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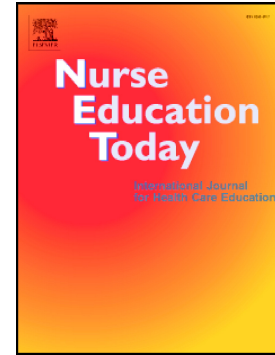
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The inclusion of cognitive behavioural therapeutic components in the undergraduate nursing curriculum. A systematic integrative review of the evidence.



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Title Page

**Title: THE INCLUSION OF COGNITIVE BEHAVIOURAL THERAPEUTIC COMPONENTS IN THE UNDERGRADUATE NURSING CURRICULUM. A SYSTEMATIC INTEGRATIVE REVIEW OF THE EVIDENCE.**

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- That I am the sole author and that the author who agrees with this submission.

Conflict of Interest:

- The proposed publication contains or supports the use of no commercial product.
- There are no conflicts of interest to disclose regarding the information in this proposed publication.
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- An ethical statement is not applicable for this proposed publication.

**Abstract:**

Background:

Despite the increasing evidence base for the use of cognitive behavioural interventions in nursing, the extent to which therapeutic interventions and their components are included in the undergraduate curriculum in Australia remains unclear.

Objectives:

To explore if and how cognitive behavioural components are being taught to undergraduate nursing students, to deliver outcome benefits to students and patients

Design:

An integrative literature review reporting links between CBT components and methods taught in pre-registration nurse education.

Findings and Conclusion:

Based on an analysis of current literature, it is suggested that evidence-based cognitive behavioural components are being taught to undergraduate nursing students. The study reports that teaching cognitive behavioural components can bring clinical benefits to positive patient outcome, to student wellbeing and study performance. However, the teaching of cognitive behavioural conceptual models as a therapeutic skill was found to be limited. Recommendations to incorporate a simple, evidence based cognitive behavioural conceptual tool, highlights how nurse educators can address the requirement to teach from the current evidence base.

Keywords: Undergraduate, Nursing, Education, Cognitive Behavioural Therapy, Cognitive Behavioural Formulation, Cognitive Behavioural Conceptualization., and Curriculum

**Summary of relevance:**

## Problem

There is a lack of evidence about to what extent, cognitive behavioural components are being taught to undergraduate student nurses, and if being taught these components deliver measurable benefits to students and/or patients.

## What is Already Known?

Evidence based cognitive behavioural interventions are indicated for mild/moderate mental illness, emotional wellbeing, acute and chronic pain and the self-management of many other long term illnesses.

## What this Paper Adds:

- Cognitive behavioural components are currently being taught to undergraduate nurses indirectly, primarily for the measurable benefits that they bring to the student.
- Further studies are required to assess the benefits of adding simple, evidence based cognitive behavioural skills into the undergraduate nursing curriculum.

## Introduction

The last two decades have seen considerable changes to the delivery of psychological care. Evidence based psychological interventions are now falling within the professional scope of many areas of nursing practice, notably in the areas of health education and the collaborative primary care of comorbid mental health and chronic disease conditions (Coventry et al., 2014).

A recent survey of practice nurses, who traditionally receive minimal mental health training found that 82% reported responsibilities for emotional and psychological wellbeing of patients presenting in primary care with depression and anxiety (Hardy, 2014). Yet there is growing concern that the concept of emotional and psychological care is reported as being omitted or missed in nursing education and practice. Furthermore, it has been suggested that this that this omission could be partly responsible for serious failures in the delivery of nursing care (Francis, 2013).

Cognitive Behavioural Therapy (CBT), is presented in key pathophysiology, applied nursing psychology and mental health nursing texts as an adjunct treatment to psychological wellbeing, mental illness, chronic disease management and pain suggesting the need for a presence across undergraduate curricula (Barkway, 2014; Eider et al., 2013; Berman et al., 2018; Lemone et al., 2017; Craft & Gordon, 2015; DeVries & Timmins, 2017; Gross & Kinnison, 2014; Upton, 2013; Chang, 2018). However, the extent and content of what is actually being taught; whether the outcome is a measurable skill, a benefit in wellbeing to the student, or a reduction in symptoms or distress to the patient is currently unclear.

The United Kingdom Nursing and Midwifery Council recently published standards (NMCC 2018), clearly state that nurses are required to graduate with evidence based therapeutic communication skills which include cognitive behavioural techniques. Internationally however, there are no specific guidelines around the teaching of specified therapeutic skills to guide nurse educators and curriculum developers.

This paper will report on a literature review, which has been conducted in an attempt to explore what is currently being taught from the current evidence base and discuss if there is reason to

support the teaching of basic CBT skills to undergraduate nurses. To illustrate the relationship between nursing care, cognitive behavioural components and skills, a concept map has been developed for reference and this is shown in Figure 1.

Linked Text: Fig 1

## Methods

The integrative literature review summarises relevant research based on cognitive behavioural components currently included in undergraduate nursing curricula to identify links and gaps in current knowledge using the following research questions:

1. What cognitive behavioural components are currently being taught directly and indirectly to undergraduate nurses?
2. How are these cognitive behavioural components being delivered to undergraduate nurses?
3. How are the cognitive behavioural components present in undergraduate nursing curricula currently being applied in practice?

Integrative reviews are generally broad in their area of coverage, allowing inclusion of different methodologies consisting of diverse and varied data, thus allowing the reviewer to capture context. To ensure a degree of rigor, the theoretical framework of Wittemore & Knafel (2005) was used to inform this review.

A search of literature consisted of a three-stage process, starting with a broad search of Google Scholar. A search of databases and a hand search was then conducted between January and March 2018, referencing the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines for reporting systematic reviews (Moher et al, 2009). A limit of 15 years was imposed on searches and articles to reflect the exponential increase in the evidence base around the use of CBT over this period. Searches were made on CINAHL, MEDLINE/PubMed and PsychINFO of

peer reviewed scholarly journals, between the years of 2002 -2018 and in the English language. Medical subject headings (MeSH), key words and subject terms included were as follows: Undergraduate, Nursing, Education, Cognitive, Behavioural, Therapy, Cognitive Behavioural Formulation, Cognitive Behavioural Conceptualization, Cognitive psychology, Behavioural psychology and Curricula. MeSH terms were applied to CBT, Cognitive Behavioural Therapy, Cognitive behavioural conceptualization/formulation for searches on MEDLINE, and applied to each other term individually to capture maximum studies. In addition to this, a hand search was performed by both the school librarian researcher and the researcher, then cross matched for accuracy.

Inclusion criteria consisted of:

- a) International and national studies exploring content relating to, cognitive behavioural therapy, cognitive behavioural formulation, cognitive behavioural conceptualization within preregistration nursing curriculum.
- b) International and national studies exploring preregistration nursing students' understanding, experience, and knowledge of Cognitive Behavioural Therapy, Cognitive Behavioural Formulation, Cognitive Behavioural Conceptualization
- c) Pre-registration nursing students of all branch disciplines
- d) Both qualitative and quantitative peer reviewed studies including editorials commentaries, reviews and discussion papers.

#### **Exclusion Criteria**

- a) Articles prior to 2002
- b) Studies involving solely registered nurses as participants.
- c) Studies involving solely post-graduate nursing students' as participants.

The combined search retrieval process illustrated in Figure 1: PRISMA Literature Retrieval Process yielded 104 articles.

Linked Text: Fig 2



Following title and abstract review, 14 duplicate studies were removed and 27 further studies excluded for a lack of relevance. The searching of psychological components generated several articles relating to applied psychology in nursing education, reflection and transformational learning theory. Therefore, a further screening process of title and abstract was conducted to exclude studies where the focus of research was not the teaching of therapeutic communication skills, utilising a process that included cognitive and behavioural components. This process excluded a further 32 records. A final eligibility filter for specific relevance and context revealed that a large majority of these studies reported on nonspecific or non-evidence-based modalities, not specifically fitting with the original research question around “cognitive behavioural” therapeutics.

Evaluation for risk of bias revealed a degree of misrepresenting non-evidence based, generic counselling modalities as cognitive behavioural in nature. Therefore, in order to add rigor, but specifically because the validity of the study required the inclusion of a set of very specific psychological components that demonstrate formulation and application to nursing, a further filtration was added for specific relevance to the research questions to identify these components. The CASP Qualitative checklist (CASP, 2013) and The Critical Review Form (Law et al., 1998) were then applied as a final measure with all papers, resulting in the inclusion of the final 10 papers as listed in Table 1.

Linked Text: Table 1

## **Findings**

The literature review revealed a lack of data relating to the teaching of cognitive behavioural theory in undergraduate nurse education. A body of evidence has been developed to support the psychosocial needs of patients in general which supports the role of the therapeutic relationship (Molassiotis et al., 2011; McDonnell et al., 2014), and the importance of emotional/comfort needs when compared to physical needs and positive outcome has been explored and successfully quantified through the development of clinical measures (Williams & Kristjanson, 2008).

A specific cognitive behavioural assessment model has been developed for use in general clinical practice by Williams & Garland (2002), which might indicate the value of psychosocial formulation by nurses, but there are very few studies that directly report the inclusion of cognitive behavioural therapeutic components into undergraduate nurse education. The studies that were indicated however fall into three distinct categories:

- Those where the focus is on the teaching of applied psychology to nurses, where specific elements of cognitive behavioural skills are discussed or incorporated into the study. The intended outcome of these studies might be a direct measurable benefit to the patient, or student performance. an indirect benefit to the patient through enhanced learning and/or clinical performance of the student.
- Those where there is a focus on the teaching of psychological care and therapeutic communication skills to nurses, where specific elements of cognitive behavioural components are either discussed or incorporated into the study using a reflective assessment tool. In these studies, the intended outcome is enhanced learning and application of applied psychological skills and/or an indirect benefit to the patient through clinical performance of the student.
- Studies where the focus is on student wellbeing and participants are members of a psycho-educational group, and taught cognitive behavioural components and principles to apply to themselves.

#### **Where the focus includes cognitive behavioural psychological skills.**

Three of the papers reviewed fall into this category (Currid et al., 2011; Gega et al., 2006; Maclaren et al., 2008). The first of these Currid et al. (2011), is a UK authored discussion paper exploring the relevance of CBT to nursing and the implications of this to nurse education. The focus appears firstly in the context of mental health but continues by exploring the application of cognitive behavioural

techniques to all areas of nursing care. The paper draws on substantial evidence from recent literature around the effectiveness of CBT, its application to physical and emotional wellbeing, and the changing role of the nurse.

Given the known links between physical and emotional wellbeing, the authors suggest that psycho-education, a recognised cognitive behavioural strategy should be integral to health education. They argue that a greater understanding of individual cognitive behavioural components, and the way in which these influence physical symptoms is empowering for both patients and clinicians and present a good case for cognitive behavioural formulation as a psycho-educational nursing tool.

The authors continue by discussing substantial evidence to support the use of cognitive behavioural strategies in physical healthcare identifying in its implications the issue of inadequate and costly post-registration training in cognitive behavioural strategies. The implication is made that this is a barrier to evidence based, non-specialist nursing practice.

Two of the papers reviewed in this category (Gega et al., 2006; MacLaren et al., 2008), focus primarily on the pedagogy used to teach a specific cognitive behavioural intervention. The first of these focuses on the teaching of exposure therapy for effective treatment of phobias and panic. The study compared the teaching of the skill as facilitated using a CBT based online self-help tool, with traditional face to face teaching methods to undergraduate mental health nursing students.

This is one of the few randomized control trials conducted specifically with population (participants) of undergraduate nursing students (*n*92), using cognitive behavioural strategies. Outcome was measured by gains in knowledge, skills application and satisfaction using a range of post teaching session tests and questionnaires.

The authors indicate positive results for the online teaching method, particularly in relation to teacher preparation and delivery time. In summary they then discuss the ease in which CBT skills

teaching can be incorporated into an undergraduate nursing programme, while delivering significant benefits in terms of knowledge and skills without the need for a specialist tutor (Gega et al., 2006).

MacLaren et al. (2008) is a U.S based study, where again the focus is on the teaching method, although the intended benefit is to the patients through effective pain management. This study evaluates the effectiveness of cognitive behavioural intervention training on general pre-registration nursing students.

Clinical role-play was used to teach therapeutic cognitive behavioural strategies (distraction, relaxation and visualisation techniques), for use in paediatric pain management, recognising the current lack of training and knowledge in non – pharmaceutical pain relief.

The study findings suggest that the training group evidenced significantly more knowledge of cognitive behavioural components at post assessment than the control group. Additionally, the increase in ratio and quality of cognitive behavioural pain management strategies used by the students was significant, leading the authors to conclude that a brief, focused 20 minute didactic teaching session can increase the application of theoretical knowledge to practice.

By identifying commonly used nursing interventions such as distraction as cognitive behavioural interventions, the authors make the connection between an informal intervention, gate control pain theory (Melzack & Wall, 1965) and the evidence-based outcome benefit to the patient. In doing so, they successfully identify a CBT skill that can be easily taught to undergraduates and reinforce theoretical knowledge around the pathophysiology of pain. The authors conclude that an increase in confidence to implement a simple nursing intervention was gained in simulation (MacLaren et al., 2008).

Both papers demonstrate the ease at which focused cognitive behavioural strategies can be taught with good results using simulation, traditional and online methods. They support the potential value

of applying simple formulation of individual cognitive behavioural components to holistic patient care by indicating outcome benefits to student learning and patient care.

**Where the focus is on the teaching of psychological care and therapeutic communication skills.**

Unlike the studies by Gega et al, and MacLaren et al, the three studies within this category (Priest 2006; O'Donovan et al., 2013; McCarthy et al., 2014) did not measure the effectiveness of teaching a specific cognitive behavioural intervention, but all identified cognitive behavioural components within the teaching and assessment content of undergraduate programs. The studies are significant because the focus is psychological care, and how best to teach and facilitate the application of therapeutic caring skills.

These studies identify cognitive behavioural components both in delivery and assessment. Priest (2006), conducted a longitudinal qualitative study in the UK incorporating an extensive review of literature. This paper explores how nurse educators can help students identify and respond to the psychological care needs of patients and discusses the implications for curriculum design.

The author has written extensively about the concept of psychological caring and has developed a significant body of work contributing the debate around the psychological care needs of physically ill patients (Priest 1999a, 1999b, 2002 & 2006). This contribution alone of course warrants further investigation in the context of this study. However, the study is based around the recognition of psychological needs, expressed in the form of patient cognition, emotion and behaviour, followed by implications for practice. The study identifies the assessment and formulation of cognition, emotion and behaviour as key measures of psychological wellbeing, providing a link between, holistic nursing care and cognitive behavioural conceptualization of these components.

The search yielded a few significant studies where, reflective tools that aid the formulation of psychological components were being used to assess the application of psychological theory to practice. The use of reflective tools used in healthcare are generally structured as cycles or stages.

The cycle commonly begins with the acknowledgement of thoughts and emotions which are triggered by a significant event and result in a behaviour or action. The identification of these cognitive, emotional and behavioural components, then allow the reflective practitioner to analyse their practice through a series of further steps to aid evaluation and learning.

The benefit of correctly used structured reflection has been linked to the formulation of critical thought and problem solving (Carroll et al., 2002), while DeVries & Timmins (2017), suggest the potential of structured reflection to help nurses formulate, understand and therefore counteract their own cognitive dissonance.

O'Donovan et al., (2013), and McCarthy et al., (2014), are papers written by the same research team in Ireland, that focus on an integrated method of teaching psychological theory and therapeutic interpersonal skills to nursing students. While the study focus was the assessment of theory and interpersonal skills, the student's ability to "reflect-on-action", or after the event (Schon, 1983), was also measured by the participants' reflective structure and outcome using the model of Stephenson (1993).

The use of Stephenson was chosen for its simplicity, but by asking specific questions, it guides the student towards identifying individual cognitions, emotions and actions. Most participants reported that the reflective exercises helped them apply psychological theory to their interpersonal communication skills.

Both papers form the wider development of a reflective assessment tool, which can be used to potentially enhance critical thinking and self-discovery (O'Donovan, McCarthy and Trace 2013).

The common thread linking the studies of Priest (2006), O'Donovan et al., (2013), and McCarthy et al., (2014), is the development of self-awareness through the critical analysis of cognition, emotions and actions in practice (Schon, 1983), cognitive and meta-cognitive reasoning (Loughran, 2002), and

critical discourse, defined as “dialogue involving the assessment of beliefs, feelings and values” (Mezirow, 2003).

While the conceptual models are different, both CBT and reflective models appear demonstrate the benefits of making structured links between cognition, emotions and actions to understand and apply psychological theory.

#### **Studies where the intended outcome benefit is to the wellbeing of the student.**

There is a significant body of work relating to the teaching of programs to reduce stress in student nurses, and the potential that this might have to the application of psychological care. Among these, is a growing body of work that includes mindfulness, and a varying degree of cognitive formulation and reappraisal (Beddoe & Murphy, 2004; Shapiro et al., 2005; Riet et al., 2015).

The four remaining papers reviewed (Hiçdurmaz et al., 2016; Lim et al., 2010; Kim et al., 2015; Sharif & Armitage 2004) were identified as specifically employing cognitive behavioural and rational emotive (Ellis, 1995) behavioural psycho-educational groups, which suggest benefits not only to student wellbeing, but which also indicate benefits to patient care through greater confidence or self-efficacy (Bandura, 1997).

The Turkish study by Hiçdurmaz et al., (2016) argues that by helping nursing students to overcome difficulties around interpersonal sensitivity (Boyce & Parker 1989) and self-issues, we can address an important component in nurse competence development.

Drawing on various theoretical works (Derogatis & Melisaratos 1983; Boyce & Parker 1989; Ohlen & Segesten 1998; Ratanasiripong & Wang 2011), the authors suggest that psychologically healthy nursing students with minimum interpersonal sensitivity are more likely to provide effective nursing care and be academically more productive. The psycho-educational group programme included the teaching of cognitive restructuring, behavioural experiment design and cognitive conceptualization skills.

The authors found that participants were able to apply the techniques taught to benefit their own wellbeing, while using formulation to conceptualize their interactions with patients. The authors conclude that that the program helped to decrease interpersonal sensitivity and dysfunctional automatic thoughts (specific thoughts are not given), while increasing effective coping strategies of students, suggesting that this will result in a benefit to interpersonal skills and self-awareness to participants when they graduate (Hiçdurmaz et al., 2016).

Similarly, the Korean study by Lim et al., (2010), explores the effectiveness of a cognitive-behavioural program for nursing students in relation to career attitude maturity, self-esteem and decision-making styles. The study didn't measure transfer of knowledge learned during the psycho-educational group process, and the authors are careful not to make assumptions, however the links between stress levels, self-esteem, and patient care (Beek & Sivastava, 1991; Jenny, 1990; Carson et al. 1997; Arthur & Thorne, 1998), are well documented (Lim et al., 2010).

A further study by co-authors of the paper, measured the effects of rational emotive behaviour therapy (REBT), delivered in a psychoeducational group to senior undergraduate nursing students (Kim et al., 2015). REBT uses the same therapeutic components as CBT but the focus is on rational cognition, self-acceptance and the management of emotion (Ellis, 1995). The authors report an increase in self-efficacy (Bandura, 1994), of participants in the practice setting, and although this was a small population study, the suggestion is that greater self-awareness and efficacy will benefit patient care.

The significance of both studies is to demonstrate the effects of cognitive, behavioural and emotional formulation on the professional self-concept and personal growth, while having implications around the acquisition and application of psychological and therapeutic communication skills used in nursing practice.



Finally, the Iranian/Australian paper reviewed by Sharif & Armitage (2004), reports on a quasi-experimental study of a psycho-educational group, that includes some interesting post study qualitative data.

Although the psycho-educational groups are described by the authors as psychological and educational counselling, the problems targeted were worrying thoughts, rational and irrational beliefs and behavioural time management. All of these are common issues identified in cognitive behavioural formulation (Beck & Beck 1995; Greenberger & Padesky 1995).

The authors report a significant increase in participant's academic confidence and assertiveness following the 12-week program. Additional findings include an increase in positive attitudes towards nursing, a significant increase in self-esteem, and an increase in examination result performance suggesting reduced examination anxiety through the use of cognitive restructuring. During post focus group discussion, students report increased confidence and time management skills in clinical practice which are attributed to the reduced anxiety and increased self-esteem.

## **Discussion**

The results of the literature review evidence a lack of research data relating to the research questions. Initial searches yielded good results, however most studies returned related to non-specific therapies where the psychological components used were unclear. Despite the limitations, the general standard of the evidence reviewed was high, with study designs reflecting a degree of rigor. What the review does undoubtedly reveal is that the basic formulation of psychological components is being successfully taught to undergraduate students; albeit in a number of hidden forms. The most obvious of these is in the form of structured reflection. The relationship between CBT and reflective practice has long been recognised (Beck et al., 1979; Padesky 1996; Mankiewicz, 2014), and structured reflection is used widely in cognitive behavioural therapy practice and supervision (Bennet-Levy et al., 2009). The early work of Dewey (1933) and Schon (1983) both

recognise the significance of cognitive theory to critical reflection. The later work of Mezirow (1991) placed great emphasis on the successful identification of psychological components commonly used in CBT. Reflective models facilitate psychological conceptualization of self, the usefulness of which is becoming recognised because of its significance to the outcome of increased knowledge of psychological components, and their application to nursing care (McCarthy et al. 2014; O'Donovan et al. 2013). Furthermore, if performed correctly, it has been suggested that structured reflection offers nurses a tool to identify and process cognitive dissonance (DeVries & Timmins 2016), which it is argued can lead to an "erosion of care" (Francis, 2013).

The significance of the correct identification of psychological components (cognition, emotion, behaviour) could be discussed as being fundamental to effective structured reflection. This issue is central to a growing concern questioning the purpose, or usefulness of the current reflective models used in nursing education (Hanson, 2013; McAllister, 2005). Indeed Mankiewicz (2014) suggests that the use of a cognitive behavioural conceptual model for structured reflection would be useful to nurses to identify and formulate their own ethical biases.

The results of this study also indicate limited but encouraging evidence to suggest that the teaching of specific cognitive behavioural content to undergraduate nurses can enhance self-efficacy (Kim et al 2015), and confidence (Sharif & Armitage 2004), to deliver emotional care, prompting discussion around the specific action of CBT in facilitating this outcome benefit. For if the common denominator between CBT and reflective practice is the formulation of psychological components within a model, then it could be argued that the teaching of a simple cognitive behavioural model that can be applied to patient care, might demonstrate further benefits to self-efficacy.

Finally, this review found that psycho-educational groups directed at the wellbeing of nursing students might also contribute to the outcome benefit of increased empathy and understanding of patients. (Hiçdurmaz et al. 2016; Lim et al. 2010; Kim et al. 2015; Sharif & Armitage 2004).

The author suggests that the evidence found within these studies compliment the above discussion around the common denominator of effective action in these benefits as being the formulation of cognitive behavioural components. The teaching of a simple cognitive behavioural conceptual model could quite easily be incorporated into the first year of undergraduate nursing curricula alongside health promotional and behaviour change models to aid the application of psychological theory to nursing care and critical reflection.

### **Conclusion**

Based on an analysis of the literature reviewed, it is suggested that cognitive and behavioural components are being taught to undergraduate nursing students. This is achieved directly, by the teaching of cognitive behavioural interventions, and indirectly, through the teaching of reflection and self-help interventions.

Despite the apparent differences in the mode of teaching, the formulation of cognitive behavioural components using structured models result in significant measurable benefits to students and patients. It is therefore suggested that the correct identification of these components should be assessed as a fundamental competency for effective reflective practice in the early stages of nurse education.

The lack of evidence supporting the direct teaching of CBT also suggests the need for further studies to assess the benefits of adding more specific evidence based cognitive behavioural interventions to the later stages of the curriculum.

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