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Author/s:

De Silva, S;Bailey, AP;Parker, AG;Montague, AE;Hetrick, SE

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Brief Report

An Open-Access Evidence Database of Controlled Trials and Systematic Reviews in Youth Mental Health

Stefanie De Silva^{1,2,3}, Alan P Bailey^{1,2,3}, Alexandra G Parker^{1,2,3}, Alice E Montague^{1,2,3} and Sarah E Hetrick^{1,2}

¹ Orygen, The National Centre of Excellence in Youth Mental Health, University of Melbourne, Locked Bag 10, Parkville, Victoria 3052, Australia

² Centre for Youth Mental Health, University of Melbourne, Locked Bag 10, Parkville, Victoria 3052, Australia

³ headspace National Youth Mental Health Foundation Ltd, Level 2, South Tower, 485 La Trobe Street, Melbourne, Victoria 3000, Australia

Corresponding author:

Dr Stefanie De Silva

Orygen The Nation Centre of Excellence in Youth Mental Health

35 Poplar Road

Parkville, VIC 3052

Australia

Tel. +61 9342 2800

E-mail: stefanie.desilva@orygen.org.au

Contributors

AGP and SEH designed the study and developed the methodology. AEM, APB and SDS conducted the analyses. All authors have contributed to the manuscript and have approved the final article.

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ABSTRACT

Aim: To present an update to an evidence mapping project that consolidates the evidence base of interventions in youth mental health. To promote dissemination of this resource, the evidence map has been translated into a free online database (<https://orygen.org.au/Campus/Expert-Network/Evidence-Finder> or <http://headspace.org.au/research-library/>). Included studies are extensively indexed to facilitate searching.

Methods: A systematic search for prevention and treatment studies in young people (mean age 6–25 years) is conducted annually using Embase, MEDLINE, PsycINFO and the Cochrane Library. Included studies are restricted to controlled trials and systematic reviews published since 1980.

Results: To date, 221,866 publications have been screened, of which 2,680 have been included in the database. Updates are conducted annually.

Conclusions: This shared resource can be utilised to substantially reduce the amount of time involved with conducting literature searches. It is designed to promote the uptake of evidence-based practice and facilitate research to address gaps in youth mental health.

KEYWORDS: Adolescent, mental health, evidence-based practice, information systems, knowledge translation

INTRODUCTION

The focus on evidence-based practice in mental health has been accompanied by a rapid growth in the number of intervention trials and systematic reviews published in the area. Keeping abreast of the research can be a challenging task and the resources required to navigate the sheer volume of information available from scientific journals across multiple disciplines can be a barrier to the uptake of evidence-based practice¹. One way to facilitate this is to consolidate the existing evidence base and present it as an open-access resource that can be easily navigated by interested parties. Comprehensive online databases of intervention studies in neurotrauma² and physiotherapy³ have generated considerable interest in their respective fields. In the area of mental health, Cuijpers and colleagues⁴ have produced an online meta-analytic database of psychological treatment studies for depression in adults, while Christensen and colleagues⁵ have a database of psychosocial interventions for suicidal behaviour that can be requested through the authors.

The mental health of young people is of growing concern with the 12-month prevalence of mental disorders in young people the highest of any age group⁷. Identifying and implementing effective, evidence-based management strategies is an urgent priority for mental health services. This paper presents an update to the large-scale evidence mapping project in youth mental health conceived by Hetrick and colleagues⁶ that has been active since 2008. The evidence map aims to facilitate evidence-based practice by providing a comprehensive summary of the extent and distribution of existing research. This is achieved through a rigorous process where intervention trials and systematic reviews published in the area of youth mental health are systematically searched for and compiled into a central resource. The evidence

map offers rapid access to the best available evidence of prevention and treatment of mental ill-health in young people. It provides a strong foundation for clinicians looking to inform their practice as well as researchers looking to undertake systematic reviews or meta-analyses in the area. The vast coverage offered by the evidence mapping methodology also provides an overall snapshot of where evidence exists and where it is lacking. Therefore, this easy access to the current body of evidence can inform and guide new research agendas towards addressing the gaps in our knowledge of interventions in youth mental health.

The scope of this project is extensive and encompasses multiple disorders and intervention modalities. The project is a shared initiative between Orygen, The National Centre of Excellence in Youth Mental Health and headspace, National Youth Mental Health Foundation. To facilitate dissemination of this valuable resource, the evidence map has been translated into an interactive, easy to navigate evidence database that can be freely accessed online

(<https://orygen.org.au/Campus/Expert-Network/Evidence-Finder> or <http://headspace.org.au/research-library/>). Updates are conducted annually and the published database is current to 2014, with the 2015-2016 update in progress.

METHODS

A detailed description of the methodology for conducting this evidence map has been previously published⁶. Adult-type mental disorders that have their peak onset during youth, namely depression, anxiety, bipolar disorder, substance use disorder, eating disorders, psychosis and self-harming behaviours, were selected for inclusion in the

map. Given the emphasis on multidisciplinary, integrated models of care in routine practice, interventions spanning psychological techniques and pharmacological agents as well as complementary and alternative therapies are included. Studies examining the effectiveness of service delivery and improvement measures such as mode of delivery (e.g. face-to-face compared to online) or specialised models of care (e.g. intensive case management) are also included. Broad search strategies were developed for each area of mental ill-health in the Embase, MEDLINE, PsycINFO and Cochrane Library databases (see online Supplement Table 1).

Inclusion criteria are (a) prevention, treatment intervention and relapse prevention studies, (b) participants with a mean age between 6 and 25 years, (c) controlled clinical trials (including randomised controlled trials and quasi-randomised studies), systematic reviews and meta-analyses, and (d) published in English after 1980. Studies that recruit participants on the basis of physiological or medical conditions are excluded. Initial screening is based on the information contained in the title and abstract of all retrieved studies, and second-stage screening involves retrieving and reviewing the full-text article to determine final inclusion.

Selected characteristics of included studies are systematically extracted and coded in order to classify studies into meaningful categories. This includes (a) type of mental ill-health, (b) stage of illness, (c) study design, and (d) type of intervention. The interface of the online database allows users to search indexed studies using combinations of these categories and/or through a free-text search of study title and abstract. Search results include bibliographic details of individual studies, a link to the abstract and, where available, the full-text article.

RESULTS

The search strategies have identified 221,866 publications from 1980 to 2014, of which 2,680 have been included in the database (see Figure 1). Further detail of specific disorders in the evidence map has been published in other papers^{6,9-12}.

[Insert Figure 1]

The exclusion of 98.8% of all identified studies noted in Figure 1 highlights the resource-intensive but necessary process involved in undertaking a comprehensive literature review. Table 1 demonstrates the considerable timesaving potential of our online database if utilised by researchers or clinicians looking for evidence. A search for Cognitive Behavioural Therapy for depression in a single database results in over a thousand potential studies published between 1980 to 2014. In comparison, a similar search on our online evidence database retrieves a fraction of that as the rigorous screening and coding process we undertake has filtered out all irrelevant studies and lower levels of evidence.

[insert Table 1]

There has been a steady increase in the number of controlled studies published in the area of youth mental health, as seen in Figure 2, reflecting its growth as a specialised field over the past decade. Overall, interventions for substance use disorders have been the most widely studied area (n=709), followed by anxiety (n=605), depression (n=563) and psychosis (n=308), with smaller increases in the areas of eating disorders

(n=278), suicide and self-harm (n=113), and bipolar disorder (n=104).

[Insert Figure 2]

Figure 3 presents the stages of illness that studies in the database focused on. There is roughly an even distribution of research interest across prevention and treatment approaches for suicide and self-harm behaviours and for high-prevalence disorders like anxiety and depression. In less prevalent disorders like psychosis, bipolar disorder, and eating disorders, the research is skewed toward treatment studies. There have been substantially more prevention studies for substance use disorders in young people, compared to treatment studies. Interventions for relapse-prevention or treatment resistant disorders were less well studied.

[Insert Figure 3]

Figure 4 presents the distribution of the types of interventions included in the database. There has been substantially more interest in psychological compared to pharmacological approaches for the majority of disorders. The exceptions to this are in bipolar disorder where there is a larger focus on pharmacological interventions (n=86) compared to psychological interventions (n=24), and in psychosis, where there is roughly comparable numbers of publications across psychological (n=154) and pharmacological interventions (n=203). With the exception of bipolar disorder (n=1), service and delivery improvement approaches have been investigated to a certain extent across the disorders (n=22 to 55). Complementary and alternative therapies have received some interest as an intervention for anxiety (n=69), depression (n=58)

and eating disorders (n=12). These included interventions such as physical activity, relaxation, and acupuncture.

[Insert Figure 4]

The wealth of information this searchable evidence database contains can be further synthesised and translated into a multitude of resources. Information from the database has been utilised in conference proceedings and informs numerous youth mental health resources such as evidence summaries, rapid literature reviews, and policy documents that address areas of contention or where clinical guidance is required (e.g., suicide screening). Some of these resources are freely available online (<https://www.orygen.org.au/Campus>) and clinicians have used these to inform their decision-making, with the provision of this knowledge increasing clinical confidence in delivering evidence-based clinical services⁸. To build on our earlier work of evidence summaries and rapid reviews, a series of systematic reviews and meta-analyses based on studies in the evidence map are currently underway or under review¹³.

DISCUSSION

The evidence database of prevention and treatment studies in youth mental health, spanning published studies from 1980 to 2014, is a valuable resource in facilitating evidence based practice. The evidence map has been translated into an online database that can be accessed freely through the headspace and Orygen websites.

Updates to the evidence map are conducted annually and these are periodically uploaded onto the online database.

The evidence mapping methodology utilised in this project allows scoping of a wide area of research in order to provide an understanding of the extent and distribution of evidence in the area, highlighting both what is known and where gaps in evidence exist. Evidence mapping is not meant to replace other evidence translation strategies like systematic reviews or clinical guidelines where there is a focus on evidence synthesis and quality appraisal of individual studies. Instead, the value of this open access resource lies in its breadth of coverage and potential to streamline the processes involved in navigating the sheer volume of information available when faced with a clinical question or when developing a research study, systematic review or guideline, or when making decisions about research investments.

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TABLE 1. A comparison of numbers retrieved through searching a traditional database with searching our online evidence database

PubMed Search	Results
“Depression” AND (“CBT” OR “Cognitive Behavioural Therapy”)	2,588
“Depression” AND (“CBT” OR “Cognitive Behavioural Therapy”) (limit: child + adolescent, young adult)	1,299
Online Evidence Database	Results
Mental Illness Category: Depressive Disorders	162
Intervention Category: Cognitive & Behavioural Therapies	

ONLINE SUPPLEMENT TABLE 1. EMBASE search strategy for depression evidence map

#1	'depression'/mj OR 'major depression'/mj OR (depressive NEXT/1 disorder):ab,ti OR 'dysthymia'/mj OR 'mood disorder'/mj
#2	'controlled study'/exp
#3	(controlled NEXT/1 trial*):ab,ti OR 'controlled study':ab,ti OR 'controlled studies':ab,ti
#4	'clinical trial'/exp
#5	(clinical NEXT/1 trial*):ab,ti OR 'clinical study':ab,ti OR 'clinical studies':ab,ti
#6	random*:ab,ti
#7	'single blind procedure'/de
#8	'double blind procedure'/de
#9	((singl* OR doubl* OR trebl* OR tripl*) NEXT/1 (blind* OR mask* OR dummy)):ab,ti
#10	placebo*
#11	'meta analysis'/de
#12	(meta NEXT/1 analy*):ab,ti OR metaanaly*:ab,ti
#13	review:it
#14	(systematic NEXT/1 review*):ab,ti
#15	'practice guideline'/de
#16	guideline*:ab,ti
#17	consensus:ab,ti
#18	#2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17
#19	#1 AND #18
#20	#19 AND ([child]/lim OR [adolescent]/lim OR [adult]/lim)
#21	'child'/de OR 'adolescence'/de OR 'adolescent'/de OR 'juvenile'/de
#22	child*:ab,ti OR preschool*:ab,ti OR preadolescen*:ab,ti
#23	juvenile*:ab,ti OR underage*:ab,ti OR teen*:ab,ti OR youth*:ab,ti OR pubescen*:ab,ti OR adolescen*:ab,ti
#24	'young men':ab,ti OR (young NEXT/1 adult*):ab,ti OR 'young women':ab,ti OR 'young people':ab,ti OR (young NEXT/1 person*):ab,ti
#25	undergraduate*:ab,ti OR (college NEXT/1 student*):ab,ti OR ('high- school' NEXT/1 student*):ab,ti
#26	#21 OR #22 OR #23 OR #24 OR #25
#27	#19 AND #26
#28	#20 OR #27
#29	#28 AND [english]/lim

FIGURE 1. Flow diagram of included references.

FIGURE 2. Number of controlled interventions studies and systematic reviews in youth mental health published per year over the period 1980 to 2014

FIGURE 3. Distribution of stages of illness investigated in youth mental health intervention studies published between 1980-2014

FIGURE 4. Distribution of types of intervention investigated in youth mental health published between 1980-2014

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