Use of substances among professionals and students of professional programs: A review of the literature

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Background

The objective of this review is to summarise the existing literature regarding substances use by professionals and students in professional programs, and to identify gaps in current knowledge.

The analysis is focussed on the **anticipated and actual reported effects** of substances on occupational performance and quality of experience.

Method

Literature Review

A literature review of English, peer-reviewed journals and professional journals was conducted using multiple databases, including SocIndex, PsychInfo, EMBASE, CINAHL, Medline, and PubMed. Both authors conducted a separate literature review; discrepancies were compared and decisions about inclusion or exclusion were discussed.

Search terms

Search criteria included combining a profession-related term with a substance-related term. Search terms to identify substance use included specific substance names (e.g. "alcohol" or "cocaine" or "Adderall") "substance use" or "substance dependence" or "drugs" or "drug use" or "cognitive enhancement" or "performance enhancement" or "medication." Search terms for professions are listed in the results tables.

Inclusion and Exclusion

Articles were evaluated for inclusion or exclusion at two stages.

First stage: Article title and abstract

It was not feasibility to track *all* articles review and excluded. The process was complicated by an overlap in professional scopes of practice to address substance use in legal and health settings.

Articles were selected that included information about substance use by professionals or students.

There were no limits placed on the date of publication, since some professional categories had few publications and spanned an extensive timeframe.

Second stage: Content review

Inclusion: Articles presented original empirical research that described substance use (e.g. type of substance used, patterns of use, reasons for use).

Exclusion: Discussions articles, commentaries, conference abstracts, theses, literature reviews, single case studies, and treatment outcome studies were excluded.

Articles with insufficient data about substance use were excluded. For instance, articles that collapsed substance use into a broader category of "mental health" were excluded.

Excluded articles tended to focus on surveillance, detection, remediation, regulation, professional codes of conduct, patient safely, diversion, or features of impaired practice.

Results

Data Collection

356 articles were selected at the first stage.
122 articles were selected at the second stage.

- Several articles included more than one profession.
- Dates of included articles ranged from 1984 -2015.

Professional categories (Students)	First Stage (title and abstract) # of articles included	Second Stage (content review) # of articles included
"dental student" or "dentistry student"	3	3
"law student"	2	2
"medical student" or "medical resident" or "resident physician"	77	46
"nursing student"	6	2
"pharmacy student"	8	7
"professional" or "student" or "allied health student" or "physical therapy student" or "occupational therapy student"	2	1

Professional categories (Professionals)	First Stage (title and abstract) # of articles included	Second Stage (content review) # of articles included
"accountant" or "financial advisor" or "stockbroker" or "Wall Street"	0	0
"architect"	0	0
"dentist"	33	10
"emergency personnel" or "police" or "firefighter"	2	1
"health professional" or "allied health" or "social worker" or "physical therapist" or physiotherapist" or "occupational therapist"	16	4
"lawyer" or "attorney" or "litigator" or "judge"	24	12
"nurse"	47	25
"pharmacist"	34	16
"physician" or "doctor"	120	23
"physician assistant"	5	3
"pilot" or "aviator" or "flying crew"	20	4
"professional"	6	2
"professor" or "faculty"	5	3
"psychologist" or "psychologist"	15	5
"teacher"	2	0
"veterinarian"	0	0

Data Extraction

Data extraction of the 122 selected articles targeted information regarding demographics of the population, research methodology, and direct findings pertaining to:

i) Types of substances used
ii) Prevalence of use
iii) Impact of substance on performance and experience

Data Analysis

The *primary* type of reseamethodology per studies

- Clinical assessments n=1
- Chart review n=7
- Focus group n=2
- Interview n=12
- Randomized control study n=1
- **Self-administered survey n=98**
- Surveillance data n=1

Types of substances used

- Studies tended to focus on the **prevalence** of one or more substance, determined by the researchers.
- Substances including licit (e.g. alcohol, tobacco, caffeine), illicit (e.g. cannabis, cocaine, MDMA), and pharmaceutical (prescribed and non-prescribed) drugs.

Effects of substance on performance and experience n=12

- Use of stimulants to enhance concentration, alertness, activity level, productivity, and studying (Alsam et al, 2013); Emanuel et al., 2013; McNiel et al., 2011; Volger, McLendon, Fuller, & Herring, 2014).
- Percocet to obtain sedating effect, while still being productive at work (Dabney & Hollinger, 1999).
- To to enter the "whole realm of healing experience" as a pharmacist (D. Dabney & Hollinger, 2002).
- To enhance socialisation and communication with others (Dabney & Hollinger, 2002).
- Non-prescription ADHD pharmaceuticals resulting in sleep disturbances, irritability/agitation, loss of appetite, shaking/ tremors, visual disturbances (McNiel et al., 2011).
- To alleviate anxiety and unpleasant feelings, aid with sleep, and alleviate boredom at work (Merlo, Cummings, & Cottler, 2012).
- To feel "like everybody else" (Merlo, Cummings, & Cottler, 2012).
- To have a good time; enjoyment (Deressa & Azazh, 2011; Volger, McLendon, Fuller, & Herring, 2014).
- Feeling of guilt, shame, and loss of control by not living up to ideal standards of being a nurse (Lillibridge, Cox, & Cross, 2002).

Limitations

- There is a paucity of research that investigates substance use using qualitative methodologies.
- Research designs tend to limit access to information about the potential positive effects or benefits of substance use.
- The literature review was complicated and time consuming, as the topic of substance use is frequently reported with respect to professional scope of practice.

Application to Practice

To be critical consumers of evidence-informed practice, it is essential to understand the parameters of the existing research. To better understand the impact of substances on occupational performance and quality of experience, occupational therapists and occupational scientists can have a role in emphasising the need for first-person, qualitative accounts.

Conclusions

- Current research about substance use focuses on prevalence rates and negative effects, using predominantly survey methodology. Only 12 articles reported data collected from participants about the *effects* of substances.
- Correlational relationships are drawn with regard to undesired consequences, such as depression and stress. However, research design rarely includes potential positive effects or desired consequences.
- Research findings offer only a surface understanding about the effects of substance use on occupational performance and quality of experience, with a bias toward the negative.