

**PROPOSED NURSING PRACTICE FOR DBT IMPLEMENTATION ON
PSYCHIATRY INPATIENT UNITS:
A REVIEW AND SYNTHESIS OF THE LITERATURE**

by

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B.S.N., University of British Columbia, 1995

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ABSTRACT

Proposed Nursing Practice for DBT Implementation on Psychiatry Inpatient Units: A Review and Synthesis of the Literature

This review and synthesis of the literature focuses on Dialectical Behavior Therapy (DBT) and the feasibility of its implementation on psychiatry inpatient units by nurses. Twelve studies and one literature review were selected from the last 7 years and analyzed using the Matrix Method by Garrard (2007). The central questions were in relation to whether or not DBT can be implemented effectively: i) in psychiatric inpatient settings; and ii) with persons with Borderline Personality Disordered (BPD) who also live with comorbid conditions. The findings based on a review of the literature indicate that DBT can be implemented effectively on psychiatry inpatient units for patients with BPD and comorbid conditions. Preliminary recommendations are presented based on the findings. These recommendations involve: i) modifying DBT to meet the needs of individuals diagnosed with BPD and comorbid conditions; ii) engaging direct-care staff in implementation of concurrent DBT treatment; iii) implementing weekly self-reflection and debriefing sessions for the treatment team; iv) utilizing therapists certified in DBT to train direct-care staff in DBT skill implementation; v) providing daily DBT support with diary cards and chain analysis; vi) focusing on mindfulness and distress tolerance skills; vii) using environmental cues like posters depicting DBT skills on the unit; viii) developing nurse working groups that focus on DBT policy and practice; and ix) collaborating with nurse researchers on qualitative studies that explore the lived experiences of patients receiving DBT treatment.

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CHAPTER ONE

Introduction

The focus of this literature review is on Dialectical Behavior Therapy (DBT) and its potential for implementation on psychiatry inpatient units. Specifically, I will be conducting a review and synthesis of the current published evaluation literature on DBT related to its: i) potential implementation on inpatient psychiatric units; and ii) success in treating people with comorbid¹ conditions. The aim of this paper is to develop recommendations based on a search of ‘best practice’ evidence from the health sciences literature.

Background

Borderline Personality Disorder (BPD) is a severe and complex mental disorder characterized by dysregulation of emotion, interpersonal relationships, behaviour and cognition (Linehan, 1993). It has been researched, debated, written about, and still remains a contentious diagnosis because people with BPD are often perceived of as not needing treatment for the disorder (Becker, 1997). According to Linehan (1993) persons with BPD are difficult to treat because they have difficulty committing to therapy, often do not respond to traditional treatment and tax the resources of care providers with their needs. Nevertheless, DBT is widely considered to be an effective treatment for BPD (Chapman & Gratz, 2007; Feigenbaum, 2007; Kiehn & Swales, 2008; van den Bosch, Koeter, Stijnen, Verheul & van der Brink, 2004). Initially developed in the 1980’s, this cognitive behavioral approach evolved into a treatment for individuals who meet the criteria for BPD. It is a therapy that focuses on the role of cognition (thoughts, perceptions and beliefs) and behaviours (actions) in the development and treatment of BPD. DBT is founded on the beliefs that persons with BPD come from invalidating environments and are emotionally vulnerable, both of which cause dysregulation of emotion (Chapman & Gratz, 2007; Linehan, 1993). The therapy is based on an unusual blend of cognitive behavioral therapy

¹ The terms ‘comorbid’ or ‘co-occurring’ illness are used interchangeably in this paper. They can be defined as a person having concurrent diagnoses (American Psychological Association (APA), 2000).

and Zen Buddhism²; this treatment has renewed optimism that BPD and other comorbid conditions (such as substance abuse, binge eating disorder, attention deficit disorder and chronic depression) can be treated in both inpatient and outpatient settings. DBT has also been applied to patients with a BPD diagnosis in settings such as forensics which has moved its application out of traditional psychiatric circles. DBT will be discussed further in Chapter 2.

DBT and BPD

In the past five years and in keeping with shifting mental health policies and practices, health care providers in the Regional Health Authorities in British Columbia (B.C.) have seemingly moved from providing minimal treatment for persons diagnosed with BPD or BPD traits to offering treatment within the healthcare system. This observation comes from my own clinical experience which spans the past 15 years and has been based in a broad range of mental health services in three different regional health authorities. It appears that this expansion in service delivery stems in part from changing empirical evidence on how to treat those diagnosed with BPD. It is no longer acceptable to refuse treatment to those diagnosed with BPD as current research tells us that this population can be helped by health care professionals (Becker, 1997; Chapman & Gratz, 2007; Feigenbaum, 2007; Linehan, 1993).

The blending of cognitive behavioral therapy (CBT) and the principles of Zen Buddhism has created a new context in which to utilize cognitive behavioral techniques with people with BPD and this has revitalized CBT (Linehan, 1993). Training has been available within the past ten years to introduce DBT to mainstream healthcare providers in B.C. Close to 200 Vancouver Island Health Authority (VIHA) employees, many of whom are nurses providing direct care in inpatient and outpatient settings, took a skills-based distance education course in DBT two years ago. The therapy is designed to provide therapists with tools to assist BPD clients with symptom relief and

² Zen Buddhism is a religion originating from China that is predicated on the belief that all beings have an inner wisdom that, if explored, can lead to the integration of self. Eliminating dualism as a world view and suffering by ridding oneself of attachment to desire are clear Zen Buddhist underpinnings in DBT. The aim of Zen practice is to cultivate this wisdom through meditation and mindfulness of daily life experiences (Suzuki, 1964).

to bring them and their therapist to a place of more optimism through a different understanding of the diagnosis (Kiehn & Swales, 2008).

Historically, there has been disagreement among health care professionals regarding how to treat people diagnosed with BPD but, currently, there seems to be a consensus between providers to use DBT as one of the first lines of treatments (Chapman & Gratz, 2007). According to the literature, this treatment modality is also being used with other sub-populations, such as women with addictions and youth offenders (Feigenbaum, 2007), and the results look promising (Kiehn & Swales, 2008). Much of the evaluation research related to this therapy has focused on outcome measures for a population rather than research related to the patient experience (Behavioral Tech, LLC, 2005). Seemingly, because funding agencies focus on outcome measures versus individual experiences, evaluating these individual experiences has become increasingly important. This is because focusing on individual experiences can help health care professionals look more specifically at what treatment types and durations work best in ways that are meaningful for the individual.

The cost effectiveness of any form of treatment, be it psychotherapeutic or pharmacological, is being increasingly evaluated by health-governing bodies who are responsible for moderating the costs of health care. DBT looks promising based on the empirical evidence that supports its effectiveness with other populations (Feigenbaum, 2007), however, its effectiveness as a therapy with people with BPD is less well understood. Because BPD is now understood as treatable (Becker, 1997), it is important to examine the cost effectiveness of DBT with people with BPD. A large number of nurses, employed by VIHA, have been taught the principles of DBT, however, there is little nursing research in this area. Based on the list of those who recently took a DBT distance education course with me, it appears that many of these nurses work in inpatient hospital settings where they may only have brief periods of interaction with their patients before their discharge from hospital. However, in the course, we were educated on how to teach DBT skills to patients over long periods of time in intensive outpatient psychiatry settings in the context

of group therapy. Therefore, the applicability of DBT in short-term inpatient psychiatric settings is uncertain, i.e., there has been a serious investment in nurse education without certainty of its applicability for short-term inpatient care.

In the past several years, there was a pilot project conducted at the Urgent, Short-Term, Assessment and Treatment program (USTAT), a VIHA mental health outpatient service, using DBT to treat people with BPD. Although this treatment is still being offered, USTAT's DBT program has been scaled back due to the high level of resources required to use DBT. These resources involve intensive therapy, which includes a minimum of a one year commitment from both patients and therapists and access to staff during hours beyond the average workday of a VIHA therapist. With these extra professional commitments, therapists may find the demands of such intensive therapy too taxing. Linehan (1993) also designed DBT to accommodate the needs of the therapist through therapist consultation, which involves the therapist checking in with colleagues regularly to make sure the therapist is on track.

Given the speed at which DBT has been taken up by health care professionals and the body of evaluation research on its effectiveness, there is reason to give more attention to critiquing and evaluating this therapy (Kiehn & Swales, 2008). Most of the research related to DBT is quantitative and does not capture the range of experiences of individuals (Smith & Peck, 2004). The majority of research has been done using randomized clinical trials which are considered an extremely reliable way to evaluate treatment effectiveness (Chapman & Gratz, 2007). However, Smith and Peck have conducted a meta-analysis of the research on DBT and concluded that there needs to be more research in order to create a clearer picture of its effectiveness as a treatment modality. Since that time, researchers have now broadened their research to apply and modify DBT to other populations, however there is little qualitative research in this area.

At the Eric Martin Pavillion, the acute inpatient psychiatric facility in Victoria, the nurses use 1:1 therapeutic interventions. Inpatients often attend day hospital services off the unit which can include group and individual CBT. They may also go to USTAT upon discharge but there are

no DBT services available on inpatient units except limited services from the psychology department upon referral – there is also a waitlist. Inpatient nurses may know how to teach DBT skills in a long term group context but do not have the information on what, if any, aspects of DBT can be used in the short term to enhance patient outcomes. This, coupled with the most recent studies on the efficacy of DBT used in different contexts, has led me to ask the main question that has prompted this project: Given the advances in DBT research, are there aspects of DBT that can be applied on psychiatry inpatient units by nurses and other direct care staff to improve patient care outcomes? This question is important to nursing because many of us have DBT training but do not have concrete and consistent guidelines on how to apply this knowledge in an inpatient setting. Therefore, the overall purpose of this paper is to conduct a review and synthesis of the literature regarding DBT to explore its promise as an intervention to be used by nurses working in those settings.

This project will focus on reviewing DBT research and current evidence in response to the above question to provide clarity to those of us who have been trained in DBT but are unsure whether it is transferable to and useful in short term stay psychiatry settings. Efficacy of different modes of treatment management in relation to BPD and co-occurring illness has been examined through a review of recent DBT studies to synthesize what is said about the generalizability of DBT to these populations and where DBT might be most effective in short-term psychiatry inpatient settings. There is empirical evidence indicating that certain foci are more important than others in inpatient settings and that nurses could benefit from guidelines to standardize practice in this area (Bohus, Haaf, Simms, Limberger, Schmahl, Unckel, Lieb & Linehan, 2004; Evershed, Tennant, Boomer, Rees, Barkham & Watson, 2003; McCann & Ball, 2000; Nee & Farman, 2007).

In summary, this review and synthesis of the literature aims to provide guidance to nurses in determining whether or not DBT can be implemented effectively in inpatient psychiatry settings and if so, whether preliminary considerations to support practice are warranted. In this chapter, a brief background of BPD has been provided to highlight what some of the current issues are in

working with people with BPD. An overview of DBT and its relevance to nurses working at VIHA in psychiatry inpatient settings was also discussed to provide a background and context for the questions posed in this paper.

In the next chapter (Chapter Two), I will discuss the literature review. BPD, DBT and the Matrix Method are covered in this chapter. Then, in Chapter Three, I go on to describe the application of the Matrix Method in detail. In Chapter Four, the discussion and conclusion are presented. Finally, in Chapter Five, I will present the implications for nursing practice and present preliminary recommendations based on the synthesis outcomes.

CHAPTER TWO

Literature Review

In this chapter, I first provide a more detailed overview of BPD and DBT based on current literature. I introduce the Matrix Method (Garrard, 2007) as the approach that was used to guide my review and synthesis the selected literature.

Borderline Personality Disorder (BPD)

BPD is a relatively new psychiatric diagnosis, appearing in the Diagnostic and Statistical Manual, third edition (DSM III) first in 1980. Historically, persons with BPD have been the primary population of focus for Dialectical Behaviour Therapy (DBT). Most researchers frame the description of BPD symptoms within a biomedical context and follow the DSM IV-R³, (fourth edition, revised) criteria as inclusion criteria in their studies. BPD is seen as a disturbing condition that now can be treated by psychiatry.

Much of the nursing literature reviewed which related to BPD focuses on assisting nurses to cope with the difficult demands of working with people diagnosed with BPD associated with the manifest symptoms and behaviours. However, there is little material on DBT and how it might be applied in nursing practice. But, Nehls (1998; 2000), a nurse academic, who has published in the area of BPD, focuses on a feminist view of BPD and theories of empowerment for women with the diagnosis. The DSM IV-R defines BPD symptom criteria as inclusive of five or more of the following criteria:

1. Frantic efforts to avoid real or imagined abandonment (does not include suicidal or self-mutilating behaviour covered in criterion 5);

³ The DSM-IV-R is a classification system that describes and categorizes symptoms in order for physicians to make diagnoses. There are five axis in this classification system: Axis I are psychiatric diagnoses with the exception of personality disorders and mental retardation; Axis II involve developmental diagnoses; Axis III are physical diagnoses; Axis IV diagnoses focus on psychological stressors affecting patients; and Axis V diagnoses involve global functioning (APA, 2000).

2. A pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation;
3. Identity disturbance: persistent and markedly disturbed, distorted, or unstable self-image or sense of self (e.g., feeling like one does not exist or embodies evil);
4. Impulsiveness in at least two areas that are potentially self-damaging (e.g., excesses in spending money, sex, substance use, driving, eating and, also, stealing) to include suicide or self-mutilating behaviour covered in criterion 5;
5. Recurrent suicidal threats, gestures, or behaviour, or self-mutilating behaviour;
6. Affective instability: marked reactivity of mood (e.g., intense episodic dysphoria, irritability, or anxiety) usually lasting a few hours and only rarely more than a few days;
7. Chronic feelings of emptiness;
8. Inappropriate, intense anger or lack of control of anger (e.g., frequent displays of temper, constant anger, recurrent physical fights); or
9. Transient, stress-related severe dissociative symptoms or paranoid ideation.

Dialectical Behavior Therapy

DBT is a psychosocial-based treatment pioneered by psychologist Marsha Linehan in the early 1990's that melds cognitive behavioral and Zen Buddhist principles and approaches. The treatment was developed initially to help women diagnosed with BPD who were experiencing chronic parasuicidality or ongoing suicidal gestures without intent to die. Persons with BPD seem to worsen when in psychiatry inpatient settings; perhaps, at least in part, because many health care professionals working in those settings do not know how to impart DBT skills in a consistent way on a short-term individualized basis effectively.

Traditional DBT⁴ has included three components: validation, mindfulness and distress tolerance. According to Kiehn and Swales (2008) these concepts stem from a primary DBT dialectic which is “emotional vulnerability” versus “self-invalidation.” Validation is the main strategy used to promote acceptance in this therapy (Linehan, 1993). There are five levels of validation and there is a progression of depth and complexity as the levels increase. The first level involves the therapist listening to the patient and demonstrating an interest in their thoughts and behaviours. The second level requires that the therapist make reflections based on what they have observed at level one. In level three, the therapist discusses observed behaviours that are not at least initially acknowledged by the patient. Level four involves the therapist connecting the past to the patient’s current difficulties applying causality. The fifth level requires that the therapist focus on the present and normalize current client reactions to difficult situations. (Linehan, 1993, p.222)

Mindfulness, the second component of DBT, is a Zen Buddhist concept and a core skill in the therapy. The goal of mindfulness in this context is to assist the patient to be more aware of who they are and how they are positioned in the world by their behaviours (Linehan, 2003). In becoming more aware of who they are, patients can learn how they need to change in order to function better. Diary cards are one way that patients can practice mindfulness. Diary cards are a tool that the patient uses to document self-harm behaviours which have been previously acknowledged. The therapist will go over diary cards with patients to help them to become more aware of their thoughts, feelings and behaviours. Meditation skills are also taught to assist patients in becoming more mindful, that is, a patient learns how to observe themselves non-judgmentally and to accept “what is” or reality in order to position themselves so that they can change (Linehan, p.21).

⁴ Traditional DBT involves a minimum of 12 months of DBT treatment which includes weekly individual cognitive-behavioral psychotherapy sessions with a primary therapist, weekly skills training groups lasting 2-2.5 hours each, telephone consultation afterhours and weekly consultations between therapists (Linehan, 1993).

Lastly, distress tolerance, which is the third component, is an extension of mindfulness whereby patients focus on distressing and painful issues – by acknowledging these issues, the patient is able to move forward. Distress tolerance skill development is crucial to assist patients to learn how to manage and avoid going into crisis (Linehan, 1993).

The premise for DBT is that there are biological and social determinants that result in certain people reacting poorly to emotional stimulation (Chapman & Gratz, 2007). According to Linehan (1993) there are three core purviews to the therapy: i) dialectics⁵ between patient and therapist involving seemingly incompatible concepts can be synthesized and integrated through reciprocal and irreverent communication⁶; ii) patients learn how to practice skills adopted from Zen meditation concepts, such as mindfulness and acceptance, that can help to facilitate skill development – the skills are reinforced in 1:1 relationship and are taught in group settings; and iii) cognitive-behavioural techniques that focus on improving interpersonal effectiveness, emotion modulation and distress tolerance reduce risk of injury and maladaptive ways of being (Linehan). In addition, a problem solving approach known as chain analysis is used systematically in DBT to look at each decision that was made prior to a negative behavioural outcome such as self-mutilation. This method is used to loosen thinking and demonstrate that other decisions could have been made along the way to change a negative outcome (Linehan). DBT is intended to assist with correcting perceptions and behaviours that are personality-driven, i.e., not based on an external fixed reality or one truth in the moment. This is achieved through a changed mind-body relationship and acquisition of a modified or new skill set for coping. Patients can be taught new skills to help assist them to develop a better quality of life by looking at and shifting their motivations and functioning and accepting themselves to affect change (Linehan).

⁵ In DBT, dialectics focus on our interconnectedness with the world and on what truth comes from the synthesis of different views. Using dialectics helps patients replace dichotomous thinking and accept change more readily (Linehan, 1993, p.74).

⁶ Irreverent communication is a communication style where the therapist frames their response to the patient in an “off the wall” manner to “unbalance” the patient out of their position. Most DBT communication is reciprocal communication which is “warm, empathetic and directly responsive to the patient” (Linehan, 1993, p.100).

The Matrix Method for Literature Reviews

The Matrix Method was developed by Garrard (2007) in response to wanting to teach students how to conduct systematic and critical literature reviews for research purposes. The advantage of using the Matrix Method in this paper is to improve organization, specifically timely access to materials, and to create a medium to critically analyze research in a systematic fashion. The Matrix Method involves creating a paper trail, documenting the literature search, organizing documents for review, developing a framework that allows for cross referencing of key points between articles, and writing a synthesis for the purposes of critical analysis and integration of themes (see Appendix A).

The use of the Matrix Method is appropriate for this project for a number of reasons. First, according to Garrard (2007), the Matrix Method is designed specifically to assist in assessing health sciences literature – a good fit here because the purpose of this review is to assess the evidence in relation to DBT and BPD. The Matrix Method assisted me in simplifying the literature search by outlining how to identify specific criteria in order to narrow the search. By using this method, I was able to categorize articles by establishing criteria that would be useful in analyzing the quality of each article in relation to the goals of this project. This made the similarities and differences across the literature more visible and the findings easier to synthesize. The Matrix Method assisted me in organizing the articles to make the data easier to analyze. This was extremely important in this case because using the latest literature was helpful in highlighting more recent and progressive DBT treatment options. Lastly, the Matrix Method provided a way of assessing large bodies of literature to be able to compare and synthesize the results. In this project I was able to consolidate the current research and contextualize it so that I could apply it to my main question and develop concrete applications of the current literature for ‘best practice’⁷.

⁷ Best practice can be defined as clinical care that is informed by the most current evidence-based findings (Barry, 2007).

Thirteen articles were chosen for this research review and synthesis. The goal was to review empirically based research studies on DBT for the purposes of applying the material to considerations for practice guidelines for nurses working in a psychiatry inpatient setting with patients with BPD. The main focus of the literature reviewed is DBT treatment management for patients with BPD and comorbidities. I am defining treatment management as the implementation of policy into practice and the adherence and monitoring of direct-care practice to alleviate illness symptomatology.

In the next chapter, I provide an overview of the way in which I used to Matrix Method to review and synthesize the DBT literature. The scope of the literature review, inclusion and exclusion criteria, process of analysis, synthesis of the literature and critique and evaluation are all covered in Chapter Three.

CHAPTER THREE

Application of the Matrix Method

In this chapter, I introduce the scope of the literature review, for purposes of the synthesis, which includes the types of articles that were chosen and why they were chosen. I then discuss inclusion and exclusion criteria for the literature review. Thirdly, I put forward the process of analysis that was used with the Matrix Method including the words and phrases used in the search and the search engines that were employed. Lastly, I present the synthesis of the literature which is based on the Matrix Method results (see Appendix B).

Scope of the Literature Review

The literature selection for this paper was established based on a number of factors and considerations of criticisms of recent DBT research. Criticisms of earlier evaluations of DBT include that: Linehan evaluated her own work, the sample sizes were small, the focus of most evaluation was on the effects of DBT on parasuicidal behaviour of persons with BPD and the full course of treatment was provided in a regimented manner (Kiehn & Swales, 2008). Based on these earlier criticisms, I found no longitudinal studies to validate early results. In the current literature, many sample sizes are small and there have been no longitudinal studies to date. In response to these criticisms, I focused primarily on finding literature that: i) did not include Linehan as an author or reviewer; ii) focussed on other applications of DBT such as implementation on psychiatry inpatient units (short-term treatment); and iii) the treatment of patients with BPD and co-occurring illness. I also wondered if there could be partial application of DBT resulting in some successful symptom control of BPD because of my own experiences in using DBT skills with youth with co-occurring illnesses in the short-term. Consequently, I focussed on these aspects as I evaluated the recent DBT literature. Given my own experiences in using DBT skills with youth with mental health and addictions issues, I was interested in finding other studies that supported or refuted the implementation of DBT into psychiatry inpatient settings.

Inclusion/Exclusion Criteria

I selected evaluation literature conducted within the past seven years to remain current. I focused on DBT treatment that was applied to people diagnosed with BPD and co-occurring illness. This was because when I worked on a psychiatry inpatient unit co-occurring illness was typical in patients who had also been diagnosed with BPD. I also looked for studies where elements of treatment were emphasized over full treatment. As there are now issues with the cost of providing traditional DBT it seemed important to see if maximizing aspects of DBT over shorter time frames is helpful. As such, I searched for research that focused on short-term and partial implementation of DBT. I also looked for studies where DBT skills could be taught to patients by staff without extensive DBT training. The thinking behind this was that DBT might be more successfully implemented on psychiatry inpatient units if more health care providers are trained locally on specific DBT skills.

During this search I used specific key words to find material that would inform the main question and goals of this literature review. The key word searches were: Borderline Personality Disorder, BPD, BPD/ Borderline Personality Disorder treatment, treatment management of BPD/Borderline Personality Disorder, Dialectical Behavior Therapy, DBT, inpatient and DBT/Dialectical Behavior Therapy, DBT/Dialectical Behavior Therapy treatment, DBT and comorbidities, Nursing and BPD/Borderline Personality Disorder and Nursing and DBT/Dialectical Behavior Therapy. I followed up these specific searches with frequently cited authors in the DBT literature including, Chapman, Gunderson, Linehan and Lynch and I searched the tables of content of journals that focused on related material. All of the University of Victoria Library search engines for Nursing, Medicine, Sociology and Psychology were used to find literature. Unfortunately, all of the studies on DBT are quantitative with the exception of one that used a mixed-methods approach by Rakfeldt (2005), thus, this limited the selection.

In summary, empirically-based articles were chosen that: i) were published within the past seven years; ii) focused on treatment management that could be applied by nurses on

psychiatry inpatient units; and iii) described applicability to different psychiatric inpatient populations in the short-term.

Process of Analysis Used with the Matrix Method

The purpose of conducting a Matrix Synthesis is to critically analyze and review empirical research on a topic. Through this process, I categorized information that reflected similarities and differences pertinent to the questions being asked in the most recent section of this paper. The synthesis of the literature was organized to reflect the headings from the Matrix with the exception of the findings section which focussed on rigor and the implications for nursing practice.

Synthesis of the Literature from the Matrix

Of the thirteen articles chosen for review and synthesis, all authors were located within the health sciences with the exception of Rakfeldt (2005), a Professor of Social Work. The articles come from research centers and peer reviewed journals. Articles were chosen from the past seven years; the intention was to use the most current literature. There was a broad cross-section of focal populations across the studies: women with BPD and drug dependency to chronically depressed older adults with personality disorders. As noted above, one criterion was literature that focused on DBT treatment for people with BPD and comorbid conditions. Most of the research was located in outpatient settings. Of the thirteen articles, four studies took place with inpatient populations. One article was a literature review.

Validity and Reliability

Not all authors reported the design and method, bias or attrition rates, which are standard indicators for assessing validity and reliability of research and study findings (Loiselle, Profetto-McGrath, Polit & Beck, 2007). These articles focused on treatment management rather than methodology (Bohus et al., 2004; Dimeff, Rizvi, Brown & Linehan, 2000; Evershed et al., 2003; Kroger et al., 2006; Lynch et al., 2007; and Lynch & Cheavens, 2008; McCann & Ball, 2000;

Wagner, Miller, Greene & Winiarski, 2004). Bias was noted by Koons et al. (2001) and the above validity measurements were reported by Feigenbaum (2007) in her literature review.

Ten articles reported using measurement tools that are valid and reliable. The most commonly used were the Global Assessment of Functioning (Bohus et al., 2004; Dimeff et al., 2000; Kroger et al., 2006; Rakfeldt, 2005), the Beck Depression Inventory (Bohus et al.; Dimeff et al.; Koons et al.; 2001; Kroger et al.; Lynch et al., 2007) and the Hamilton Anxiety or Depression Rating (Bohus et al.; Koons et al.; Lynch et al.; Lynch & Cheavens, 2008). Linehan's 'Expert Rating Scale' and 'Lifetime Parasuicide Count' were also used by several groups of researchers (Bohus et al.; Dimeff et al.; Koons et al.; van den Bosch et al., 2004). McCann and Ball (2000) and Wagner et al. (2004) did not mention either use of or specific measurement tools.

Findings

The Matrix Method helped me to organize the literature to answer the questions of this paper. The questions I was most interested in having answered were: i) can DBT treatment be implemented to treat people with BPD and comorbid illness; ii) is it an approach that can be used in short term and partial applications; and iii) can DBT be implemented on psychiatry inpatient units. I was able to answer these questions by using the Matrix Method. Specifically, applying the Matrix Method to the literature by using certain categories assisted me in determining how rigorous the studies were.

Modifications to treatment were noted in the findings and implications for nursing practice categories of the matrix. All studies concluded that DBT is an effective treatment and some found that modifications can be made to improve treatment management outcomes for gender specific or comorbid populations that had been diagnosed with BPD (Bohus et al., 2004; Dimeff et al., 2000; Feigenbaum, 2007; Lynch & Cheavens, 2008; McCann & Ball, 2000; Wagner et al., 2004). These studies stressed that modifications to traditional DBT made treatment management more successful with these populations.

To demonstrate that they had been rigorous, researchers were descriptive regarding how they had modified DBT to make it more suited to gender or comorbid populations. Bohus et al. (2004) added a creative coping group to augment the distress tolerance skills they were teaching and a body-oriented therapy for their female population which they determined improved dissociative symptoms. Some studies focussed on modifying DBT treatment by focusing on other social contexts. Wagner et al. (2004) found that emphasis on addiction education, the power differential between authorities and patients and cultural differences assisted a predominantly African American population diagnosed with BPD, substance misuse and HIV/AIDS to accept DBT treatment.

Dimeff et al. (2000) found that DBT was successful in treating methamphetamine dependent women with BPD when mindfulness was modified to address issues of social anxiety, urges to use drugs, rebellious behaviours and destructive relationship behaviours. Anger management strategies were added with the male forensic population; they were found to be helpful in promoting interpersonal regulation for patients which helped decrease high risk behaviours (Evershed et al., 2003).

Feigenbaum (2007), in her literature review, identified that modifications were key in making treatment management successful for populations diagnosed with BPD and substance abuse, binge eating disorder, ADHD, antisocial personality disorder or chronic depression. She also identified specific modifications for adolescent and geriatric populations. Modifications for the geriatric population were implemented by Lynch and Cheavens (2007). They modified DBT to address some of the issues related to aging such as decreased short term memory, end of life concerns and life threatening behaviours related to aging.

Lynch et al. (2008) found having direct-care staff present on a daily basis and involved in DBT treatment management is helpful to its successful implementation if patient cognition is impaired. Creating an environment that reminds patients and staff of DBT skills, for example hanging posters depicting skills and associated exercises in common areas, can remind patients

and staff to keep focused on DBT treatment management (McCann & Ball, 2000). Although McCann and Ball did not study the geriatric population specifically visual cues are helpful in reminding the geriatric population about DBT strategies (Lynch et al.).

Some of the studies discussed short term and partial applications of DBT (Bohus et al., 2004; Koons et al., 2001; Kroger et al., 2006; Lynch & Cheavens, 2008; Lynch et al., 2007). Establishing and working on daily targets such as diary cards and chain analysis and focusing on mindfulness and distress tolerance on psychiatric inpatient units were shown to be helpful in short term DBT treatment application (Bohus et al.; Kroger et al.; McCann & Ball, 2000; Nee & Farman, 2007). Although Koons et al., Lynch and Cheavens and Lynch et al. conducted their research in the community their short term or partial applications were transferable to psychiatry inpatient units. For example, Koons et al. used traditional DBT and worked with a traumatized population. And, most patients with BPD have trauma histories (Becker, 1997). It has also been my experience that there are many geriatric patients on psychiatry inpatient units who have BPD or BPD traits who could benefit from the modifications proposed by Lynch and Cheavens and Lynch et al.

Implementation of DBT on psychiatry inpatient units was discussed in five studies (Bohus et al., 2004; Evershed et al., 2003; Kroger et al., 2006; McCann & Ball, 2000; Nee & Farman, 2007). Bohus et al. had the shortest duration but reported they used all elements of traditional DBT and justified their results empirically. All the subsequent psychiatry inpatient unit studies took place over at least a year which is congruent with traditional DBT implementation (Linehan, 1993). McCann et al. examined the implementation of DBT in a forensic inpatient setting and found that it was helpful to engage staff in DBT treatment alongside and with patients. This is so that the treatment team can increase their own awareness of how they contribute to relational problems/issues with patients. Further, some studies strongly advocated for the treatment team to self-reflect and debrief on a weekly basis with each other because of the intensity of working with BPD populations (Nee & Farman; Wagner et al., 2004). In my

experience this can be particularly true in acute environments like psychiatry inpatient units.

Linehan (1993) also recommends this practice to decrease incidents of transference, thereby keeping therapeutic relationships as healthy as possible. This seems particularly important when patients might be most ill as can be the case on psychiatry inpatient units.

In a number of studies, training in DBT application by certified therapists given to front line staff in inpatient settings was found to be effective for DBT implementation (Bohus et al., 2004; Evershed, 2003; Kroger et al., 2006; McCann & Ball, 2000). This is because some DBT skills can be taught to patients and re-enforced by direct-care staff daily to improve outcomes. In fact, making sure that DBT treatment management is a multidisciplinary collaboration is important in ensuring that treatment is being provided in a consistent manner (Evershed). The interdisciplinary team should actively be part of DBT treatment management to promote informed discussions and decisions regarding patient care (Koons et al.; Lynch et al., 2006; McCann & Ball; Wagner et al.).

Strengths and Limitations

The Matrix Method categories assisted me to determine what the strengths and limitations were for each study. The studies were generally quite rigorous. A number of studies were randomized controlled trials (RCTs) (Bohus et al., 2004; Koons et al., 2001; Lynch et al., 2007; van den Bosch et al., 2004) which is considered the ‘gold standard’ in research (Chapman & Gratz, 2007; Craig & Smyth, 2007).

Most treatment periods met Linehan’s (1993) stipulations of adequate DBT treatment time of one year (Dimeff et al., 2000; Evershed et al., 2003; Koons et al., 2001; Kroger et al., 2006; Lynch et al., 2007; McCann & Ball, 2000; Nee & Farman, 2007; Rakfeldt, 2005; van den Bosch et al., 2004). The Bohus et al. (2004) treatment took place over three months which made the DBT implementation significantly shorter than Linehan’s recommended time frame. Despite this limitation, the study was quite rigorous and therefore contributes to our understanding of DBT in short-term implementation.

There were a number of pilot studies that were conducted over shorter periods of time (Dimeff et al., 2000; Koons et al., 2001; Nee & Farman, 2007). Lynch et al. (2008) conducted shorter studies that were not considered pilot studies and had significant numbers (n=64 for study 1; n=37 for study 2). One study (Evershed et al., 2003) was a non-contemporaneous study due to difficulty with sampling and the sample sizes were lower (n=17). Other sample sizes were adequate (Bohus et al., 2004; Koons et al.; Kroger et al., 2006; Lynch et al.; McCann & Ball, 2000; and van den Bosch et al., 2004) but there were exceptions (Dimeff et al.; Evershed et al.; Lynch & Cheavens, 2008; Rakfeld, 2005; Nee & Farman; Wagner et al., 2004).

Critique and Evaluation

Overall validity and reliability of the 12 selected studies (and one literature review) were assessed to establish the level of rigour and scientific merit of the studies. According to Davies and Logan (2008) internal validity refers to factors inside the study but outside of the treatment that may have biased the outcomes; external validity refers to the factors outside the study that may have impacted the generalizability of the work. For example, personal bias is considered a factor in assessing external validity. Reliability can be described as the measure of consistency in a study; it is assessed on the basis of whether or not the right things are being measured and how well the results can be replicated (Davies & Logan). Sample size is also an important factor in analyzing quantitative studies. As a general rule, in quantitative research, the sample size must be large enough to represent the population under study (Loiselle et al., 2007).

Given my analysis of the strengths and limitations of the studies examined in this literature review (see Appendix B), I have found that they adequately meet the criteria for validity and reliability. Standardized measurement tools were used. All the articles for this literature review were peer reviewed which provides some confidence that their methodologies and research designs have been scrutinized by fellow researchers in the field and found to be rigorous. Some articles focused on treatment management and findings rather than describing methodology so one had to assume at times that validity and reliability were principles that were adhered to during the

research process based on the detail and quality of the study outcomes. Limitations were also noted. Standard indicators of validity and reliability such as reporting study design details and acknowledgement of potential bias were missing in most of the articles. Attrition rates were widely reported but reasons for the attrition rates were often not discussed. The sample sizes of four of the studies were too small to be statistically significant which means that generalizability is less likely in these cases. For example, Dimeff et al. (2000) had a sample size of two. However, since most of the studies reported applying traditional DBT and successful outcomes in both inpatient and outpatient settings at times less than one year into treatment one can surmise that generalizability to inpatient settings is possible.

In summary, there were findings that could inform nurses in their DBT practice on psychiatry inpatient units. Most of the articles focussed on treatment management rather than describing study methods and methodologies. The RTC studies were more detailed in this regard. In fact, study limitations often weren't discussed in the studies. Standardized measurement tools were used consistently and modifications of DBT for various populations diagnosed with BPD and co-occurring illness and over shorter time frames were found to be effective in treatment management. However, there was no mention of population specifics such as gender differences in treatment management approaches which is significant since 85% of those diagnosed with BPD are women (APA, 2000).

CHAPTER FOUR

Discussion

This chapter focuses on the discussion arising from a review and synthesis of the literature. The overall goal of this project was to do a review and synthesis of the DBT literature focused on evaluation studies related to DBT in psychiatry inpatient settings with patients with BPD and comorbid illness. The long-term aim of this focus is to benefit nursing practice and promote good patient outcomes. I chose an inpatient setting because it seemed to be the least likely place that DBT was being used effectively, given the traditionally recommended DBT (Linehan, 2003). Inpatient psychiatry is an area where DBT skills such as stress tolerance could be particularly effective, at least in the short term, by potentially opening patients up to greater treatment options and acceptance of their circumstances.

Inpatient psychiatry has traditionally been an area in psychiatry that has been dominated by the medical model⁸; providing nurses with the opportunity to apply other evidence-based models of care such as DBT can support best practice with patients diagnosed with BPD (Feigenbaum, 2007). According to Craig and Smyth (2007), best practice should be clinically relevant and supported by evidence-based research findings. I chose to focus on clinically relevant research findings by integrating the implications for nursing practice category into the findings section in Chapter Three. For a clinician such as myself, research tools like the matrix are helpful in establishing the quality and significance of the research but the research must have clinical relevance re: nursing practice to inform policy and practice (Craig & Smith). Inpatient studies were well represented in this literature review as were short-term treatment and partial applications of DBT. Using diary cards to analyze self-harm behaviour and chain analysis to problem solve are promising DBT tools but further studies are needed to be make conclusions

⁸ The medical model is an evidence-based tool that is used to diagnose symptoms and syndromes in patients. It is a model which evaluates the human body as a series of connected systems and its focus is on causation and remediation. The medical model is commonly applied by physicians to diagnose illness (Wikipedia Online Encyclopaedia, 2009).

about their effectiveness in psychiatry inpatient settings. Medication augmentation was not mentioned in the articles and this certainly would have an effect on outcomes given the number of people diagnosed with Axis 1 diagnoses, as the conditions represented under Axis 1 are often treated with medication. Also, in addition to considering medication augmentation, more studies need to be done on men, as women were clearly overrepresented in these studies, with the exception of the study by McCann and Ball (2000).

Some of the researchers used measurement tools such as the Beck Depression Inventory and the Hamilton Anxiety and Hamilton Depression Scales; these are used in daily practice on psychiatry inpatient units. It would have been helpful to see more of Linehan's (1993) measurement tools implemented because they are specific to use with people diagnosed with BPD and are considered a valid and reliable measure of social functioning. In their review and synthesis of the literature, Lynch et al. (2006) and Feigenbaum (2007) found that DBT can be used successfully in patients diagnosed with BPD and co-occurring illness. The majority of studies indicated that a focus on mindfulness and distress tolerance skills were helpful in short-term treatment. The studies also suggested that DBT skills can be taught to other staff for the purposes of implementation by qualified DBT therapists.

There were issues in all of the studies regarding meeting the Matrix criteria. For example, it was not possible to blind researchers and subjects to decrease bias. Interestingly, the Hawthorne effect which involves subjects altering their behaviour and as a result of knowledge of the study, which can mask the effect of the research variables (Loiselle et al., 2007)) was not mentioned once. This is surprising because most subjects in the studies would have been aware they were in DBT treatment and may have responded more positively to the treatment under study than the treatment as usual group (TAU). It would have been helpful if the articles had gone into more depth regarding their methodological choices as this might have brought discussions of issues such as potential bias to the forefront. Although a number of studies were conducted on psychiatry inpatient units and evaluated implemented aspects of DBT over shorter periods of time versus the

normal year of traditional DBT treatment, there is still a need for more research to determine best practices that answer the questions posed in this paper. This is one of the reasons I developed preliminary considerations rather than guidelines for DBT implementation by nurses on psychiatry inpatient units.

It has been my experience that ideas for new research studies can come from the creative process that is involved in theorization. One insight learned from conducting this review and synthesis of the literature is that more research is needed into whether mindfulness and distress tolerance skills can be taught to patients in crisis on psychiatry inpatient units with consequent good outcome. Possibilities for a decrease in hospital stays and the 'revolving door' exist if anxiety is decreased in the shorter intense period of hospitalization. More specifically, if appropriate resources can be better accessed by patients during periods of crisis and hospitalization, wellness can be maintained over a longer term. Also of note was the absence of a critical feminist lens and a gendered analysis in the literature reviewed; I wondered if this is reflective of the lack of feminist perspective in Linehan's work and in this field more broadly. Since a high number of persons diagnosed with BPD are women, this absence is startling. Bohus et al. (2004) was the only study that acknowledged gender as an issue by adding body-oriented therapy to their DBT implementation. The lack of acknowledgement of gender issues has implications in terms of treatment applications if we are to practice critically.

Conclusions

Decisions based on conclusions from this literature review must be considered carefully due to the need for more research on DBT implementation. The studies that used less traditional DBT lacked detailed information about method and design but this did not greatly impact the rigor of the studies. However, the studies that were based on traditional DBT did not always address whether or not DBT could be used effectively on a short-term basis or when partially applied. The studies that fit the Matrix categories best were RTCs and they were studies of traditional DBT. Since the matrix categories were useful in answering the questions in this paper this was not a

concern. The literature that was available was almost purely quantitative and it would have been helpful if there were qualitative studies to choose from. This is because there was a significant lack of patient voice in the literature and qualitative research seems to focus on describing the patient's experience from their perspective. It would have been particularly helpful to hear the voices of women, specifically about their experiences of daily living, given that their representation is significantly higher than men in the diagnosed BPD population.

Future areas of research based on the empirical recommendations of the researchers into DBT consistently point to a need for more follow-up and longitudinal studies. DBT has been in use since the late 1980's in its seminal form and this has provided enough time for better research follow-up in assessing the longevity of treatment management outcomes. Additionally, more qualitative studies to understand the experience of clients and therapists are needed. Qualitative research provides a mechanism for the patient's voice to be heard through narratives which in turn provides a more personal understanding of patient/client experiences with DBT and how it has affected their lives. The evidence that DBT can be applied effectively in short-term treatment on psychiatry inpatient units is growing, but more research is required to modify treatment management of comorbid populations in the short-term. And, lastly, nurses practicing in psychiatry need to be involved in research because they are practicing DBT and developing policy for best practices. Using a phenomenological approach would be a good research methodology for nurse researchers to use in evaluating DBT in that it focuses on the conscious experience of people, specifically their perceptions and emotions (Creswell, 1998). Such feedback from women patients diagnosed with BPD could then assist nurses in evaluating their DBT policy development and practice through a gender lens which could be empowering for nurses and patients alike as they are both predominantly women.

CHAPTER FIVE

Implications and Preliminary Recommendations

The implications for nursing policy and practice that arise from this literature review are discussed in this chapter. Then, preliminary recommendations that are based on synthesis outcomes are outlined.

Implications for Nursing Practice

Evidence-based practice⁹ in nursing has emerged as a way to promote better clinical outcomes using empirical data (Sredl, 2008). According to Koehn and Lehman (2008) high quality care is associated with evidence-based practice, although this may not be relevant if policy does not make sense to practicing nurses. I have worked as a psychiatry inpatient nurse and understand the culture. Direct-care nurses are concerned with improving practice but want practical guidelines to assist in the implementation of policy into practice. Sometimes, where there is not enough empirical evidence to support guidelines, preliminary considerations or recommendations can begin the process of developing guidelines (Craig & Smith, 2007).

The Matrix Method (Garrard, 2007) was a useful tool in assisting me to examine research in a systematic manner. Evidenced-based research was analyzed to provide preliminary recommendations for nurses and DBT implementation on psychiatry inpatient units. The research on DBT and treatment outcomes has not come from nursing as this research has not been conducted. As noted earlier, nursing researchers could use phenomenology-based¹⁰ methodology such as Rosemarie Rizzo Parse's Theory of Human Becoming¹¹ in order to understand the lived

⁹ Evidence-based practice is informed by knowledge that has been critically and publically critiqued. The knowledge may come from research, clinical experience, patients and families and local contexts or environments, for example, inpatient unit culture (Rycroft-Malone, Seers, Titchen, Harvey, Kitson & McCormack, 2004).

¹⁰ Phenomenology is a qualitative methodology that researchers use to search for the underlying meaning or essence of the individuals experience. It emphasizes the meaning of the live experiences for individuals about a concept or phenomenon (Creswell, 1998, p.51).

¹¹ Nurse researcher Rosemarie Rizzo Parse's Theory of Human Becoming is a phenomenology-based methodology that explores the nurse-patient relationship by making meaning of the patient's lived experience. The nurse is attentive

experiences of their patients in DBT treatment. In doing so, nurses use nursing theory to become more informed regarding patient priorities and the benefits and limitations of treatment specific to their individual needs. To become more informed, nurses can ask open-ended questions, individually with patients or in focus groups, such as ‘what was your experience with the chain analysis we did yesterday; how did it make you think and feel?’ Other questions might be ‘how has DBT affected your quality of life; how do you describe your daily experiences now versus before DBT treatment?’ Further, because women are the predominant population diagnosed with BPD, nurse researchers might want to use a critical feminist lens¹² to analyze what the patient’s lived experiences of DBT has been. Using this lens would be particularly useful because many patients diagnosed with BPD are often stigmatized and marginalized due to their diagnosis (Becker, 1997).

Increasingly, nurses at VIHA, and in other areas, are involved in the process of implementing DBT into practice settings. In some cases, nurses are being trained in DBT and may become experts in implementing DBT and, in other cases, they are taught by experts and participate in teaching DBT skills by using the DBT skills training manual which consists of numerous exercises (Linehan, 1993). DBT becomes nursing knowledge when it is embodied, synthesized and implemented by nurses in my experience even when we are using the same materials as other health care professionals, for example DBT skills training exercises. In my view, since nurses seem to attend to patients as whole beings with spiritual, emotional, intellectual and physical needs, hearing from patients and then being able to respond using nursing experience and formal education in the form of nursing theory is one of the things that makes nursing distinct from other health care professions. Nursing research on how nurses implement DBT, then, can

to the moment-to-moment meanings for the patient as s/he bears witness to their experiences and priorities (Parse, 2009).

¹² Using a critical feminist lens is a way of implementing a conceptual framework that contextualizes the experiences of women in ways that highlight how they are marginalized. The purpose of such a framework is to empower women by acknowledging power differences between those who traditionally hold power, i.e. health care providers, and patients. (Naples, 2003)

greatly contribute to nursing knowledge by making the experiences of women with BPD more transparent.

It seems clear that nurses must modify DBT to treat people with BPD and co-morbid conditions given the variables and complexities of today's psychiatry inpatient. It follows that nurses need to be informed about the issues specific to their treatment populations such as the marginalization that occurs for women with a BPD diagnosis in order to be able to individualize care. Traditional DBT administration is no longer enough when many patients are entering the health care system with multiple diagnoses and related issues. However, we do not all need to be DBT experts to learn how to implement some of the more basic DBT skills. One of the limitations of DBT implementation in nursing practice may be that nurses do not want to increase their workloads and would therefore be reluctant to adopt DBT into their practice. Nurses could, however, meet to develop guidelines for DBT best practices in their particular settings which might simplify DBT implementation by making explicit what can be reasonably implemented in their particular environments. Diary cards and chain analysis implementation and monitoring are teachable to health care providers who have not had extensive DBT training and should not increase nursing workload greatly. Nurses might find they practice using different theoretical perspectives which will influence their implementation of DBT so any guidelines should be simple and general so that nurses can adopt them easily to their own theoretical frameworks. Beyond this, getting patients, other staff and management onside can help nurses re-prioritize care so that they have time to implement DBT (Craig & Smyth, 2007). Finally, mindfulness and distress tolerance skills can be taught to health care providers through the provision of the Skills Training Manual for Treating Borderline Personality Disorder (Linehan, 1993) and should also be easily integrated into nursing practice.

Preliminary Recommendations Based on Synthesis of the Literature

Preliminary recommendations for nurses working in psychiatry inpatient settings based on this literature review involve: i) Modification of DBT treatment to meet the needs of people

with BPD and co-morbid illness. The goal of modification would be to individualize treatment for the typically complex BPD patients who are found on psychiatry inpatient units. Those studies that had the most extensive modifications reported the most positive findings; ii) Engagement of the direct-care staff in concurrent DBT treatment. This would allow for direct-care staff to fully support the day to day treatment needs of people with BPD and honour their lived experiences. As the significant human resource support required historically for DBT implementation has been a barrier to service provision, this should make DBT more accessible to patients; iii) Weekly self-reflection and debriefing for the treatment team. Having these kinds of treatment team supports in place creates the space for discussions on how well everyone is doing and is a way to check in and make sure consistency is in place, which is highly important for people with BPD; iv) Certification of therapists in DBT to train staff and do skill implementation. This makes it possible to disseminate information to more staff so that DBT implementation is not restricted to experts. Some DBT skills are easier to implement than others, for example filling out diary cards or doing distress tolerance exercises, and can be taught by direct-care staff without extensive DBT training; v) Provision of daily support with diary cards and chain analysis. Ongoing treatment with a focus on daily problem solving helps to address issues such as therapy interfering behaviour in a timely and effective manner; vi) Focus on mindfulness and distress tolerance skills. DBT skill implementation in these areas is seen to be effective in the short-term and is not difficult for direct care staff to learn and implement. Reducing stress is key on psychiatry inpatient units where acuity tends to be higher; vii) Development of an environment that reminds patients and staff of DBT skills; this would include hanging posters describing DBT skills. An ongoing reminder of DBT skills can cue patients and staff to the need to implement these skills as situations arise. This could be particularly helpful for simplifying information and visual learners; viii) Creation of a working group of nurses for the purposes of developing reasonable guidelines for DBT implementation on the psychiatry inpatient units where they work. The goals of this group could be to create DBT practice guidelines keeping the needs of the staff, patients and management specific to their

workplace. They then would be able to address the needs of all involved through policy development and plans for implementation leading to greater success with DBT implementation and patient outcomes; and ix) Work in conjunction with nursing researchers willing and able to conduct qualitative research on their psychiatry inpatient units to look at outcomes based on the lived experience of these patients. By collaborating on this type of research, nurses working on psychiatry inpatient units will be able to better their DBT policy making and practice based on patient experiences.

In summary, it appears DBT can be implemented in psychiatry inpatient settings with successful outcomes. However, the findings were preliminary and further nursing research is needed in this area to be able to develop and implement evidence-based practice guidelines that are successful. Tools such as diary cards and processes like chain analysis are effective treatments for some patients who have co-occurring illness in addition to BPD but nurses need to keep the individual needs of their patients at the forefront if their care is to be significantly helpful. Nurses should be trained by certified therapists not only to be able to apply these techniques but also to critically appraise their effectiveness. Nurses and some other direct-care providers are often more cost effective than certified therapists and can provide specific and valuable care to patients with BPD receiving DBT treatment that comes from and builds on nursing knowledge. Finally, using DBT in psychiatry inpatient settings can potentially reduce health care costs by teaching patients self-management skills to reduce crises thereby lessening the number of future hospitalizations.

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APPENDIX A

The Matrix Method

- Select evidence-based health sciences literature by using online data bases that focus on your area of study
- Make decisions about which documents to select and disregard based on your topic and questions and the quality of the study
- Keep a paper trail while searching so that you know where you have been and can go back or avoid repeating yourself
- Organize and read documents for review; understand what the study is saying, evaluate the ideas, research methods and results for each study
- Abstract each document into columns and rows to create a matrix chart: headings can be general or specific depending on your focus
- Write a critical review of the literature based on the matrix chart and present your synthesis of the studies from the chart data

(Garrard, 2007)

APPENDIX B

The Matrix

Author Article and Journal	Date of Study	Population	Study Sites	Validity and Reliability	Findings	Strengths and Limitations	Implications for Nursing Practice
1.Dimeff, L., Rizvi, S.L., Brown, M. & Linehan, M.M. Dialectical behaviour therapy for substance abuse: A pilot application to methamphetamine-dependant women with borderline personality disorder. Cognitive and Behavioral Practice.	2000	Methamphetamine-dependent women with BPD	Out patient	Used standardized assessment tool (Lifetime Parasuicide Count, Global Assessment of Functioning, Global Adjustment Scale, Beck Depression Inventory,DSM-IV) Unclear what was used for addiction although use alluded to; did seem to measure they it was supposed to Little mention of study design (uncontrolled only) Bias not discussed Drop out of 1 participant not discussed	DBT skills can be taught to this pop with modifications specific to pop needs Larger study warranted	One year study with 6 months follow-up Treatment challenges discussed in detail Modification of DBT discussed in detail Pilot study Sample (2) No follow-up after 6 months	Radical acceptance Non-judgemental problem solving Chain analysis Mindfulness for social anxiety, urges to use, rebellious behaviours, relationship destruction and what makes life worth living

Author Article and Journal	Date of Study	Population	Study Sites	Validity and Reliability	Findings	Strengths and Limitations	Implications for Nursing Practice
2.McCann, R.A., Ball, E.M. DBT with an inpatient forensic population: The CMHIP forensic model. Cognitive and Behavioral Practice.	2000	Male forensic with BPD and/or ASPD and Axis I dx	Inpatient	No mention of assessment tools and methods, study design, outcome measures, bias, dropout rates and reasons	DBT effective for this population when modified Important to engage staff in DBT treatment to increase awareness of relational issues with inpatients	Sample size of 300 Development of a model specific to forensic inpatient pop; discussed modified agreements, targets, skill training, dialectical dilemmas, therapy interfering behaviours Generally followed classical DBT otherwise No follow-up re: effectiveness as part of study but DBT program in place for 3 years Unclear how long DBT provided to patients	Irreverent communication not helpful as antagonizes this pop, focus on issues related to hopelessness, invalidation, anger and fear Validation of feelings important Modifications for antisocial behaviours, institutionalization, emotional attachment/detachment, random acts of kindness, empathy towards others Mindfulness important Interdisciplinary team decision making important Diary cards Chain analysis Treatment management on unit by staff trained in partial DBT onsite DBT trained experts Environment that reminds of DBT

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3.Koons, C.R., Robins, C.J., Tweed, J.L., Lynch, T.R., Gonzalez, A.M., Morse, J.Q., Bishop, G.K., Butterfield, M.I. & Bastian, L.A. Efficacy of dialectical behaviour therapy in women veterans with borderline personality disorder. Behavior Therapy.	2001	Female veterans with BPD and Trauma	Outpatient	GAS, trauma questionnaire (not sure which one), Beck Hopelessness/Depression Inventories, Hamilton Anxiety Rating Scale, Linehan's DBT Expert Rating Scale Drop out rate and inclusion/exclusion criteria accounted for Potential bias discussed in terms of new DBT therapists wanting positive outcomes and evaluators not not being aware of treatment Outcome measures given at baseline, 3 and 6 months	DBT effective for this pop (saw effect of distress tolerance skills in 6 month eval in decrease of depressed mood, parasuicidal behaviours, controlling anger, dissociations and hospitalizations in DBT over TAU. No change in reported anxiety for DBT over TAU.) Larger study warranted	RTC Good use of other empirical studies Pilot study but sample 28 DBT adherence discussed Limitations discussed in terms of need for more follow-up eval although pre (baseline) and post testing done at 6 and 12 months Modifications for this pop not discussed Race and culture addressed in terms of potential bias Therapist training by Linehan Short period of DBT treatment (6 months only when most 1 year long) Little focus on treatment management	Distress Tolerance Skills emphasized but appears to have been classical DBT administration Certified therapists Interdisciplinary team decision making

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4.Evershed, S., Tennant, A., Boomer, D., Rees, A., Barkham, M. & Watson, A. Practice-based outcomes of dialectical behavior therapy (DBT) targeting anger and violence, with male forensic patients: A pragmatic and non-contemporaneous comparison. Criminal Behaviour and Mental Health.	2003	Male forensic with BPD	Inpatient	Self-report Inventory, Personality Assessment Inventory, Buss-Durkee Hostility Inventory, State-Trait Anger Expression Inventory and Novaco Anger Scale Had difficulty with recruitment due to lack of availability No mention of design or other methods, bias, outcome measures, why drop out occurred	Decrease in violent behaviour and anger but not number of incidents in DBT group vs TAU	18 months of DBT with 3 evaluations Low attrition rate of 1 Participants escalated each other post group work by discussing treatment which is against DBT philosophy Small n (17) Non-contemporaneous comparison group No therapist adherence training just applied DBT	Classical DBT with emphasis on offending, anger, mood management, substance misuse, post-traumatic stress disorder and modifications of sexual arousal Multidisciplinary DBT Staff taught to coach during 2 week intensive DBT program taught by CBT psychologist and nurses Telephone coaching switched to inpatient based coaching by staff on the unit

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<p>5.Bohus, M., Haaf, B., Simms, T., Limberger, M.F., Schmahl, C., Unckel, C., Lieb, K., Linehan, M.M.</p> <p>Effectiveness of inpatient dialectical behavioral therapy for borderline personality disorder: A controlled trial.</p> <p>Behavioural Research and Therapy.</p>	2004	Females with BPD, comorbidities and Axis 1 dx	Inpatient	<p>Lifetime Parasuicide Count, Symptom Checklist, Hamilton Anxiety Scale, State-Trait Anxiety Inventory, Beck Depression Inventory, Hamilton Depression Scale, State-Trait Anger Inventory, Dissociations Experiences Scale, GAF, Inventory of Personal Problems and Jacobson's Criteria for Clinically Relevant Change, DSM, Outcome measures at baseline</p> <p>No specifics for why attrition rate at 22%</p> <p>Little mention of study design details, other methods, bias</p>	<p>Reductions in behaviours by DBT group vs TAU except dissociation and anger which remained the same as TAU although improved</p>	<p>RTC</p> <p>Limitations of study discussed</p> <p>3 month study</p> <p>Pre (baseline) and post testing (4 months)</p> <p>Sample size larger (40)</p> <p>No long-term follow-up evaluation</p> <p>Patients with substance use excluded</p> <p>Only analyzed data from completers</p> <p>Did not evaluate DBT adherence</p>	<p>Traditional DBT (validation, mindfulness, distress tolerance) with focus on reducing suicidal behaviours, self-injury, treatment interfering behaviours and behaviours that promote longer hospitalization (Stage 1 DBT)</p> <p>Did modify with addition of Creative Coping Group and Body-oriented Therapy but these modifications might be in title only as they are part of traditional DBT</p> <p>Certified therapists</p>

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6.van den Bosch, L.M.C., Koeter, M.W.J., Stijnen, T., Verheul, R. & van der Brink, W. Sustained efficacy of dialectical behavior therapy for borderline personality disorder. Behaviour Research and Therapy.	2004	Females with BPD and substance abuse	Outpatient	Lifetime Parasuicide Count, DSM, and BPD Severity Index Attrition rate of 6 with reasons given Analyzed all data to decrease bias Discussed study design, methods and outcome measures with assessments and treatment congruent with what was being measured	Lower levels of depression, parasuicidality and impulsivity of DBT over TAU No treatment differences for drug abuse Small decrease in effectiveness of DBT noted after 6 months without treatment for all of the above	RTC Evaluation at baseline, at a year and then 6 months post treatment Sample larger (64)	Traditional DBT, true to a full program, with focus on motivation and skill development specific to adapting to change (no notable modifications)

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<p>7.Wagner, E.E., Miller, A.L., Greene, L.I. & Winiarski, M.G. Dialectical behavior therapy for substance abusers adapted for persons living with HIV/AIDS with substance use diagnoses and borderline personality disorder. Cognitive and Behavioral Practice.</p>	2004	BPD with substance abuse dx and HIV/AIDS	Outpatient	Did not discuss assessment tools, design and research methods, bias, outcome measures Attrition rate not mentioned	DBT adapted for triply diagnosed may improve quality of care	<p>Patient voice reflected in case study Acknowledged issue of distrust of professionals as barrier to treatment Used experts in DBT to implement therapy Detailed description of modifications Case study (1) and no mention of sample size Unclear how long treatment took place Initial outcomes not discussed but RTC being conducted to assess treatment modifications</p>	<p>Traditional DBT but mostly focused on modifications of treatment to pop with attention to power and cultural differences Emphasis on decreasing therapy interfering behaviours Adherence skills and focus on education specific to all diagnoses Interdisciplinary approach Used consumer advisory board to provide consultation and feedback on treatment adaptations Diary cards and chain analysis used to promote adherence to treatment, distress tolerance and radical acceptance of both psychological and physical Mindfulness used to address anger with illness and bureaucracy Treatment team debrief and self-reflection weekly</p>

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8.Rakfeldt, J. Dialectical behavior therapy with transitional youth: Preliminary findings. Best Practices in Mental Health.	2005	Transitional youth (No BPD dx)	Outpatient	GAF, Heinrich's Quality of Life Scale, Purposeful Productive Activity and Quality of Life Scale Used some qualitative methods (focus groups and semi-structured interviews) Outcome measures set at baseline Didn't randomize related to scheduling of clinical slots and their availability No mention of bias	DBT improved significantly over TAU in interpersonal relationships, social networks and intentionality (more motivation, better use of time and clearer more realistic goals) Vocational functioning did not differ	Treatment span 1.5 years Pre (baseline) and post-test (after treatment?) Used developmental theory to drive study in addition to traditional DBT lit All therapists held DBT certification Sample smaller (15)	Traditional DBT Interpersonal deficit focus as institutionalized pop Distress tolerance skills used to help with self-management including realistic goal setting, contingency management and environmental and behavioural skill analysis

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9.Kroger, C., Schweiger, U., Sipos, V., Arnold, R., Kahl, K.G., Schunert, T., Rudolf, S. & Reinecker, H. Effectiveness of dialectical behaviour therapy for borderline personality disorder in an inpatient setting. Behaviour Research and Therapy.	2006	BPD with Axis 1 dx (44 women and 6 men) and high comorbidities	Inpatient	DSM, German versions of GAF and symptom check list (SCL-90-R) and Beck Depression Inventory 13 lost to attrition and rationale given (could not be reached and refused written consent) Outcome measures at baseline Did not discuss study design or other assessment methods or bias No control group	DBT can be used in short-term inpatient settings with effectiveness (talked about psychopathology but did not get specific re: improvements)	Sample larger (50) Pre (baseline), at D/C and 15 months post treatment testing done Medication controlled for 2 out of 7 therapists had only one week training in DBT but there were DBT supervisors Looked at depression but not parasuicidal behaviours as stated already studies (?)	Traditional DBT with no modifications other than short-term implementation Certified therapists

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10. Feigenbaum, J. Dialectical behavior therapy: An increasing evidence base. Journal of Mental Health.	2007	BPD with co-morbidities	N/A (literature review)	Review of RTC and non-RTCs of DBT for BPD Used strict evaluation criterion including assessing tools used, inclusion and exclusion criteria, sample size, strengths and limitations, therapist expertise, DBT adaptations, attrition rate, generalizability, bias, long-term follow-up, and outcome measures	DBT modifications are effective in treating BPD with co-morbidities such as substance abuse, binge eating disorder, forensic, ADHD, chronic depression in older adults and suicidal adolescents	Comprehensive review of studies Inclusive and specific to pop needs Did not look at inpatient vs outpatient or length of therapy and priorities with shorter length of time	Effective modifications of DBT for these pops are: substance abuse- monthly friend and family network to provide feedback, case management for coaching, pharmacotherapy for drug replacement, reward system for abstinence Binge eating disorder-focus over controlling urges and actions rather than affect change or control Forensic- introduction of drug treatment and employment programs augmented DBT reducing negative behaviours and resulting in better health for all inmates, staff training in DBT important in reducing punitive and restrictive interventions contributing to better outcomes ADHD- Skills group focus Chronic depression for older adults- augment DBT with antidepressants Suicidal adolescents- providing safe environment contributed to less vulnerability and acting out behaviours when paired with DBT

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11.Lynch, T.R., Cheavens, J.S., Cukrowicz, K.C., Thorp, S.R., Bronner, L. & Beyer, J. Treatment of older adults with co-morbid personality disorder and depression: A dialectical behavior therapy approach. International Journal of Geriatric Psychiatry.	2007	Older adults with co-morbid personality disorder and depression (2 studies, 2 phases in second study)	Outpatient	Hamilton Rating Scale for Depression, Beck Depression Inventory, Mini Mental Status Exam, DSM and Inventory of Personal Problems-Personality Disorders Attrition rate for study 1 was 1 and 15 for study 2 although does not give reasons, no mention of bias or outcome measures, methods discussed	This pop responds to DBT in combination with antidepressant augmentation In first study 71% of DBT/med group vs 47% of med alone went into remission In second study those who did not respond in the first 8 week phase (med only) most had responded by 8 weeks at the end of the second phase DBT in combination with antidepressants was effective in treating more rigid and antisocial personality disorders decreasing depressive symptoms, aggression and personality rigidity	Second study an RTC Short studies with positive results Medication augmentation trial Larger samples (phase 1=64, phase 2=37) No mention of DBT training for therapists Outcome evaluations done but unclear as to how often	Traditional DBT with focus on dialectic of fixed versus fresh beliefs, exploring myths of older adults, aging and change, meaning of life over life span, looking forward and looking back skill development, memory aids, strategies to control awareness and attention and life threatening behaviours Interdisciplinary approach Medication augmentation

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12.Nee, C. & Farman, S. Dialectical behaviour therapy as a treatment for borderline personality disorder in prisons: Three illustrative case studies. The Journal of Forensic Psychiatry & Psychology.	2007	Female forensic with BPD	Inpatient	DSM, talk about a “battery of psychometric tests” but don’t mention which ones Attrition rate 33% (unclear why) Outcome measures present at baseline Good discussion around design and methods Aim to demonstrate less criminologic risk not achieved (tried to correlate harder to treat= higher risk to re-offend) Bias not discussed	All 3 case study participants reduced symptomatology, improved quality of life and reduced self-harm incidence post DBT Core mindfulness skills seemed to decrease dissociation and reckless behaviours Larger study warranted	Limitations discussed: rapid implementation, transfers to other prisons, 50% DBT delivery team attrition (no reason given as to why) Treatment over a year with pre and post evaluations (at baseline, “mid DBT” and 6 months after treatment) Small sample size (3) but case studies so patients’ voices present Pilot DBT training for therapists unclear No mention of how often DBT resources used	Focus on Stage 1 helpful interventions Chain analysis very helpful in dealing with difficult behaviours Diary cards and 1:1 also useful Treatment team debrief weekly

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13.Lynch, T.R. & Cheavens, J.S. Dialectical behavior therapy for co-morbid personality disorders. Journal of Clinical Psychology.	2008	Treatment resistant paranoid personality and obsessive compulsive personality disorders	Outpatient	Hamilton Rating Scale for Depression, DSM Limited bias examined through reflexivity of therapists Study design, methods, outcome measures not discussed	Increased exposure to DBT behavioural management techniques resulted in less rigid thinking and improved depression subjectively and objectively	Identified some therapist errors Medications mentioned Subjective voice in transcriptions Case illustration of 1 Don't discuss how they came up with adaptations of DBT DBT therapist training unclear	Partial implementation of DBT: 9 months of individual therapy and 6 months of DBT skills training Developed a revised skills manual that took cognitive changes into account: distorted cognitions, avoidant behaviour patterns, maladaptive anxious cognitions and rigid behavioural patterns Used behavioural exposure through implementation of Radical Openness Module to deal with rigid personality structures Implemented loving-kindness/forgiveness training in ROM implementation Path to a fluid mind handout used Did not use distress tolerance due to decreased emotional dysregulation and not focussing on suicide prevention with this pop Diary cards helpful