained present for questions throughout the study. After written consent was obtained, participants completed the Demographic Information questionnaire and the Pre-treatment Alcohol and Drug Use History in a group setting. Participants returned their signed consent form and completed measures

to the researcher in separate, sealed envelopes. For reasons of confidentiality the participant's name did not appear on the questionnaire. Participants were not remunerated for completing these measures. All procedures conformed to the ethical guidelines of the Canadian Psychological Association and the American Psychological Association. Ethical approval for the study was obtained from the University of Windsor's Research Ethics Board and any relevant institutional boards of the participating treatment centres.

Results

Prevalence and Frequency of Tranquillizer Use

Forty-two of the 98 participants (42.9%) indicated that they had used tranquillizers within the 6 months prior to undergoing substance-abuse treatment. There were no significant differences between the women who reported tranquillizer use and those who did not on any of the demographic variables. The majority (70%) of women reporting tranquillizer use indicated that they used tranquillizers at least twice per week (see Table 1). The duration of reported use ranged from 1 month to 20 years, with an average of 4 years (in months: $M = 49.3$; $SD = 57.7$).

Table 1 *Frequency and Duration of Tranquillizer Use*

Frequency of Use	Any Tranquillizer Use ($n = 42$)		Problematic Tranquillizer Use ($n = 27$)	
	<i>N</i>	%	<i>N</i>	%
Once per month	2	4.8	1	3.7
Twice per month	3	7.1	0	0.0
3 to 4 times per month	6	14.2	3	11.1
2 to 4 times per week	12	29.6	5	18.5
> 5 times per week	17	40.5	17	63.0
Missing	2	4.8	1	3.7
Duration of Use				
1 month or less	1	2.4	0	0.0
2 to 5 months	4	9.5	1	3.7
6 to 11 months	2	4.8	2	7.4
1 to 5 years	15	35.7	10	37.0
> 5 years	5	11.9	9	33.3
Missing	15	35.7	5	18.5
Note: Participants frequently did not provide duration of tranquillizer use if they did not perceive such usage as problematic.				

Only one participant reported using tranquillizers within the prescription guidelines (i.e., less than 1 month). Nearly half (48%) of the participants reporting tranquillizer use indicated that they had been using tranquillizers for more than 1 year.

Problematic Use of Tranquillizers

Twenty-seven of the 42 women reporting tranquillizer use (64.3%) met the criteria for problematic use (i.e., identified by participant as a primary substance or problem substance, or indication of daily use). Although none of these women reported using tranquillizers within the prescription guidelines, 63% indicated that their use was not problematic or that it presented a minor problem in their life. While not statistically significant, there was a trend for women who did not regard their tranquillizer use as problematic to have been using tranquillizers for a shorter period of time than women who identified their use as a major or minor problem (no problem: $M = 8.3$, $SD = 10.8$; major problem: $M = 69.4$, $SD = 84.3$; minor problem: $M = 63.7$, $SD = 48.2$, in months), $F(2, 23) = 2.85$, $p = .08$.

Multiple Substance Use

The vast majority ($n = 36$, 85.7%) of the women reporting tranquillizer use indicated that they used at least one other substance in the 6 months preceding their entry into substance-abuse treatment. Alcohol was implicated in all cases ($n = 36$) where tranquillizer use was reported in conjunction with other substance use. The use of marijuana ($n = 28$, 66.7%) or opioids ($n = 27$, 64.3%) was also frequently reported, while the use of cocaine ($n = 16$, 35.7%) or heroin ($n = 7$, 16.7%) was less frequently reported. For women reporting the concurrent use of tranquillizers and at least one other substance, the average duration of problematic alcohol, cocaine, marijuana, or opioid use exceeded the duration of tranquillizer use (see Table 2). All 17 of the participants who identified tranquillizers

Table 2 *Duration (in Months) of Substance Use Among Multiple Substance Users (n = 36)*

Substance	M	SD	Minimum	Maximum
Alcohol	172.9	94.8	12	360
Marijuana	159.4	112.6	12	360
Cocaine	77.2	70.6	12	240
Opioids	74.4	62.8	18	264
Tranquillizers	53.2	58.31	2	240
Heroin	52.5	67.8	3	186

as one of their primary substances reported the *problematic use* of at least one other substance. On average, these 17 participants reported the problematic use of three other substances ($M = 2.9$, $SD = 1.3$).

Discussion

As anticipated, tranquillizer use and misuse among women in substance-abuse treatment was found to be pervasive. Nearly half of the participants indicated that they used tranquillizers at least once in the 6 months preceding their entry into substance-abuse treatment. Further, only one participant reporting tranquillizer use indicated that she had been using tranquillizers within the recommended prescription guidelines (i.e., less than 4 weeks; Ashton, 2002). The average duration of tranquillizer use in this population (4 years) far exceeded safe prescription levels (less than 1 month), yet a considerable number of the women did not perceive their use as a significant problem.

Another alarming finding was that the vast majority of women reporting tranquillizer use reported concurrent use of at least one other substance. In the majority of cases, alcohol was the substance most likely to be used, but a significant number of the women reported concurrent use of cocaine, marijuana, and opioids. While concurrent use of tranquillizers and alcohol has been documented in previous studies (e.g., Beckman, 1994; Celentano & McQueen, 1984; Corrigan, Israel, Naranjo, & Orrego, 1994), the current study provides evidence of co-addiction to tranquillizers and other substances. In all cases of multiple substance use, the women combined tranquillizers with alcohol — another central nervous system depressant. This combination of substances increases the risk for a variety of negative health effects, including overdose.

Another interesting finding is that the women reporting concurrent use of tranquillizers and other substances had been, on average, consuming the other substances (e.g., alcohol, cocaine, heroin, marijuana, or opioids) longer than tranquillizers. This suggests that, as hypothesized by Celentano and McQueen (1984), tranquillizers are being prescribed by physicians, nurses, psychiatrists, or other health-care providers with prescribing privileges to alleviate symptoms or other manifestations of problematic alcohol and/or other substance use, thus creating multiple substance-use problems among women.

Since a significant number of women in substance-abuse treatment may be dependent on tranquillizers, such treatment represents an opportunity for service providers to identify, educate, and intervene with women who are overusing tranquillizers. Routine screening by substance-abuse therapists for tranquillizer abuse could result in the identification of women requiring intervention. Intervention in the context of

substance-abuse treatment could consist of alternative methods of stress and anxiety management and of education by a nurse or other health-care provider in tranquillizer abuse, tolerance effects, withdrawal effects, and the health consequences of overuse. Additionally, as suggested by Dr. Heather Ashton (2002), a leading expert in benzodiazepine addiction, a withdrawal plan and tapering schedule enlisting the support and expertise of a multidisciplinary team of health professionals (e.g., nurses, physicians, addictions experts, pharmacists) could be developed to assist the client in safely withdrawing from tranquillizers.

While the present study is unique in its exploration of tranquillizer overuse in a sample of women in substance-abuse treatment, some limitations must be acknowledged. Because the sample was very specific (Ontario women in residential substance-abuse treatment), the findings may not generalize to all women who use tranquillizers. Further, the study relied on self-reports of substance use without additional validation. Therefore, the findings should be interpreted with caution. Finally, the participants did not specify which types of tranquillizers they used; therefore, in order to fully understand and intervene with women's overuse of tranquillizers, more information is needed about the specific types of tranquillizers used by participants, the circumstances surrounding the use of tranquillizers, and the conditions under which tranquillizers are being prescribed.

In conclusion, this study found that tranquillizer use is common among women in substance-abuse treatment and is complicated by the concurrent use and abuse of other substances. Routine screening of this population could help identify women who overuse tranquillizers and who should be targeted for further education and intervention by a team of health-care providers.

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Author's Note

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Designer's Corner

Drinking Patterns and Problems: A Search for Meaningful Interdisciplinary Studies¹

T. Cameron Wild

This paper outlines an interdisciplinary framework for conducting research on drinking patterns and problems, reflecting a social-ecological perspective on person-environment interactions (Stokols, 1996). The sheer volume of existing alcohol research precludes a systematic and thorough review of all relevant sources. This paper presents a set of arguments about implicit disciplinary and methodological assumptions that have slowed the development of meaningful interdisciplinary approaches to research on drinking patterns and problems. The longer online version of the paper presents these arguments in detail and outlines basic elements of a conceptual framework for research that involves three central constructs studied at four levels of analysis and incorporating three distinct methodological perspectives. That version presents selected empirical studies and theoretical statements with reference to the coordinates provided by these dimensions.

Problems in Formulating an Interdisciplinary Conceptual Framework

Implicit Assumptions About Appropriate Levels of Analysis

One prominent approach to the study of drinking patterns and problems emphasizes the occurrence, distribution, and determinants of alcohol use and its consequences in *populations*. This tradition imports collectivist assumptions from epidemiology and sociology by using national-, regional-, and community-level measures of drinking patterns and problems. Several traditions within this approach can be identified, each adopting its own measurement strategies for assessing drinking patterns and problems (Babor, 1990). For example, Grant (1993) distinguishes among three epidemiological perspectives on population-level drinking phenomena. From the perspective of *psychiatric epidemiology*, discrete or categorical measurement strategies are used to classify populations with

¹A longer, more detailed version is published in CJNR online at www.ingentaselect.com

reference to alcoholism, alcohol dependence, and other psychiatric diagnostic categories. This perspective has led to the development of interview schedules designed to identify alcohol-use disorders as defined in the Diagnostic and Statistical Manual of Mental Disorders (DSM) and the ICD systems. The several prominent measures developed within this perspective include the Alcohol Use Disorders and Associated Disabilities Interview Schedule (AUDADIS; Grant & Hasin, 1990) and the Diagnostic Interview Schedule, Alcohol Module (DIS-III-R; Blouin, Perez, & Blouin, 1988). From the perspective of *psychosocial epidemiology*, dimensional rather than categorical measurement strategies are used to classify populations in terms of mental health, including alcohol-use disorders. This perspective relies heavily on the psychometric tradition imported from psychology, which emphasizes reliability and internal consistency of items purporting to measure alcohol-related disorders. Finally, *epidemiologic sociology* developed in part as a response to problems inherent in defining alcoholism as a disease entity, and in response to the notion that drinking problems are too diverse to be described as part of a single disease construct. This approach emphasizes constructs as volume of drinking (Skog, 1991), along with frequency, usual quantity, and variability of consumption (Edwards, Gross, Keller, & Moser, 1976; Rehm, 1998; Straus & Bacon, 1953) and alcohol problems (Rehm, Frick, & Bondy, 1999).

Another tradition in the study of drinking patterns and problems emphasizes the psychosocial characteristics of *individuals*. This tradition imports individualistic assumptions from biology and psychology by using person-centred measures of the traits, thoughts, and motives associated with drinking patterns and problems. Included in this tradition are research on genetic influences on alcoholism and alcohol problems (Merikangas, 1990) and studies of personality influences (e.g., sensation-seeking, behavioural under-control) on drinking patterns and problems (Galen, Henderson, & Whitman, 1997; Howard, Kivlahan, & Walker, 1997; Martin & Sher, 1994; Pedersen, 1991; Pedersen, Clausen, & Lavik, 1989; Sher, 1991). Research on alcohol expectancies (Christiansen, Goldman, & Inn, 1982; Christiansen, Smith, Roehling, & Goldman, 1989; Goldman, Brown, & Christiansen, 1987) and motives for using alcohol (Cooper, 1994; Cooper, Frone, Russell, & Mudar, 1995) also rest on explicitly individualistic assumptions about how drinking patterns and problems arise.

Thus, the extent to which researchers adopt disciplinary assumptions about the "reality" of the individual (a physiological and/or psychological perspective) or the "reality" of populations (a sociological and/or epidemiological perspective) constrains the type of variables included in the-

oretical models of drinking patterns and problems. In order to bridge these diverse disciplinary traditions, we need a conceptual framework for the study of drinking patterns and problems that can accommodate both individual (person-level) and aggregate (social-group) variables and that allows for integration across studies.

Implicit Assumptions About Methodological Emphasis

Alcohol researchers also import implicit disciplinary assumptions from parent disciplines in the health and social sciences about the value of different methodological perspectives for use in studies of drinking patterns and problems, in particular the role of descriptive and explanatory methodological perspectives. This manifests as a tension between empirical studies that attempt to *enumerate* drinking patterns and problems using existing instruments and studies that attempt to *explain* how drinking and associated problems dynamically occur. Because these methodological issues have not been extensively discussed in the literature, researchers have not yet taken a clear position on the relative emphasis of description or explanation required in empirical work. This situation has impeded the development of an interdisciplinary framework for studies of drinking patterns and problems.

On the one hand, research on drinking patterns and problems could set a descriptive methodological goal for empirical studies. However, within the domain of descriptive studies, alcohol researchers have been slow to address the question of whether research should emphasize an objective, third-person (in anthropological terms, an *etic*) perspective, or a subjective, first-person (or *emic*) perspective on drinking patterns and problems. On the other hand, alcohol research could set an explanatory methodological goal for empirical studies. This would be reflected in the position that the essential aim of research is to provide natural-scientific causal explanations (Hempel, 1966) and would be manifested in quantitative studies that attempt to predict specific types of drinking patterns and problems.

Lack of clarity on the relative roles and importance of descriptive (whether third- or first-person) and explanatory research methodologies has led to a proliferation of studies on drinking patterns and problems that are not easily reconciled or integrated. Some investigators use objective techniques (economic analyses, social surveys, quantitative analyses) to describe the distribution of alcohol consumption in populations (Skog, 1980, 1985) or to explain drinking patterns and problems (Gruenwald, Treno, Taff, & Klitzner, 1997; Holder, 1998; Midniak, Tam, Greenfield, & Caetano, 1996; Rehm et al., 1996). Others use more interpretive techniques (key-informant interviews, ethnography, focus groups,

interpretive analyses) to characterize how people, communities, and cultures view drinking patterns and problems (e.g., Heath, 1993; Single, 1997). In practice, there has been little attempt to reconcile or integrate studies across these diverse methodological goals and strategies. In order to bridge disciplinary traditions, we need a conceptual framework for the study of drinking patterns and problems that can accommodate methodological pluralism and provide guidance in the timing and relative importance of descriptive, explanatory, qualitative, quantitative, third- and first-person methods.

Towards an Interdisciplinary Conceptual Framework: General Dimensions

An interdisciplinary approach to drinking patterns and problems will require theory and research situated at four distinct levels of analysis — intra-individual, inter-individual, community, and national — studied from three complementary methodological perspectives: enumeration studies designed to identify consumption and consequences using established instruments, descriptive studies designed to enhance the measurement of constructs in the field, and explanatory studies designed to test theories about how drinking patterns and problems arise. Beyond these general conceptual and methodological principles, empirical research on drinking patterns and problems would benefit from the articulation of a set of fundamental *constructs* that require systematic investigation. Three constructs provide conceptual reference points for empirical studies in the area as well as categories of theories and variables: (1) alcohol consumption, (2) consequences of drinking, and (3) problem identification. When these three substantive constructs in studies of drinking patterns and problems (consumption, consequences, problem identification) are crossed with the proposed four levels of analysis (national, community, inter-individual, intra-individual) and three methodological perspectives (enumeration, description, explanation), the result is a three-dimensional interdisciplinary framework for alcohol studies.

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Happenings

Mental Health and Addictions: Renewed Hope for Better Care

Georgiana Beal

Examination of the care needs of individuals suffering from mental illness and addictions shows that as many as 75% of the people who need care receive none at all (Ontario Ministry of Health, 1990). Further, about 20% of the general population in Canada are afflicted with mental illness or addiction in any given year, and 3% have severe and persistent disablement (McEwan & Goldner, 2000; Offord et al., 1996). This figure is even higher amongst those in diverse ethno-cultural communities who face not only high levels of stigma but also language and other cultural barriers (Garfinkel, 2002).

In terms of addictions, there are many devastating effects. One in 10 adults reports problems with drinking, and in 1995 more than 6,500 Canadians died as a result of alcohol use, while over 80,000 were hospitalized for alcohol-related health problems (Canadian Centre on Substance Abuse [CCSA], 1999). The health-care cost of alcohol in Canada is 2.7% of GDP, 30% to 90% of people receiving alcohol/drug services have a concurrent disorder, and 65% of people receiving mental health services have a concurrent disorder (Murthy, 2001).¹

Smoking is also a large factor in mortality in Canada; one in six deaths is attributed to smoking (CCSA, 1999).

The *Canada Health Act 1984* proclaims that protecting, restoring, and promoting the physical and mental well-being of Canadian residents and facilitating reasonable access to health services, without financial or other barriers, is a primary objective (c.6 s3). The above statistics make it abundantly clear that the objectives of the Act are still far from being realized. Since the early 1990s, the Province of Ontario has made a concerted effort to direct comprehensive services to those who are most in need of mental health and addictions care. The principles underlying the mental health reform system and policy development in Ontario include: creat-

¹ Concurrent disorder refers to having both a mental health problem and an addiction problem.

ing a system in which the consumer is at the centre; tailoring services to consumer needs, with a view to improving quality of life; linking and coordinating services so the consumer can move easily from one part of the system to another; and basing services on best practices. One of the most important components of the government's operational framework is the notion of shared service models of care and a comprehensive continuum of services (Ontario Ministry of Health, 1999). In this article I will attempt to illustrate that the commitment of the Centre for Addiction and Mental Health to the health needs of the people of Ontario is supporting the principles of mental health reform and providing care for those who suffer the effects of mental illness and addictions.

The Centre for Addiction and Mental Health, CAMH (formed in 1998 through the successful merger of the Addiction Research Foundation, the Clarke Institute of Psychiatry, the Donwood Institute, and the Queen Street Mental Health Centre), is the largest mental health and addictions facility in Canada. Here, clinicians, researchers, clients, and many other stakeholders are brought together to provide focused, client-centred care, with a strong commitment to developing new research and practice initiatives that have implications for population health.

Not only is there a responsibility for treatment, research, health promotion, and education, but there is also a need to convey the complexities of mental illness and substance abuse, the difficulties that patients face, and the urgent need for advances in basic and clinical sciences. Of utmost importance is the need to convey the necessity for advocacy regarding housing, employment, and income support.

The merging of mental health and addictions resources has brought models of care to the fore and facilitated the development of new understandings. For example, we have developed a best-advice paper on what is effective in terms of immediate and long-term help for youths with alcohol and drug problems (Centre for Addiction and Mental Health, 1999). In terms of new models, our approach to addictions care includes the principle of harm reduction, and we are now better able to understand and provide care for those who have combined pathogenesises. As another example, among women with depression, substance-use problems, and anorexia nervosa, the rate of sexual abuse is 2.5 that among control women. As a result of the merger, we are able to offer treatment for these problems.

We are offering care that is tailored specifically to the needs of those with mental illnesses and addictions. For example, our Addiction Medicine Program includes methadone maintenance treatment, a nicotine dependence clinic, medical withdrawal management, and pain and chemical dependency consultation. Our addictions assessment and

general treatment program offers services for impaired drivers, day and residential services, and treatment programs for special populations. These services include the Rainbow Service for lesbian, bisexual, gay, and transgendered clients; OPUS 55 for older persons; a court diversion program; and services for women, youths, and families.

We have developed a screening instrument for clients with co-occurring addiction and mental health problems, to help us determine who needs specialized assessment. These clients are seen within CAMH's Concurrent Disorders Program, which offers several specialized treatment clinics: the Dialectical Behaviour Therapy Clinic for Borderline Personality and Substance Use Disorders, the Anger and Addiction Clinic, the Eating Disorders and Addiction Clinic, and the Integrative Group Psychotherapy Clinic. There are also services for trauma and addiction and support groups for people with severe, persistent mental illness and substance-use problems. Also worth noting is the Problem Gambling Service, which sees approximately one quarter of all those in Ontario who seek specialized treatment for this emerging issue.

After 4 years of operation, CAMH has gained much ground. Care delivery has increased by 25%, so that we are now serving 21,000 clients per year, while our research budget has doubled to \$30 million per year.

In terms of nursing's contribution to the care we are providing, we have developed a number of projects to increase the capacity of programs to deliver care to those with mental illness and addictions. We are currently participating in the Registered Nurses Association of Ontario's pilot project for Best Practices Guidelines for Smoking Cessation. Eventually, the guidelines will improve the ability of nurses across the province to understand the process of smoking cessation and will increase their knowledge base and confidence in providing client-centred care. This project has completed the surveys pre- and post-training for smoking cessation and we are working on incorporating skills into daily clinical practice, since a large percentage of our clients smoke with little being done to help them.

An initiative led by Caroline O'Grady, a member of our advanced-practice nursing staff, is designed to provide practitioners with comprehensive skills in concurrent mental illness and substance-use disorders. Currently we are offering training workshops to increase staff knowledge, competency, confidence, and skills in the identification, assessment, and treatment of co-occurring schizophrenia and substance-abuse/dependence disorders.

Funding is being sought for two other projects — one on the development and implementation of a support/psychoeducational group for family members of individuals with concurrent mental illness and sub-

stance-abuse disorders, and one on partnering with families on a program of family-focused support and education.

CAMH is involved in many partnering initiatives. We collaborate on a shared-care model with hostels and administer an aboriginal health program. We are also partnering with schools around addictions programs and are providing employment support to clients.

We are also moving ahead with electronic assessment tools. For example, The Roster of Electronic Assessment Tools (TREAT) is a Web-based program that has a number of assessment tools. It not only gathers data, but also calculates scores and provides immediate results. This means that clinicians get immediate feedback — they can see results of a single assessment, or see change over time. This tool includes both mental health and addiction assessment instruments.

Since our firm belief is that the context of care is as important as the care itself, we are very excited about our site-redevelopment project. By redeveloping the site we will be able to break down the barriers facing people as they seek care, and ensure that care, prevention, research, and education are inextricably linked. Further, we will link up programs and other providers in order to improve access to the best possible care as close as possible to the place where it is needed. Therefore, our new model of care will help connect a greater range of communities and enable access to culturally competent clinical services in the field. This model is related to our plans to create a health-care, research, and education village at our Queen Street site as part of our redevelopment plan. By de-institutionalizing the institution itself and replacing it with an “urban village,” with public streets, sidewalks, and private green spaces, we will create the conditions of a real community setting that is familiar to those who seek treatment. As I cannot really describe all the components of this village here, I invite readers to view the concept more fully at www.camh.net

This article has provided an overview of the many initiatives of the Centre for Addiction and Mental Health. We are following the principles of expert knowledge development in the field and the *Making It Happen* document (Ontario Ministry of Health, 1999) as we work to improve the lives of those who are suffering from mental health and addictions problems. Our clients deserve nothing less.

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Introduction

As in the women's health field, advances in women's addiction treatment have been slow and fragmented. The current literature on women's addiction treatment is limited and fragmented, with a focus on the clinical practice in women's addiction care is not fully integrated approach. A multidisciplinary and interdisciplinary approach is necessary in order to address the complex issues involved in women and addiction.

A few treatment programs in Canada address cigarette smoking as part of addiction treatment that do not integrate with women's addiction care. A fully integrated women's addiction treatment program was developed at Women's Health Centre, Vancouver, British Columbia. The program was developed at Women's Health Centre, Vancouver, British Columbia, and focuses on addressing smoking addiction as part of women's addiction treatment. The program is based on supporting women's motivation to change their smoking patterns in the context of residential treatment for drug and alcohol use, and in the aftercare period.

Integrating Tobacco into Addictions Treatment

Cigarette smoking poses a serious threat to the health of addicted women; there has been resistance to considering tobacco as a drug, along with other substances, in addiction treatment.

Happenings

Integrating Treatment for Tobacco and Other Addictions at the Aurora Centre of the British Columbia Women's Hospital and Health Centre¹

Nancy Poole, Lorraine Greaves, and Renée A. Cormier

Introduction

Experience in the women's health field indicates that women often experience addictions in concert with other social and health concerns, making intersections among substance use, mental health and illness, trauma, violence, and HIV/AIDS a key issue. However, both research and practice often overlook these intersections and resulting co-morbidities and tend to address substance use in isolation. In addition, research and practice concerned with alcohol and other drugs rarely address tobacco addiction, so that clinical practice in women's addictions often is not fully informed by an integrated approach. A multidisciplinary and interdisciplinary approach to both research and practice is necessary in order to address the complex issues involved in women and addiction.

While few treatment programs in Canada address cigarette smoking in the context of other addictions, those that do are meeting with some success. The Aurora Centre, a multi-faceted women's substance-use treatment centre based at British Columbia Women's Hospital and Health Centre in Vancouver, does address nicotine addiction in the context of treatment for other addictions. The initiatives taken by the Aurora Centre since 1998 are focused on supporting women's motivations to examine and change their smoking patterns in the context of residential treatment for other drug and alcohol use, and in the aftercare period.

Integrating Tobacco into Addictions Treatment

Although cigarette smoking poses a serious threat to the health of substance-addicted women, there has been resistance to considering tobacco a "problem drug," along with other substances, in addictions treatment

¹A longer, more detailed version is published in *CJNR* online at www.ingentaselect.com

programs. This resistance stems from three sources. The most significant barrier is the perception that addressing cigarette smoking will interfere with and have a negative impact on treatment for other addictions (Hahn, Warnick, & Plemmons, 1999). A second barrier is resistance by staff members who may be smokers themselves to the creation of a smoke-free environment (Bobo & Davis, 1993). Finally, resistance within addictions treatment programs mirrors societal resistance in terms of accepting tobacco as a problem substance.

Over the past decade, evidence has slowly emerged indicating that treatment for tobacco addiction does not interfere with treatment for other addictions (Abrams, Monti, Niaura, Rohsenow, & Colby, 1996; Hurt et al., 1994; Martin et al., 1997). In addition, some studies have found that treating tobacco addiction in conjunction with treatment for alcohol and other drugs increases the chances of maintaining sobriety (Bobo, Schilling, Gilchrist, & Schinke, 1986; Orleans & Hutchinson, 1993; Trudeau, Isenhardt, & Silversmith, 1995). Treatment centres have addressed staff resistance by offering, supporting, and paying for personnel to undergo smoking-cessation treatment themselves (Campbell, Krumenacker, & Stark, 1998).

Another myth that is being discredited is that clients being treated for substance abuse are not ready to quit smoking or would be overwhelmed by undergoing nicotine withdrawal during treatment for other addictions.

Acknowledging Tobacco as a "Problem Drug"

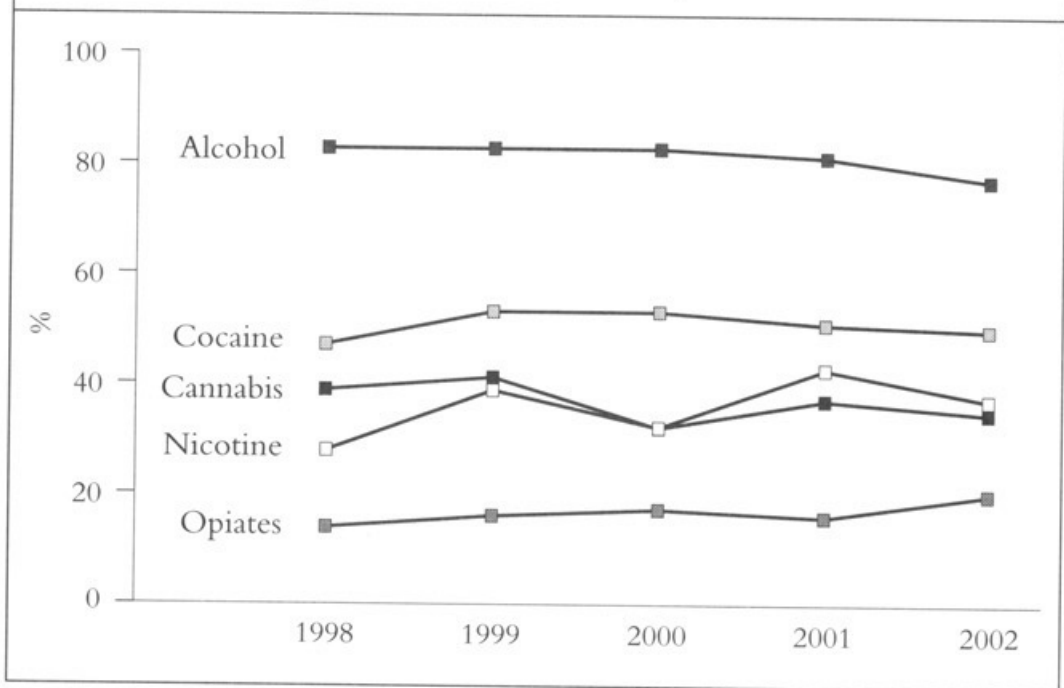
Central to the assessment of addictions problems and individualized treatment planning is the identification of problem drugs by those entering treatment. Traditionally, problem drugs were identified by the woman entering treatment in conjunction with her referring agent, yet seldom did women identify tobacco as one of their problem drugs.

In 1997 the Aurora Centre staff began to draw attention to tobacco as a problem for women by presenting it as a drug that clients might consider among their "top three problem substances" upon entering the program. Since that time, women entering treatment have consistently identified nicotine as one of their top three problem drugs (see Figure 1). In 2001, 76% of women entering treatment were smokers and 43% identified nicotine as one of their top three problem drugs. Only alcohol and cocaine were cited more frequently.

Creating a Welcoming and Supportive Setting for Cutting Down on Smoking

Removing barriers to access to intensive treatment is an ongoing challenge for the Aurora Centre and other treatment centres for women.

Figure 1 *Drugs Identified by Aurora Centre Clients as Their "Top Three Problem Substances," 1998–2002*



Developing strategies for removing barriers as varied as transportation costs, pregnancy and mothering-related issues, lack of community-based referral agents, and use of prescribed psychotropic drugs is a constant challenge. At Aurora it has been important for program planners to create a setting that is welcoming for women at all stages in the process of changing their smoking habits. Some women are not yet ready to make a change, but some clearly want to use the treatment context to quit. Steady leadership has been required to bring about the environmental support necessary for women at both of these stages.

One strategy was to make the smoking space less visible (with the non-smokers in mind) and less convenient (as a deterrent for smokers) by moving it from a 4th-floor rooftop deck (easily accessible to the 5th-floor program) to the street level. While less convenient for the smokers and less irritating for the non-smokers, this arrangement was not supported by patients and staff of other women's health services, who had to pass by the smokers at the main entrance. Consequently, a pagoda was built further out on the hospital grounds to create more space around the smokers and move them away from the entrance.

Another way of encouraging change in smoking patterns has been to link smoking to other components of the program that support improved health. Unsupervised early-morning walks, a component

designed to support health recovery, were often being used as an opportunity to smoke and access caffeine at the local coffee bar. To shore up the motivation of those who want to quit smoking, and to encourage all clients to value the benefits of exercise over stimulants, staff members now join the walks. The yoga instructor and the nutritionist at Aurora also stress the benefits of quitting smoking and the benefits of yoga and nutritional strategies in supporting changes in smoking patterns.

Smoking-Awareness Programming Within Treatment

Catching Our Breath, developed by Deborah Holmberg-Schwartz (1998) for the Women's Health Clinic in Winnipeg, Manitoba, was chosen as the basis for the Aurora Centre's intervention on tobacco addiction. This program focuses on empowering women to make and sustain change in their lives by identifying and adopting a variety of self-care strategies that may be equally applicable to quitting smoking and maintaining abstinence from other substances.²

Five or six 1-hour sessions based on the Catching Our Breath model are offered over the course of each residential treatment cycle. All participants, whether they are smokers or not, attend the first session, which is oriented around self-care and making changes related to all categories of drugs. The other sessions focus specifically on tobacco and are designed to help participants increase their knowledge of the physical effects of smoking, question some of their assumptions about smoking, appreciate the influence of the tobacco companies and the media on their health, and learn specific change strategies such as "thought stopping."

Evaluation after the first year of the program showed that by the end of treatment 62% of participants were smoking less and 43% planned to quit within 6 months of completing treatment. Participants rated highly the information provided on the physical impact of smoking, on the statistics related to the risks of smoking, and on cigarette advertising. Consistent with DiClemente and Prochaska's (1998) *pre-contemplation* and *contemplation* stages of change, they clearly benefited from the consciousness-raising about the risks and impact of smoking. In the year 2000, 33% of the clients reached for a follow-up interview had in fact quit smoking within 6 months of completing treatment.

This response has been gratifying for program planners at Aurora in affirming the importance of a harm-reduction approach to smoking in treatment programming. The creation of the conditions for learning about the risks of failing to change smoking habits and strategies for

² An evaluation of the Catching Our Breath model implemented in several contexts at the British Columbia Women's Hospital and Health Centre was designed and first implemented in 1998 (see Horne, Barr, & Greaves, 1999).

instituting change, along with a non-judgemental approach whereby participants are free to discuss their feelings and thoughts on smoking, have proven beneficial to women in treatment. It has in fact facilitated participants' movement along the continuum of change to the *action* stage (DiClemente & Prochaska, 1998) in the aftercare period.

Smoking-Cessation Programming in the Aftercare Period

The Aurora Centre also offered a Catching Our Breath group as one of four groups piloted in 2001 to address the need for aftercare support for women completing day and residential treatment. The women who participated in these groups had become interested in quitting or reducing their smoking while at Aurora. They chose to build on the motivation and progress made over the course of treatment by participating in these aftercare sessions. Two cycles of an aftercare smoking group were offered — a 12-week session and then (based on feedback from participants) a 10-week session.

The women participating in these groups had a long history of smoking. None had smoked for less than 10 years and many had smoked for over 30 years. In the year prior to joining the group, participants had made considerable effort to address their smoking (43% had tried to quit, 43% had tried to cut down, and 64% had paid more attention to the times and places they smoked). This confirms that women who have entered treatment for other drug problems do indeed see their cigarette smoking as problematic and are ready to accept help with reduction or cessation.

Consistent with the previous evaluation of the Catching Our Breath program (Horne et al., 1999), specific health strategies employed by the participants were identified at the beginning and end of the group intervention. Over the course of the Aurora aftercare group intervention, the participants *increased* their use of health-oriented strategies for self-care, including relaxation activities, breathing exercises, and participation in leisure and physical activity. They also increased the number of times they rewarded themselves for having made positive changes. Interestingly, the participants *decreased* their use of cognitive strategies such as making self-affirmations and “stopping” negative thoughts.

While the aftercare intervention remained open to women with a range of goals (quitting completely, cutting down), more women in the aftercare program had the goal of quitting, which is consistent with DiClemente and Prochaska's (1998) *preparation* and *action* stages of change. The immediate outcomes for the participants in this group were similar to those of the women who participated in the in-treatment “awareness” program. One third of participants in the aftercare group

were able to quit smoking over the course of the group intervention and another 44% reduced their level of smoking.

Conclusion

The introduction of smoking cessation and reduction programming into treatment for women with addictions has been successful at the Aurora Centre for both residential and aftercare (day) patients. Similar results were obtained for the two groups. One third of the women in both groups had quit smoking as measured at 6-month follow-up and larger percentages of women (62% of residential and 44% of aftercare patients) had reduced their smoking. These results reinforce the importance of integrating smoking cessation into addictions treatment for women.

It must be noted that the tobacco education program at the Aurora Centre is a women-centred holistic program that focuses on encouraging positive health behaviours and meaningful self-analysis of tobacco use. Therefore, the results reported here are linked to the adoption of a women-sensitive approach that has been developed and tested in a range of settings and contexts.

Women in addictions treatment report a higher rate of smoking than women in the general population. It is essential that smoking be addressed in order to reduce the health risks that result from use of tobacco in conjunction with other substances. Women who are struggling with addictions to other substances should not be denied an adequate smoking-cessation program on the basis of assumptions about other substances or the attitudes of staff.

It is clear that introducing women-centred smoking-cessation programming into addictions treatment should be encouraged, particularly as women with addictions identify nicotine as a "problem substance" and are therefore primed for its consideration in the planning of their addictions treatment. Resistance by some patients and staff can be seen as a normal response to changing norms and approaches in treatment and a reflection of societal ambivalence regarding tobacco use and smoking cessation.

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Book Reviews

Solutions for the “Treatment Resistant” Addicted Client: Therapeutic Techniques for Engaging Challenging Clients

Nicholas A. Roes

Binghamton, NY: Haworth Press, 2002, 174 pp.

ISBN 0-7890-1121-2

Reviewed by Alice Chan¹

This book could be a useful addition to the library of clinicians working in the area of addictions. It offers no dry theory or research statistics. It is expected that the clinician using this book will be versed in addictions. This book is practical! Its purpose is to offer a wide range of therapeutic techniques for clients who present with addictions issues. The author echoes the opinion of other addictions specialists when he declares that an empathic stance is essential in order to engage and maintain this type of client in a therapeutic relationship.

The 24 chapters are to be read chronologically, as the author refers throughout to material contained in previous chapters. This is not to say that a specific chapter, if read in random order, cannot then be cross-referenced to an earlier one.

Much of the book is focused on therapeutic techniques that will be familiar to clinicians in the field of addictions — aspects of cognitive therapy, motivational interviewing, narrative therapy, and solution-focused therapy, to name a few.

Each chapter outlines one or two therapeutic techniques and illustrates their use with case studies and dialogues between therapist and client. The tone of the book is realistically optimistic. The author recognizes the difficulty of engaging clients with addictions, let alone treating them. Yet his respect for both the client and the clinician is evident in his discussions of some of the interpersonal dynamics and counter-transference issues that can so frequently derail this type of work.

This little book will be a refreshing change for the clinician who feels frustrated by some of the impasses that can and do occur in therapy with clients who have addictions.

¹Ms. Chan is pursuing research funding to support a Best Practices model of care for inpatients with co-occurring, persistent, major mental illness and substance misuse.

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***Creating the American Junkie:
Addiction Research in the Classic Era of Narcotic Control***

Caroline Jean Acker

Baltimore: Johns Hopkins University Press, 2002. 276 pp.

ISBN 0-80186-798-3

Reviewed by Hannah Cooper

In *Creating the American Junkie* Caroline Acker explores the thesis that the construction of opiate addiction as a physiological and psychological phenomenon is a product of a "mosaic" of US disciplinary, policy, and institutional interests configured in the first half of the 20th century. Acker's book, artfully argued and meticulously researched, provides a rich and necessary context for understanding contemporary debates about US drug policies — policies that have resulted in the arrest of over one million individuals, principally impoverished African-American and Latino men, on drug-possession charges annually since 1995.

Acker traces the development of psychiatry, pharmacology, and medicine to elucidate the ways in which each profession framed opiate addiction to simultaneously support the discipline's maturation into a credible, powerful profession and to complement, or at least not challenge, evolving federal drug policy, often gaining federal support in the process. She frequently documents these tandem evolutions through the compelling prism of biography, exploring, through individual perspectives, the decisions and dilemmas with which each profession grappled. Chapter 3, "The Technological Fix: The Search for a Nonaddicting Analgesic," is emblematic of this approach. Here, Acker draws on correspondence and other primary texts to describe the dedication of pharmacologist Reid Hunt to furthering US pharmacology to rival German efforts through research into non-addicting morphine substitutes; she also convincingly documents the consonance of this goal with the federal policy of reducing opiate addiction by restricting the administration of opiates to medically authorized entities.

With the same thorough documentation and attention to detail, other chapters delve into the place of opiate addiction in urban vice reform and the Progressive Era; the development of the Bureau of Social Hygiene and its role in constructing scientific research on deviance; and the recursive relationship of addiction studies and the evolving field of psychiatry.

Creating the American Junkie runs into trouble, however, in its treatment of addiction research in sociology, as described in Chapter 7. Acker

portrays sociological research as posing a challenge to the stigmatizing framings of addiction found in psychiatry and medicine because of these disciplines' orientation to understanding the meaning of addiction in context. To this end, she describes sociology's development through biographies of key sociologists who studied drug use, including Bingham Dai and Alfred Lindesmith. Acker remains largely silent, however, on sociology's relationship to the federal government, and thus leaves the reader wondering how and why the evolution of this discipline, particularly as it relates to addiction studies, diverged from the trajectory she convincingly illustrates for psychiatry, pharmacology, and medicine. Given the relevance of this trajectory and the depth of her argument, this silence leaves the reader at a loss. Additionally, some sections of the book digress from its stated purpose. Much of the discussion in Chapter 6 regarding work and addiction, for example, though interesting, seems to belong elsewhere.

Overall, however, *Creating the American Junkie* is a wonderfully informative, well-argued work that offers a unique perspective on the historical processes through which the United States has constructed its current, hotly contested, drug policies. It merits a place on the shelf next to Musto's *The American Disease* and Courtwright and colleagues' *Addicts Who Survived*.

Hannah Cooper, SM, is a doctoral candidate in the Department of Health and Social Behavior, Harvard School of Public Health, Boston, Massachusetts, USA.

***Motivational Interviewing:
Preparing People for Change, 2nd Ed.***

W. R. Miller and S. Rollnick
New York: Guilford Press, 2002. 428 pp.
ISBN 1-57230-563-0

Reviewed by Clara Miller

Fascinated by the common problem of clients persisting with patterns of behaviour that clearly harm them, psychologists Miller and Rollnick began their collaborative work on motivational interviewing (MI). More than a decade later, MI has become an effective evidence-based approach to facilitating positive health-behaviour change by placing the client in the centre of the change process. This revised second edition of their book extends the application of MI well beyond the field of addictions to include a broad range of health-care domains as well as the criminal justice system.

The book first describes the process of behaviour change and the conceptual framework of MI. These foundations are strengthened through the inclusion of current research and evidence. A key concept of MI, ambivalence, is expounded and elements necessary for behaviour change are summarized. As well, the four guiding principles of MI — express empathy, develop discrepancy, roll with resistance, and support self-efficacy — are refined and defended. Subsequent chapters focus on the learning and application of MI. Excellent case illustrations are provided, offering the reader a unique opportunity to fully comprehend the responsibility and skill involved in facilitating change in others by building motivation and strengthening the commitment to change. In the concluding section of the book, a collection of diverse MI experts discuss the stages-of-change model and applications of MI to their specific client populations. The final chapters review adaptation of MI to the treatment of couples, dual disorders, adolescents, and groups.

This work of Miller and Rollnick is a classic; it broadens the application of MI and strengthens its research base. It could serve as a text for students and also as a reference for health professionals caring for clients who are seemingly “stuck” in negative health behaviours. The skilled application of MI can provide health-care professionals with an evidence-based tool to enhance practice and help clients achieve important health goals. I highly recommend it.

Clara Miller, MSN, RN, is a Nurse Consultant practising in Hubbards, Nova Scotia, Canada.

***Stages and Pathways of Drug Involvement:
Examining the Gateway Hypothesis***

Edited by Denise B. Kandel
New York: Columbia University, 2002. 384 pp.
ISBN 0-52178-969-9

Reviewed by Barbara M. Moffat

Why do some individuals move from non-use of certain drugs to regular use of hard drugs? Kandel's text provides a thorough examination of the Gateway Hypothesis, a theory that posits that legal drugs such as tobacco and alcohol and/or marijuana act as gateways to illicit drug use/abuse. Renewed interest in the Gateway Hypothesis coincides with concerns about adolescent smoking and an increase in marijuana use. This multi-dimensional phenomenon develops from an interaction of complex biological, psychological, and social/environmental determinants and merits the comprehensive attention granted by Kandel and her contributors. The text is a compilation of 1998 conference findings and may be of interest to health professionals and educators working with youths and/or in the field of substance use/abuse.

The book's 16 chapters are divided into six sections covering developmental social psychology, prevention and intervention science, animal models, neurobiology, and analytical methodology. These diverse perspectives strengthen the work. The quantitative research findings support two propositions of the Gateway Hypothesis: the sequencing of initiation between drug classes and the association of drug use whereby lower-sequence drugs increase the risk of higher-sequence drugs. Typically the use of certain drugs precedes others; however, these findings do not support the causality proposition of the Gateway Hypothesis.

A consistent message reverberates, pointing to the urgency of ongoing education and prevention efforts in early adolescence, given the direct relationship between age at onset of drug use and subsequent development of drug problems. The reader is frequently reminded that the health consequences associated with alcohol and tobacco use must not be minimized and that prevention efforts may deter progression to other drugs. Despite unanswered questions regarding the ordering of drug use, this examination of the Gateway Hypothesis provides a framework for developing theories related to drug-use trajectories and specific intervention strategies for various stages of drug behaviour. All reported research was set in the United States; nonetheless, the issue of drug use/abuse is sadly relevant in Canada and worldwide. Ongoing research

in this domain is required and Kandel and her contributors point us in the right direction.

Barbara M. Moffat, RN, MSN, is Project Director, School of Nursing, University of British Columbia, Vancouver, Canada.

Gerontology

December 2003 (Volume 35, N° 4)

As populations age, all disciplines and public-service sectors are beginning to address the issues of ageing from their diverse perspectives. For this issue of *CJNR*, we invite manuscripts that present research focused on enhancing the health and life of older populations through the creation and dissemination of knowledge relevant to gerontological nursing practice and the policy, health-services delivery, and practice issues germane to optimizing the health and lives of older people. We particularly welcome papers on innovative interventions and strategies for promoting health and well-being in later life.

Guest Editor: Dr. Carol L. McWilliam

Submission Deadline: April 15, 2003

Health Promotion

March 2004 (Volume 36, N° 1)

The health promotion movement has had a profound influence on both nursing's perspectives of our clients and health and the development of practice approaches. For this issue, we invite papers that focus on the processes and outcomes of health promotion as well as innovative approaches to health promotion at the individual, family, community, or organizational level. Manuscripts that extend key theoretical and/or policy issues, synthesize and critique the literature, or present research findings are welcome, including those that consider health promotion within vulnerable populations such as persons living with chronic illnesses. We are particularly interested in papers that address innovative health promotion interventions, in any population.

Guest Editor: Dr. Marilyn Ford-Gilboe

Submission Deadline: July 15, 2003

Continuity & Transitional Care

June 2004 (Volume 36, N° 1)

Continuity of care is a commonly used term in nursing and in health-care circles. The continuity-of-care concept is considered an aim and a philosophy of care at both the clinical level and the policy level. Most clinicians consider it a standard of care encompassing discharge planning, transitional care, coordinated care, continuing care, and community care. For this issue of the Journal, we invite papers that describe research studies, present a systematic review, address methodological issues, or provide an analysis of theoretical issues related to continuity of care. We welcome manuscripts reporting on studies that have been undertaken either in Canada or internationally.

Guest Editor: Dr. Margaret B. Harrison
Submission Deadline: October 15, 2003

Please send manuscripts to:
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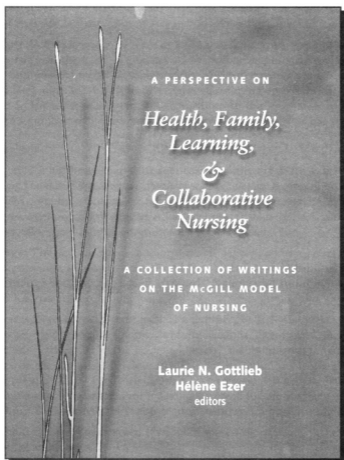
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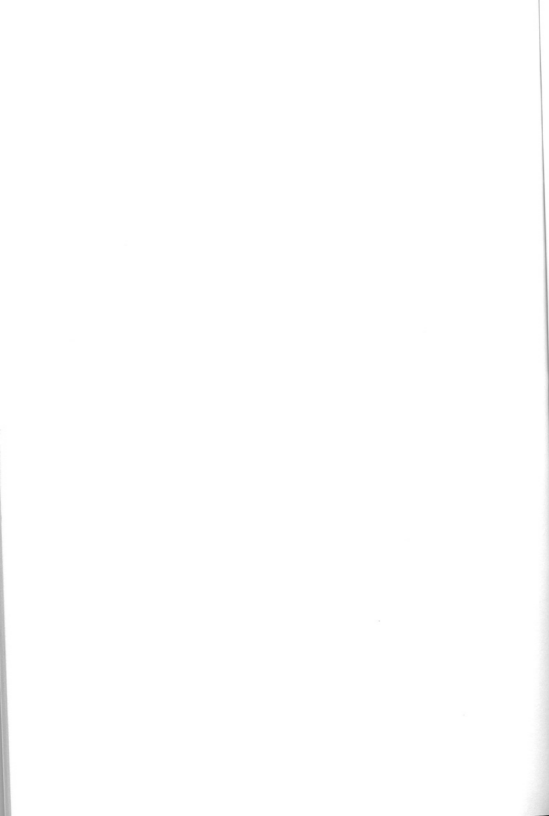
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Manuscripts

Manuscripts must be prepared in accordance with the Fifth Edition of the *Publication Manual of the American Psychological Association*. Research articles must follow APA style for presentation of the literature review, research questions and hypotheses, method, and discussion. All articles must adhere to APA guidelines for references, tables, and figures. Footnotes are to be avoided.

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