

RESEARCH ARTICLE / ARTICLE DE RECHERCHE

Cannabis on campus: gateway to student health literacy for academic health science librarians

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Abstract: **Introduction:** Effective 17 October 2018, recreational or adult-use cannabis becomes legal in Canada, and Provincial legislation will soon follow. The objective of this paper is to determine how Canadian universities are responding to this new reality via provision of web-based education and awareness materials through campus health centres. In addition, the paper explores what framework might exist or be created to partner academic health sciences librarians with student health services in the provision of best practice research for both students and clinicians. **Methods:** A scan of English Canadian university websites was undertaken to determine whether information on cannabis or marijuana directed at students was available, and whether identifiable resources in the area of health science librarians or subject guides were available. Website searches were performed between 25 February and 20 March 2018. **Results:** Results of a website scan of 78 English-language Canadian Universities indicated that only 8 universities (10.25%) have links to material available on cannabis or marijuana (although one link was unpopulated) whereas some 49 universities (63%) have qualified professional librarians associated with health sciences who could provide guidance on such material. **Discussion:** Academic librarians and libraries already play a pivotal role in the retention and support of student academic goals through liaison, reference and instruction. There is precedent as well in some institutions for library partnerships with student services areas such as career services, accessibility and common book programs. This paper suggest that the complex factors related to cannabis education, public health initiatives and health literacy in general present a unique opportunity for academic health science librarians to engage and partner with university health services and clinicians and grow the presence and influence of librarian support on university campuses.

Introduction

In 2018 recreational or adult-use cannabis will become legal in Canada and Provincial legislation will soon follow [1]. How the impact of this new reality will be felt on university campuses across the country is unknown, but there is extensive literature on both increases in consumption and on the harms and impacts associated with cannabis use that universities and university health services must navigate [2-4]. The objective in this paper is to determine how Canadian universities, prior to legalization, have presented relevant information on cannabis or marijuana to students via student health services websites and to use this information as a point of departure to determine potential health literacy

opportunities and partnerships between university libraries and health services.

There is research evidence on cannabis use in Canada. According to Duff “evidence indicating the normalisation of cannabis use in Canada is strong, particularly among individuals aged between 15 and 44 years” [2] and consumption rates in Canada have continued to rise [2]. Likewise, community attitudes have shifted and accessibility has increased even before plans for legalization. Extensive studies have also been done on risks and documented harms associated with cannabis use such as psychosis, respiratory disease and infertility as well as impact on student academic performance [2-5]. Additional adverse reactions and contraindications in young adults in particular may include cognitive and psychomotor impairment as well as gastrointestinal,

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cardiac and respiratory symptoms [6]. Periodontal risks associated with the smoking of cannabis independent of the use of tobacco have also been noted [7].

Research has also considered before-and-after impacts of cannabis legalization among college students in US States such as Colorado, focusing on the impact on grade point averages as well as the relationship between cannabis and alcohol. According to Jones et al., young adults (18-29) are “most likely to indicate current drug use” [8] and some research suggests that any frequency of use is associated with a reduction in overall grade point average. Further it has been suggested that heavier users who are college-aged are at the highest risk for drop-out and delay of completion when compared to non-users or moderate to infrequent users [3, 4]. And yet Jones et al. suggest that this may not necessarily be the case and that daily users’ GPAs are not significantly different from non-users’, positing that “regular cannabis users experience less disruption of cognitive performance than their casual use counterparts” due to increased tolerance and the suggestion that cannabis metabolizes more quickly in frequent users [8]. Studies following legalization in Colorado demonstrate only marginally decreased GPA rates among users of a “once a week or more often but not daily” [8]. In contrast, Suerken et al. suggest that users with infrequent, decreasing, increasing or frequent use all had lower GPA’s “on average” than non-users [4]. Furthermore, literacy levels for interpreting information may vary depending on demographic or cultural factors, including ethnicity, religious affiliation, age, gender and sexual orientation [9].

While the evidence is still contradictory, the concern about the impact of cannabis is well-founded based on what is currently known about patterns of use in this population. Although the reliability of this data may be challenged by the stigma associated with cannabis use and its currently illegal status, data of usage on Canadian campuses can be gleaned from the Canadian Reference Group of the AHCA-National College Health Assessment II instrument, comprising 41 Canadian institutions with a total sample size of 43,780 participants [10]. A 30-day sample suggested that while some 58.4% of students “never used” cannabis, 17.9% had some usage within the past 30 days, and 23.7% had used but not within the past 30 days. Heavy usage was identified in 3.6% of participants who used between 10-29 days of the sample, and 2.5% who used all 30 days [10].

Despite shifting societal attitudes and general increases in consumption [2] there continues to be a growth in educational materials and campaigns that emphasize the risks of usage, but little effective programming aimed at a young adult population. Indeed, the contradiction of stigma and pending legalization has made health promotion and health literacy in this area very challenging. The National Library of Medicine defines health literacy as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” [11]. Some work has been done on health literacy among university students, though there is certainly room for more [12, 13]. Dahl specifically suggests that “[h]ealth sciences liaisons are likely to be apt liaisons to the student health centre. Instruction librarians, whether or not they have liaison assignments with academic departments, may have the background and interests that make them suitable liaisons for student learning centers” [14]. Dahl also reviews some of the literature on this topic and acknowledges the potential complexities including workload assignment, budget, politics and culture.

Important too is the opportunity to enhance public health programming on a broader scale [15-18]. Fischer et al. [15] provide support for focusing on evidence-based lower-risk use guidelines as a key public health tool, emphasizing informed choices for users and potential user groups in order to reduce negative health outcomes. Post-legalization, there will be a tremendous demand for informed and reliable information and such tools will be relevant for governments, agencies, and libraries in shaping the public’s understanding of this new reality, in particular the complexities of age-related usage, frequency or intensity of use, and administration routes. “[O]ne of the distinct advantages of legalization is that it allows open and direct information of users on risk behaviors, product properties, and more with the aim of reducing harmful outcomes from use” [15]. Opportunities for reliable, thoughtful and evidence-based knowledge translation can be expected to increase with legalization.

These complex factors in their entirety present a unique opportunity for academic health science librarians to engage and partner with university health services and clinicians. The objective was thus to determine how Canadian universities are currently presenting relevant information on cannabis or marijuana to students via student health services

websites as a point of departure to determine potential health literacy opportunities and partnerships between university libraries and health services.

Methods

English language Canadian university websites were explored utilizing the member list of Canadian universities of *Universities Canada* [19]. Of a total of 95 member-universities, 78 English language institutions are indicated and were identified for review (see Appendix – Universities Canada member universities for a complete list of universities considered). It should be noted that some of these member universities have status as affiliated or federated with a larger university but nonetheless were included separately because they are stand-alone institutions under Universities Canada; this status is noted in the Appendix. Some shared health centre or library resources of their affiliate but were still tallied independently for the purpose of this scan; it was not always clear whether library services were shared. The method of analysis consisted of documenting the findings from each website scan descriptively, highlighting search results and noting resources that appeared. Searches were performed between 25 February and 20 March 2018.

In order to reproduce the search technique of an average, non-professional searcher, each university website was first searched via its internal search engine for “cannabis” or “marijuana” to determine ease of finding materials via this method. Advanced Google search techniques were not employed. Websites were then explored to identify whether there was a student health centre (sometimes called a health clinic, wellness clinic, wellness services, etc.). University or campus health centres usually provide only primary care services and refer students on for specialist treatment. Campus care can range from full service physicians, allied health therapists, psychological or psychiatric care, to visiting nurse, nurse practitioner or physician services. If the search did not identify a health centre, the search was expanded to include counselling or other student support services. Those sites were reviewed for materials on “cannabis” or “marijuana” and if present to determine the source of the material (internal documentation vs external link or sources). It was also noted whether the sites contained information on alcohol or smoking cessation in order to determine

whether educational resources on substance issues was already a consideration and could provide a framework upon which to build.

Next each university’s library website was reviewed, and a search performed of its subject or research guides for resources related to “cannabis” or “marijuana.” An ancillary search for materials on alcohol or smoking cessation was done at the same time. In addition, a scan of program and degree was undertaken via the same list of subject or research guides to determine whether librarian-mediated resources related to health sciences were available based on the presence of guides in medical or health-related programs. If subject or research guides were not immediately visible on the library website or if the website was particularly complex to navigate, the search was supplemented with a general review of programs via other academic links as well as a review of liaison librarian assignments. As some institutions primarily focus on liberal arts education, it was not expected that there would be health science library resources universally available.

Results

In the initial search it was common to find links to academic research or projects related to cannabis or marijuana. It was also common to see links to news items, events (on or off campus) related to cannabis or marijuana or the pending legislation. Of the 78 websites reviewed (Appendix) only 8 (10.25%) had specific links to education resources available on cannabis or marijuana. Two universities had embedded materials on their own webpages, and the rest provided external resource links to either governmental agency resource pages, Centre for Addiction and Mental Health (CAMH) or to community resource pages not affiliated with a healthcare agency or resource. No materials on external sites were developed for, or directed specifically to, university students but rather for a general, primarily adult, audience. One university had information on medical marijuana but only focused on the documentation required, not education or awareness. Of the 78 websites reviewed, 17 (22%) sites provided resources on, or links to, addiction services or local agencies such as Narcotics Anonymous or Alcoholics Anonymous, or materials on alcohol or smoking cessation. It should be noted that this is likely an incomplete representation, as such

services may also be available through student and employee health plans, and those relevant sites were not considered in the review.

The review of subject or research guides, academic programming and liaison librarian assignments revealed a similar absence of materials related to cannabis, marijuana, alcohol or smoking cessation, or addictions in general. While 49 (62%) of the 78 universities considered have librarians associated with one or more health sciences field, only one subject guide was located on alcohol use, drugs, and tobacco but was focused on public policy and statistics. One guide was found on student wellness that cross-referenced student counselling workshops and events but provided no resources on cannabis, marijuana, alcohol or smoking.

Discussion

There exists at Canadian universities an untapped resource and under-explored opportunity to engage academic health science librarians in health literacy related to cannabis and substance use for students and clinicians alike. Professionals who deal with campus issues such as cannabis, smoking cessation and alcohol have ready but untapped access to a rich source of reputable, current information to support student affairs and health services. While the website review revealed a consistent lack of accessible information and resources available in these areas, it also revealed an opportunity for collaboration and partnership. It should be noted that one of the important limitations of this review was not accessing or considering what physical materials may also be made available in student health clinics, through counselling, student services offices or through the physical health libraries.

Librarians can help negotiate the mixed messages associated with cannabis research and resources. The legalization of cannabis a controversial issue. Its transition to a substance that is legal but controlled has been cause for concern among members of the public as well as medical professionals, and literature suggesting its particular impact on youth and university-aged students with respect to academic achievement and health [4, 8] is indicative of an increasing need for clear, valid and accessible information. The debate and analysis regarding impact on university and college students in particular in Canada is likely to increase exponentially with the

legalization of cannabis as research becomes more feasible and less stigmatized. This is a gateway opportunity to engage librarians with student services and health professionals as partners in health literacy related to an important issue with contradictory evidence.

Academic librarians already participate in student engagement and retention via their work with students as liaison librarians, reference librarians, instruction and other avenues including common book programs, writing centres and student service units [20-23]. Even the library itself is often a hub for student engagement and activity, what Grallo calls a “safe place” that facilitates student transition, retention and success [24]. Librarians are already considered a trusted resource in academic matters, and so the extension of this influence to health literacy in student affairs and programming is neither unreasonable nor unprecedented [24].

Among the population of post-secondary students, the unfamiliar and sometimes overwhelming nature of medical terminology are potential barriers to adequate health literacy. Additionally, as noted by Millican, the increase in international students for whom English is not a first language and who may also struggle with cultural barriers may present particular challenges in the area of health literacy [9]. But even a high language proficiency and education level does not preclude low health literacy. Patients can still struggle with understanding medical terminology or instructions, as well as with “cognitive overload” either through lack of familiarity or a high volume of information leading to resistance and avoidance. Canadian universities are a societal microcosm urgently in need of consistent health literacy programming, and campus health clinics play an important role. The campus health clinic, in addition to basic primary care services, usually supplements a family physician although for international students or students from other regions without a family physician it may serve as a first-stop for all healthcare needs. But whatever the level of medical care provided, the health centre is often the first point of contact for students with medical issues, and so needs to be resourced not only with appropriate and trained staff, but also with appropriate and readily accessible information on public health concerns [25].

Conversely, the traditional academic librarian may not see their role as partnering outside of academic units, and any successful model will be heavily reliant on good relationships and mutual respect. But starting

small, perhaps informally, can reap tremendous benefits not only for students and clinicians, but also for the library itself as librarians are increasingly seen as integral to multiple forms of information seeking taking place across the university community. The academic hierarchy that pervades university culture may be a deterrent to partnerships, and there may be an assumption that librarians are only there to serve the academic mission and not its ancillary support services network.

The traditional academic support model may or may not be relevant here. Considering the lack of librarian-mediated resources or guides gleaned from this study, librarians could initiate the relationship with health services practitioners and students by providing resources and subject guides, cross-referencing health and library services on relevant websites, and perhaps even using library displays to highlight health issues and topics (cannabis, smoking cessation, alcohol, addictions etc.). This would be a small start that could evolve into referring student patients to librarians for resources, and the natural promotion of library services. Expansion of such relationships could include engaging librarians on campus committees or taskforces that relate to student services or student health; sourcing of accessible, plain language materials (print and video) through regional health authorities that could be used in the health centre and made available online; subject guides for health centre, accessibility centre, counselling centres, career services and more.

Campus healthcare providers are also often part of formal or informal case management teams and work with students accessing a variety of services and supports, including perhaps personal counselling, accessibility services, academic advising and even faculty members. Issues of addiction counseling and awareness about addictive substances and controlled substances are not uncommon. There is already a culture within student services to a holistic approach to student support, acknowledging not only the intellectual but also the mental, emotional, physical and spiritual self, and so integrating librarians and their expertise provides another facet to enhance student development. This is a complex task with many participants and multi-faceted information needs and would be well supported by clear pathways to health information literacy.

Limitations of this research and areas for further study

The websites considered were for universities specifically listed with Universities Canada and would not include multi-college universities such as the University of Toronto, with the exception of its independent or federated colleges likewise listed with Universities Canada. Nor were community colleges considered. This research was limited to web resources available via standard search practices, and no advanced Google searches were performed within institutional URLs since the objective was to reproduce the search method of general or average searchers. Some information could therefore potentially have been missed. It is also possible, even likely, that there are print materials available through health services or other student service areas. It is also unknown whether informal relationships already exist between campus health science librarians or whether they are already involved in providing resources for staff or students, and further research could include surveying these populations. However, even if they are, there is little evidence available through publicly available websites, and nor do student health centres or student services website refer to library resources or librarians for health information sources. In addition, the timeframe for the website review was some seven months prior to legalization of adult-use cannabis, and so a similar study could be undertaken following legalization to assess the content and approach taken on this subject by universities through the transition period.

Opportunities for further research

There are several avenues for further related research, including a comprehensive survey and analysis of health-information seeking behaviour of university students to glean a clearer understanding of their needs related to the health concerns and risks of cannabis use. In addition, research could be done on how university students use campus health services for informational or educational purposes either within or separate from a clinical appointment in order to determine current methods of health literacy seeking and better define the information needs of these services and the potential role of librarians to fill those needs. Also, an interview-type study could be conducted to assess the baseline knowledge of students

regarding cannabis, and then a follow-up study could determine whether health literacy increased after accessing librarian-mediated resources. This research could also be extended to Francophone universities, and both English and French community colleges.

Conclusion

Academic health science librarians are an underutilized resource in improving health literacy related to cannabis use among university students and supporting campus healthcare professionals. The introduction of legal adult-use cannabis presents a unique opportunity for librarians to step in (and step up) to propose a new model of collaboration and partnership. This opportunity could enhance the health literacy of students and student health care professionals alike; reduce time needed by health care workers to source and make available information; increase the profile of librarians and library; and drive attention to the multi-faceted role that health science librarians can play outside of a narrowly-defined academic role.

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Appendix – Universities Canada member universities list (English)

English language Canadian university websites were explored utilizing the member list of Canadian universities of Universities Canada. Of a total of 95 member-universities, 78 English language institutions are indicated and were identified for review. Universities marked with an asterisk (*) indicate the presence of links to resources on cannabis or marijuana at the time of the search. The link on the Queen's University website was unpopulated.

University	Health Science Librarian or Subject Guide	Website
*Acadia University		https://www2.acadiau.ca/home.html
Algoma University		https://www.algomau.ca
Athabasca University		http://www.athabascau.ca
Atlantic School of Theology		http://www.astheology.ns.ca
Bishop's University		http://www.ubishops.ca
Brandon University		https://www.brandonu.ca
Brescia University College (Western University)		http://brescia.uwo.ca
Brock University	X	https://brocku.ca
Campion College (University of Regina)	X	http://campioncollege.ca
Canadian Mennonite University		http://www.cmu.ca
Cape Breton University	X	https://www.cbu.ca
*Carleton University	X	https://carleton.ca
*Concordia University		https://www.concordia.ca
Concordia University of Edmonton		https://concordia.ab.ca
Dalhousie University	X	https://www.dal.ca
Emily Carr University		http://www.ecuad.ca
First Nations University of Canada		http://fnuniv.ca
Huron University College (Western University)		http://www.huronuc.on.ca
King's University College (Western University)		https://www.kings.uwo.ca
Kwantlen Polytechnic University	X	http://www.kpu.ca
Lakehead University	X	https://www.lakeheadu.ca
Laurentian U	X	https://laurentian.ca
Luther College (University of Regina)	X	https://www.luthercollege.edu
MacEwan University	X	https://www.macewan.ca
McGill University	X	https://www.mcgill.ca
McMaster University		http://www.mcmaster.ca
Memorial University of Newfoundland	X	http://www.mun.ca
Mount Allison University		http://www.mta.ca
Mount Saint Vincent University		http://www.msvu.ca
Mount Royal University	X	http://www.mtroyal.ca
Nippissing University	X	http://www.nipissingu.ca
NSCAD (Nova Scotia College of Art and Design)		https://nscad.ca

OCAD University (Ontario College of Art and Design)		https://www.ocad u.ca
*Queen's University	<u>X</u>	http://www.queensu.ca
Redeemer University College		https://www.redeemer.ca
Royal Military College of Canada		https://www.rmc-cmr.ca
Royal Roads University		http://www.royalroads.ca
*Ryerson University	<u>X</u>	https://www.ryerson.ca
Saint Mary's University		http://www.smu.ca
Saint Paul University		https://ustpaul.ca
Simon Fraser University	<u>X</u>	https://www.sfu.ca
St. Francis Xavier University	<u>X</u>	https://www.stfx.ca
St. Jerome's University (University of Waterloo)		https://www.sju.ca
St. Paul's College (University of Manitoba)	<u>X</u>	http://umanitoba.ca/stpauls/
St. Thomas More College (University of Saskatchewan)	<u>X</u>	https://stmcollege.ca
St. Thomas University	<u>X</u>	http://w3.stu.ca/stu
The King's University		https://www.kingsu.ca
Thompson Rivers University	<u>X</u>	https://www.tru.ca
Trent University	<u>X</u>	https://www.trentu.ca
Trinity Western University	<u>X</u>	https://www.twu.ca
University of Alberta	<u>X</u>	https://www.ualberta.ca
University of British Columbia	<u>X</u>	https://www.ubc.ca
University of Calgary	<u>X</u>	http://www.ucalgary.ca
University of Guelph	<u>X</u>	https://www.uoguelph.ca
University of King's College		https://ukings.ca
*University of Lethbridge	<u>X</u>	http://www.uleth.ca
University of Manitoba	<u>X</u>	http://umanitoba.ca
University of New Brunswick	<u>X</u>	http://www.unb.ca
University of Northern British Columbia	<u>X</u>	https://www.unbc.ca
University of Ontario Institute of Technology	<u>X</u>	https://uoit.ca
University of Ottawa	<u>X</u>	https://www.uottawa.ca/en
University of Prince Edward Island	<u>X</u>	http://www.upei.ca
University of Regina	<u>X</u>	https://www.uregina.ca
*University of Saskatchewan	<u>X</u>	https://www.usask.ca
University of St. Michael's College (University of Toronto)	<u>X</u>	https://stmikes.utoronto.ca
University of Sudbury		https://usudbury.ca
*University of the Fraser Valley	<u>X</u>	https://www.ufv.ca
University of Toronto	<u>X</u>	https://www.utoronto.ca
University of Trinity College (University of Toronto)	<u>X</u>	http://www.trinity.utoronto.ca
University of Victoria	<u>X</u>	https://www.uvic.ca
University of Waterloo	<u>X</u>	https://uwaterloo.ca

University of Windsor	<u>X</u>	http://www.uwindsor.ca
University of Winnipeg		https://www.uwinnipeg.ca
Vancouver Island University	<u>X</u>	https://www.viu.ca
Victoria University (University of Toronto)	<u>X</u>	http://www.vicu.utoronto.ca/home
Western University	<u>X</u>	http://www.uwo.ca
Wilfrid Laurier University	<u>X</u>	https://www.wlu.ca
York University	<u>X</u>	http://www.yorku.ca/index.html