What are the training needs of early career professionals in addiction medicine? A BEME scoping review

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Team Capability to Deliver Project

1. <u>Damien Kelly:</u> Is a Medical Student and summer studentship recipient. He has conducted a review of educational interventions to improve the primary care management of adolescent depression.

2. <u>Ahmed Adam, MPH</u>: Is a Research Assistant on Systematic Reviews with substantial background and training in conducting systematic reviews.

3. <u>Sidharth Arya, MBBS, MD</u>: Dr. Arya is Psychiatrist at the National Institute of Mental Health and Neuro Sciences | NIMHANS · Centre of Addiction Medicine, Department

of Psychiatry. He has received the Early Career Psychiatrist Fellowship awarded by the 13th International Congress of Ain Shams Institute of Psychiatry was held on 3–4 May 2017, in Cairo, Egypt.

4. Blanca Iciar Indave Ruiz, MD, MPH, PhD: Dr. Indave is specialist in Preventive Medicine and Public Health, working as a private medical practitioner. She has conducted a number of systematic reviews including systematic review of evidence on the association between cocaine use and seizures and a Cochrane review on antipsychotic medications for cocaine dependence.

5. Dzimtry Krupchanka, MD, MSc, PhD: Dr. Krupchanka is a senior researcher at the Department of Social Psychiatry, National Institute of Mental Health (Klecany, Czech Republic) and a board member of Young Psychiatrists' Network (YPN); Management of Substance Abuse Unit, Department of Mental Health and Substance Abuse, World Health Organization, Geneva, Switzerland; Institute of Global Health, University of Geneva, Geneva, Switzerland; and a founder of the Network of Early Career Professionals working in the area of Addiction Medicine at the first World Health Organisation (WHO) Forum on Alcohol, Drugs and Addictive Behaviours. He has conducted systematic reviews, including a Lancet scoping review of 25 years' development of mental health care for people with severe mental illnesses in Central and Eastern Europe.

6. Evan Wood, MD, PhD, ABIM, FRCPC: Dr. Wood is clinical epidemiologist / internal medicine physician and Professor of Medicine at the University of British Columbia. He founded Canada's first interdisciplinary Fellowship in Addiction Medicine. As Director of the BC Centre on Substance Use, he oversees US-funded studies on addiction and related harms. Dr. Wood has extensive research experience in clinical epidemiology, especially in evaluating the treatment of addiction and HIV/AIDS, and epidemiologic study design. Dr. Wood has received a number of national and international awards: the Peter Lougheed Award as the best New Investigator by the Canadian Institutes of Health Research and the Canadian Medical Association Award for Young Leaders. In 2010, the British Medical Journal's Junior Doctor of the Year Award, the Canadian Society for Clinical Investigation Research Prize Award, the CIHR–Institute of Population and Public Health and the Canadian Public Health Association's Population and Public Health Research Milestones Award. In 2011, the National Institute on Drug Abuse Distinguished International Scientist Collaboration Award (DISCA), Dr. Wood chaired the Writing Committee for the Vienna Declaration, at 2010 International AIDS Conference. Dr. Wood has published more than 500 scientific papers in international peer-reviewed journals, including first author articles and systematic reviews in the Lancet, JAMA, BMJ and the New England Journal of Medicine.

7. Walter Cullen, MD, MCGP: Dr. Cullen is a General Practitioner and Professor of Urban Health at the University College Dublin. He leads a multi-disciplinary research group working on the role of general practice and primary care in addressing mental health / substance use disorders. His team has 12 researchers that include 4 PhDs and 'Primary Mental Healthcare Research Group' which has realised 73 peer-reviewed publications, Research funding of €3.56M, 'Research Papers of the Year (General Practice)' at Royal Academy of Medicine Ireland Awards in 2008 and 2013. He established Primary Care Teaching Networks at two medical schools. As Irish College of General Practitioners

(ICGP) Research Committee Chair, he oversaw the college's research policy, leading to the appointment of a Research Director and network. His group collaborates with ICGP/Irish Primary Care Research Network/'Socrates' (GP Software Company) to develop / pilot software to enable mental disorders data collection across multiple practices. By actively collaborating with over 40 agencies, including Health Service Executive, clinical practice and service user representatives, his research endeavours to impact maximally upon practice and policy.

8. Jan Klimas, Msc, PhD: Dr. Klimas is Postdoctoral Research Fellow at the British Columbia Centre on Substance Use, University of British Columbia Faculty of Medicine; School of Medicine & Medical Sciences, University College Dublin, Ireland He has published a number of systematic reviews including first author reviews in the Cochrane Collaboration, Journal of American Medical Association, BMJ and others.

Abstract

Background: Substance use disorders (SUD) represent a significant social and economic burden globally. Accurate diagnosis and treatment by early career professionals in addiction medicine (ECPAM) fails, in part, due to a lack of training programs targeting this career stage. Prior research has highlighted the need to assess the specific training needs of early career professionals working in this area.

Aim: To conduct a scoping review of the literature on the self-reported training needs of ECPAM worldwide.

Methods: Medical and education databases will be searched for studies reporting perceived training needs of early career professionals (having completed their training within a five year period at the time of assessment) in addiction medicine. Retrieved citations will be screened and full text articles reviewed for eligibility by two independent reviewers. A third reviewer will arbitrate where there was disagreement. Two reviewers will independently extract data from included studies and conduct a quality appraisal assessment.

Importance: Overall, the evidence on the training needs from this review will inform efforts to optimise ECPAM education internationally. Training needs assessment of early career professionals working in the field of addiction medicine is a priority.

Word Count: 187

Keywords: substance related disorders, medical education, training needs assessment, scoping review

Background to the topic

Substance use disorders (SUDs) represent a significant social and economic burden globally (Degenhardt & Hall, 2012), with the number of people affected continuing to rise (European Monitoring Centre for Drugs and Drug Addiction, 2017). Overall, SUD-related physical and psychological morbidity put challenging demands on national healthcare systems (Murray, 2010). Advances in addiction science have helped to improve care for people with SUDs, aiding in early identification and treatment (Kaner, 2009). These treatments can be delivered in general medical settings and are associated with significant improvements in outcome (Kaner, 2011). In addition, addiction medicine professionals contribute significantly to improved early management of SUDs, as has been described by numerous reports (Cullen 2006; Kaner 2013).

Early career is a crucial stage in the development of health professionals. Adequate diagnosis and treatment by early career professionals in addiction medicine (ECPAM) fails, in part, due to a lack of accredited early-career training programs (Ries, 2009; NCASA, 2000; NCASA, 2012). In North America, a new educational pathway uses medical fellowships to train ECPAM in the diagnosis and treatment of SUDs (El-Guelbaly, 2000). These fellowships seek to promote clinical skill development, scholarship, research and advocacy in the field of addiction medicine among physicians, social workers and nurses. However, ECPAM working in countries outside of North America may not have such options, and the specific training needs of these individuals remain unclear.

Prior research has highlighted the need for exploration of the specific training needs of healthcare practitioners in the area of addiction medicine (Ayu, 2017). For example, a 2014 review by Ayu et al. found that while the need for improved education in addiction medicine is internationally recognized, there remains a stark imbalance in the implementation of established addiction medicine curricula between western and non-western nations (Ayu, 2015).

To date, early career education (beyond residency or postgraduate professional training) has largely relied on ad-hoc continued professional development (CPD) opportunities, provided and monitored by licensing bodies and professional organisations. CPD is the longest phase of education but the least supported, and most CPD courses are self-directed and non-interactive (Davis & Dave, 1999). Despite an ongoing transition towards more interactive and effective modes of education, the prevailing nature of most CPD courses is highly unstructured and may not be best suited to the formative years of early career education. Therefore, a better understanding of training needs and the processes by which those needs are best fulfilled would aid in supporting the most effective learning for ECPAM by informing new training programs and curricula and by guiding policy-makers and educational leaders in catering training for addiction medicine specialists.

In light of both the pressing need for improved training in addiction medicine and a lack of research reflecting a diverse range of settings, this scoping review will assist in the improvement of addiction medicine curricula internationally. It will seek to identify universal educational needs, as well as the specific needs of ECPAM in different cultural contexts. Ultimately, this review can be used as a tool by policy-makers and educational leaders to cater training for future addiction medicine specialists to be as effective and targeted as possible.

Review questions, objectives & keywords:

This is a scoping review, addressing the following research question, aims, objectives, and process:

Research Question:

What are the training needs of early career professionals working internationally in addiction medicine?

Aims:

1. To determine the nature of discussions around the global training needs of ECPAMs in educational, medical and medical educational literature.
2. To identify specific training needs of ECPAMs to help inform policy-makers and educational leaders in developing targeted and effective training programs.

Objectives:

1. To review the literature regarding training needs of ECPAMs working internationally by carrying out systematic searches of online medical and educational literature databases
2. To assess self-reported training needs of ECPAMs regarding i) content, ii) extent and iii) methodology of training provided in different cultural and economic settings
3. To assess measures of i) knowledge, ii) skills, iii) confidence and iv) attitudes of ECPAMs related to substance-use disorders that are reported in the literature
4. To formulate recommendations for educational programs in light of the findings from the literature synthesis

Process:

1. Develop a search strategy
2. Screen search findings by title & abstract
3. Conduct full text review against eligibility criteria
4. Data extraction & synthesis – using the systematic framework by Arksey & O'Malley, 2005
5. Submit review for publication and disseminate findings to facilitate peer review

Keywords:

Medical education, addiction medicine, fellowship, training needs, needs assessment, training, addiction, substance use disorders

What are "ECPAM" and "training needs"?

For the purposes of this review, "ECPAM" will be operationalized as any professional working in the area of addiction medicine who has completed their training within the previous 5-years.

"Training need" will be defined as that which "a professional requires to be a good practitioner and fulfil his or her professional duties to patients or the public; including being able to develop their own knowledge and skills, treat patients appropriately, act as a manager and leader in the health service, and look after their own health and wellbeing," as per a previous BEME review (Walpole, 2015).

More specifically, for the purpose of this study, the training needs of ECPAMs will consist of so-called "perceived needs": what the individuals or the group have identified as what they want to learn, as described by Ratnapalan and colleagues (Ratnapalan, 2009).

Why use a scoping review?

Scoping reviews are a popular tool for synthesizing evidence to inform educational programming (Levac, 2010). This form of review can be particularly useful for examining the extent, range and nature of research activity in a given area; determining the value, potential scope and cost of undertaking a full systematic review; summarizing and disseminating research findings; and identifying research gaps in the existing literature (Arksey & O'Malley, 2005). The objective of the current review is therefore to explore training needs of early career professionals working in addiction medicine (ECPAM) globally through the use of a scoping review framework. This review is part of a larger international project funded by European Research Agency/World Health Organisation. Ultimately, it will aid in formulating a core outcome set of recommendations for addiction medicine education around the globe.

Search Sources & Strategies

Our search strategy will target several literature databases (ERIC, MEDLINE, PsychINFO, ISI Web of Knowledge, EMBASE, Ovid, DARE and CINAHL) and will employ a number of search terms and concepts and their Boolean combinations. Due to language barrier and resource constraints, it will not be possible to carry out searches in other foreign databases. Bibliographies of studies found through database searching will also be checked to identify further potentially relevant literature. Apart from journal articles, useful literature may include policy documents, medical school documents, conference presentations and theses, all of which may be found in the grey literature and will be a source for our search. It will not be necessary to hand search journals– instead, quality checks will be carried out ensuring that key papers from journals coded by each database appear in the search results. Medical education journals such as "Medical Teacher" are coded by Medline. For each online database, a search will be conducted using the search strategy mentioned hereafter.

Our search terms will include: *<Substance-related disorders, addiction medicine, training needs, health personnel, educational/training needs, continuing medical education>*

For a sample search strategy, please see Appendix 1.

Study Selection Criteria

Population/participants: *Early career professionals working in the area of addiction medicine (EPCAM). For the purposes of this study, ECPAM is operationalized as any professional working in the health sector being involved or recently finished (within 5 years period) their training in addiction medicine (or any equivalent for the formal training which allows practicing in the area), such as:*

- Health personnel
- Medical staff
- Medical residents
- Physicians
- General practitioners
- Psychiatrists
- Internists
- Nursing staff
- Public health nurses/community nurses
- Social workers
- Counsellors/psychologists
- Occupational therapists
- Pharmacy staff
- Dentists

Exposure: *Providing services/care to patients with substance-use disorders*

- Substance-related disorders
- Illicit drug users
- Alcohol-use disorders
- Tobacco- or cannabis-use disorders

Outcomes:

Primary outcome: self-reported training needs of early career professionals in addiction medicine. These measures include:

1. standardised training need assessment (TNA) or any other questionnaires;
2. interviews;
3. focus groups; or
4. Any other self-report measure aimed specifically at assessing the training needs of ECPAM

Secondary outcomes: subjective or objective measures of

(i) Knowledge (as measured by the Physicians' Competence in Substance Abuse Test (P-CSAT), etc.),
(ii) Skills (as measured by OSCE, etc.),
(iii) confidence (as measured by The Level of Contact Report, etc.), and/or
(iv) attitudes related to substance use treatment (as measured by the Substance Abuse Attitudes Survey (SAAS), etc.)

These outcomes may be assessed via questionnaires, surveys, course evaluations, or other means. However, studies reporting these secondary outcomes will only be included should the study also include a measure of self-assessed training needs (i.e., the primary outcome).

Articles that meet any of the following criteria will be excluded from the review:

1. Studies that do not have training needs assessments in substance use care as an outcome,
2. Non-English language studies,
3. Studies focused exclusively on undergraduate medical students,
4. Studies focused exclusively on specialists or those who completed their training beyond a 5-year period,
5. Studies focused exclusively on evaluating an educational intervention, and/or
6. Studies focused exclusively on ECPAM curriculum content.

Duplicates will be excluded and the above inclusion/exclusion criteria will be used by two reviewers (DK, AA) to screen the titles/abstracts of all potetially relevant articles after a scoping search has been completed and eligibility screening criteria piloted to ensure accuracy. Each reviewer will be blinded to the screening of the other reviewer. Should disagreements arise, consensus will be reached through disucssion with a third reviewer (JK). Any papers meeting inclusion criteria at the abstract stage will enter a further stage of screening. Full text will be requested and studies will be screened using the same criteria. Any questions that arise during screening and cannot be addressed using the above screening criteria will be noted. If the criteria are not comprehensive enough to inform a decision about inclusion/exclusion, DK, AA and JK will together review the criteria and extend them as required.

Quality appraisal

Qaulity will be appraised by two reviewers (DK and JK), using the eight-item Critical Appraisal Checklist for Analytical Cross Sectional Studies from Joanna Briggs Institute (Moola et al, 2017). In brief, using four-option questions (Yes, No, Unclear or Not/applicable), the checklist asks about inclusion criteria, participants, exposure, measurement of the "condition," confounding factors and statistical analysis.

Procedure for Extracting and Synthesising Data

As suggested by Arksey & O'Malley (2005), we will be 'charting the data' for the present scoping review. *Charting* (Ritchie & Spencer, 1994) describes a technique for synthesizing and interpreting qualitative data by sifting, categorizing and sorting material according to key issues and themes. The approach will be similar to that of a narrative review, but takes a broader view, including, for example, information regarding research methods and study process so as to contextualise a given outcome.

While conducting the current review, a data extraction form will be utilized, wherein study information is charted by highlighting and coding relevant text (see data extraction template below). Data will be entered independently by two reviewers (DK, AA) using Microsoft Excel. Should there be relevant study information that does not fit naturally within our data extraction

form, it will be coded under a separate category. In cases where consensus between coders cannot be reached by comparisons of extracted data from individual data extraction forms, discrepancies in coding will be resolved through discussion with a third reviewer (JK). Study authors will be contacted if data is missing or needs clarification.

The data extraction form is as follows:

Author(s), year of publication, study location

Study populations (e.g., health personnel, medical residents, social workers, etc.)

Aims of the study (e.g., to assess training needs, etc.)

Methodology (e.g., study design - analytical cross sectional studies, study instrument – focus group, interview, questionnaire, etc.)

Outcome measures (standardised *vs*. non-standardised, please see section on outcomes above)

Previous training/experience (e.g., higher education degrees, certificates, medical training, etc.)

Identified training needs (i.e., perceived needs – see definition above)

Study limitations (as noted by the study authors)

The inclusion of all of these themes in our data extraction will allow important aspects of the literature to be noted, even if those aspects are not the direct focus of an article. For example, should a study highlight a training need which would require extensive monetary resources, this would be noted and taken into account during the discussion of results. As this scoping review seeks to represent and be accesible to ECPAM worldwide, we consider a thorough assessment of study location, population, cost, and gaps in research to be of high importance.

Once data is extracted as outlined above, we will proceed to report the findings using the reporting framework outlined by Arksey & O'Malley. As recommended, the data will first be reported in terms of study characteristics. Study information will be organized in tables, which map the individual charactersitics of identified studies, including geographical setting, study population, and research methods. This stage of analysis will shed light on the most frequently-investigated populations and settings, as well as those that may be underrepresented in the literature. This structuring will also allow for easy visualization of the most commonly-reported training needs of ECPAM, and reduce risk of bias within the narrative synthesis.

Reported training needs will then be categorized under representative themes. A second table will then present the number and percent of studies and/or participants reporting needs of each theme. Should the same secondary outcomes - such as skills, attitudes and beliefs around substance use treatment - be reported by multiple included studies, results will be synthesized in a similar manner. As it is presently unclear what training needs will be common to included articles, the creation of themes will be an iterative process.

Translation into Practice

Ultimately, this scoping review will aid in identifying current gaps in addiction medicine training globally, and in the development of novel, targeted training programs for ECPAM in a diverse range of contexts. This review will also provide global healthcare program developers and policy makers at the World Health Organisation (WHO) Mental Health Department with a structured synthesis of the literature describing universally identified training needs that will inform a broader ECPAM project launched in June 2017 at the first WHO's Forum on Alcohol, Drugs and Addictive Behaviours in Geneva (Elkholy, 2017). The WHO's global G-team aims to: a) explore and describe the current global training needs, and b) obtain a set of recommendations to improve the quality of training in addiction medicine. With this synthesis, already-existing educational programs can be improved and extended to new settings and populations. The impact of these expected outcomes would be improvements in ECPAM skills, knowledge, attitudes and confidence in caring for those with SUD with associated benefits in patient outcomes.

Project Timetable

Initial searches – July 2018
Focussed searching – August 2018
Screening papers to determine inclusion or exclusion – September 2018
Review included papers and abstract findings – October 2018
Synthesise findings through narrative process – February 2019
Evaluation, review and dissemination – May 2019

Conflict of Interest Statement

No financial interest to declare.

Plans for Updating the Review

JK plans to supervise a summer student to update the review in 2020 – two years on from completion

Changes to the Protocol

At this stage, the group does not envisage any major change in the current protocol. Unexpected issues might arise and adjustments to the review topic/question, study selection criteria, and/or protocol might become necessary. If this happened: any subsequent changes to the protocol would be carefully recorded, as well as the reasoning and the date the changes took place. Any such changes to the protocol would be submitted to BEME for approval.

Acknowledgments

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Appendix 1

Our search strategy will include:

MEDLINE 1946 to 26 June 2018

#	Searches	Results
1	exp Education/	742207
2	(fellowship or early career or continuing professional development or continuing medical education or addiction train$).ti,ab.	15287
3	1 or 2	749494
4	Substance-Related Disorders/	89226
5	Addiction Medicine/	20
6	4 or 5	89240
7	Health Personnel/	33740
8	((healthcare adj2 professional$) or provider$ or personnel or trainees or physician$ or nurse$ or social work or community care or psychologist$ or therapist$ or pharmacist$ or psychiatrist$ or internist$ or postgraduate$ or residency or resident$).ti,ab.	986657
9	7 or 8	1005948
10	(interview$ or survey$ or questionnaire$ or focus group$ or feedback or responses).ti,ab.	1976036
11	3 and 6 and 9 and 10	500