University of Wollongong
Research Online

Graduate School of Medicine - Papers (Archive)

Faculty of Science, Medicine and Health

2010

Legal 'highs' available through the internet-implications and solutions?

Alison L. Jones
University of Wollongong, alisonj@uow.edu.au

Publication Details
Jones, A. L. (2010). Legal 'highs' available through the internet-implications and solutions?. QJM, 103 (7), 535-536.

Research Online is the open access institutional repository for the University of Wollongong. For further information contact the UOW Library: research-pubs@uow.edu.au

Legal 'highs' available through the internet-implications and solutions?

Abstract
Prescription drugs are purchased via the Internet, but the consistent finding across many different populations is that the Internet appears to be a relatively minor source for illicit purchases of prescription medications by individual end users, the obvious exception being phosphodiesterase inhibitors for erectile dysfunction. In contrast, the world of escalating availability of illicit drugs via the Internet is paralleled by escalating availability of 'legal highs' via the Internet. These sites represent an important public health challenge, not least because of the ease of purchase but also because of the 'relative anonymity' for the purchaser.

Keywords
available, implications, highs, legal, internet, solutions

Disciplines
Medicine and Health Sciences

Publication Details
Jones, A. L. (2010). Legal 'highs' available through the internet-implications and solutions?. QJM, 103 (7), 535-536.

This journal article is available at Research Online: http://ro.uow.edu.au/medpapers/179

Q J Med 2010; **103**:535–536
doi:10.1093/qjmed/hcq066 Advance Access Publication 10 May 2010

Commentary

QJM

Legal 'highs' available through the Internet–implications and solutions?

A.L. JONES

From the School of Medicine, University of Western Sydney, Sydney, New South Wales, Australia

Address correspondence to A.L. Jones, Dean, School of Medicine, University of Western Sydney, Locked Bag 1797, Penrith DC, Sydney, New South Wales, Australia. email: alison.jones@uws.edu.au

Downloaded from http://qjmed.oxfordjournals.org/ at University of Wollongong on August 12, 2012

Prescription drugs are purchased via the Internet, but the consistent finding across many different populations is that the Internet appears to be a relatively minor source for illicit purchases of prescription medications by individual end users,[1] the obvious exception being phosphodiesterase inhibitors for erectile dysfunction.[2] In contrast, the world of escalating availability of illicit drugs via the Internet[3–5] is paralleled by escalating availability of 'legal highs' via the Internet.[6] These sites represent an important public health challenge, not least because of the ease of purchase but also because of the 'relative anonymity' for the purchaser.[4]

Dennehy *et al.*[6] evaluated 28 Internet sites selling 119 'legal highs'. Most sites were hosted in the USA (54%), and 47% of the products were deliberately likened to illicit drugs, such as cannabis (48%) or MDMA (3,4-methylenedioxymetamphetamine, Ecstasy; 23%). The 'most common ingredients of these products were ephedra alkaloids (27%), *Salvia divinorum* (17%), kava (10%), guarana (10%), *Acorus calamus* (10%) and damiana (10%)'.[6] Clearly, this provides evidence that herbal drugs are being marketed for use as legal alternatives to illicit drugs of abuse, and as health care professionals we certainly need to be aware of this.

Of course, what is marketed for purchase through the Internet may not be reflected in the product actually supplied. For example, analysis of the contents of counterfeit phosphodiesterase inhibitors 'Viagra rips offs' shows inconsistent doses of active ingredients (from 0% to >200% of stated dose) and contaminants including talcum powder, commercial paint and printer ink.[2] In one analysis, only 10% of samples were within 10% of the stated tablet strength.[2] Of men who purchase prescription-only medication for erectile dysfunction without a prescription, 67% do so using the Internet.[2] Counterfeit phosphodiesterase inhibitors pose direct and indirect risks to health, including circumvention of proper medical assessment prior to use.[2]

In this edition of the *Q J Med,* the paper by Wood *et al.* examines the biochemical composition of a range of 'legal highs' readily available to the UK via the Internet, and shows that the quantity of active ingredient varies considerably from batch to batch and thus—caveat emptor—may not be what is advertised.[7] This research is important because it shows the inconsistency of product between batches and the potential for unwanted toxicity as a result from 'legal highs'.

Following the accidental death of two teenagers taking legal mephedrone in the UK and the subsequent debate about its re-classification as Class B prohibited drug (http://www.dailymail.co.uk/news/article-1258384/Schools-mephedrone-Meow-Meow-ban-teenage-deaths.html), the Internet availability of illicit and legal highs takes on an imperative for further investigation. How much further can expansion of sales over the Internet reasonably be expected to increase? How can governments regulate such sales?[8] How can the 'quality' of such products be regulated?[8] Liang states that 'virtually no accountability exists to ensure safety . . . . Importantly,

© The Author 2010. Published by Oxford University Press on behalf of the Association of Physicians.
All rights reserved. For Permissions, please email: journals.permissions@oxfordjournals.org

search engines . . . although purportedly requiring ''verification'' of Internet drug sellers using PharmacyChecker.com requirements, actually allow and profit from illicit drug sales from unverified websites. These search engines are not held accountable for facilitating illegal activities.' Liang suggests that in the USA the solution is to create a 'no-cost/low-cost national Drug Access Program to break the chain of demand from vulnerable patient populations and illicit online sellers, makes all Internet drug sales illegal unless the Internet pharmacy is licensed through a national Internet pharmacy licensing program, prohibits financial transactions for illegal online drug sales, and establishes criminal penalties for all parties—including websites, search engines and health care providers—who engage in and facilitate this harmful activity'.

Another suggested approach is to 'reduce abuse potential through the use of abuse-resistant drug designs'.[9] Such drugs were found to have significantly lower levels of abuse than comparator drugs without such designs.

The escalation of illicit and 'legal high' drug availability via the Internet requires new law enforcement and public health initiatives to minimize harm. At the very least, continued monitoring of what is offered and sold from such sites will be needed to determine whether efforts to reduce the availability of drugs are successful, and what exactly is being supplied to the public. Education of consumers and physicians as well as further International concerted governmental interventions are needed to limit the potential scope of this problem.[5]

Conflict of interest: *QJM* paid author for writing this article.

References

1. Inciardi JA, Surratt HL, Cicero TJ, Rosenblum A, Ahwah C, Bailey JE, *et al.* Prescription drugs purchased through the internet: who are the end users? *Ann Pharmacother* 2005; **39**:1634–9.
2. Jackson G, Arver S, Banks I, Stecher VJ. Counterfeit phosphodiesterase type 5 inhibitors pose significant safety risks. *Int J Clin Pract* 2010; **64**:240–55.
3. Ghodse H. 'Uppers' keep going up. *Br J Psychiatry* 2007; **191**:279–81.
4. Forman RF, Marlowe DB, McLellan AT. The Internet as a source of drugs of abuse. *Curr Psychiatry Rep* 2006; **8**:377–82.
5. Schepis TS, Marlowe DB, Forman RF. The availability and portrayal of stimulants over the Internet. *J Adolesc Health* 2008; **42**:458–65.
6. Dennehy CE, Tsourounis C, Miller AE. Evaluation of herbal dietary supplements marketed on the internet for recreational use. *Ann Pharmacother* 2005; **39**:1634–9.
7. Davies S, Wood DM, Smith G, Button J, Ramsey J, Archer R, *et al.* Purchasing 'legal highs' on the Internet-is there consistency in what you get? *Q J Med* 2010; **7**:487–91.
8. Liang BA, Mackey T. Searching for safety: addressing search engine, website, and provider accountability for illicit online drug sales. *American J Law Med* 2009; **35**:125–84.
9. Coleman JJ, Bensinger PB, Gold MS, Smith DE, Bianchi RP, DuPont RL. Can drug design inhibit abuse? *J Psychoactive Drugs* 2005; **37**:343–62.

Downloaded from http://qjmed.oxfordjournals.org/ at University of Wollongong on August 12, 2012