REVIEW ARTICLE

Suicidal Risk and Management in Borderline Personality Disorder: A Clinical Update

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Abstract

This article provides an update from Goodman and colleagues' 2012 article "Suicidal Risk and Management in Borderline Personality Disorder." Since 2012, research has largely focused on identification of risk factors and psychotherapeutic treatments of suicidality in BPD; while limited advances have been made in the assessment of preventive measures, the role of family members in treatment, and the use of medications. Several BPD-specific risk factors (including negative child interactions with family, NSSI, insomnia, substance abuse, and active hallucinations) have been identified and may be helpful to better stratify risk and target treatment of suicidality in this population. Regarding treatment, there are mixed results about the efficacy of DBT for suicidal symptoms in BPD patients. Other treatments-- like CAMS, AP, MBT, and PLF-- may fill this gap in treatment, but more research is needed. While some support exists for the use of medication in the treatment of suicidality in other psychiatric illnesses, limited evidence exists for its use for suicidality in BPD. As such, it is recommended that medications are used primarily for psychiatric comorbidities in individuals with BPD.

Keywords: Borderline personality disorder, BPD, Suicide, Risk assessment

1 Introduction

Despite self-harm and suicidal behaviors being significant sources of morbidity and mortality in patients with Borderline Personality Disorder (BPD),[i] there is a lack of agreement on assessment and management of these symptoms. Up to 84% of patients with BPD display suicidal behaviors[ii] and have an average of at least three suicide attempts in their lifetime.[iii] Eight to 10% of those diagnosed with BPD complete suicide.[iv] However, despite this data on BPD and suicide, there are still many gaps in the literature regarding targeted treatments for suicide prevention.

This article provides an update from Goodman and colleagues' 2012 article "Suicidal Risk and Management in Borderline Personality Disorder."[v] The current paper reviewed articles from 2012 to 2018 from MEDLINE and PsycINFO databases containing the keywords "borderline personality disorder," "suicide," and "suicidality." A total of 65 articles were identified and 21 articles considered most relevant to the topic were included. Authors read through all abstracts to identify keywords; authors then met together and if any abstracts did not mention suicide and/or BPD they were not considered relevant. Due to the paucity of literature published on this topic in the past 6 years, a few papers from the last 10-15 years were included to expand on topics that were found through this literature search.

This review will cover the importance of assessing suicide risk in BPD, the differences in "No-Suicide Contracts" versus "Safety Plans," and treatment options for suicidality in BPD.

2 Assessing Suicide Risk in BPD

Since 2012, limited research has focused on assessment or prevention of suicide among individuals with BPD. Earlier research delineates several well-established modifiable and non-modifiable risk factors and protective factors for suicide across diagnoses, many of which are listed in Table 1. Of the personality disorders, BPD carries the highest risk for suicide, but often this symptom remits overtime.[vi] Soloff and Chiappetta (2017), reporting on results from their longitudinal study, found that specific dimensions of personality prevalent in BPD (e.g., negative affectivity, affective instability and impulsive aggression) are most often linked with suicide risk.[6] They also found that illness severity, including psychiatric inpatient hospitalization, predicted suicide risk.[6] Notably, Soloff and Chiappetta (2017) found that low socioeconomic status (SES) was related to increased suicide risk and that those of minority race in the study were at higher risk for suicide due to its significant association with low SES.[6] A tumultuous personal history (such as frequent

changes in employment, and less full-time schooling years) was also related to increased suicide risk; particularly as they relate to poor SES.[6] Furthermore, Soloff and Chiappetta (2017) identified that increased education among individuals with BPD was protective associated with a decreased risk for suicide.[6] However, little has been published regarding other protective factors specifically for those diagnosed with BPD.

Table 1.
Risk Factors and Protective Factors For Suicide

Risk Factors		Protective Factors
Non-Modifiable (Static)	*Modifiable (Dynamic)*	
• Age (>65)[vii] • Minority Race[viii] • Gender (Male)[24] • Prior history of suicide attempt or self-harm[9] • Genetic factors[ix] • Personal history of trauma[x] • Family history of suicide[54]	• Current Psychiatric illness (Major Depressive Disorder, Bipolar Disorder, Schizophrenia, Borderline Personality Disorder)[54] • Traumatic Brain Injury[56] • Current substance abuse[56] • Chronic medical conditions[xi] • Delirium [xii] • Physical Pain[58] • Unemployment [54] • Owning a gun[xiii] • Current suicidal behavior [54] • Hopelessness [54]	• Family and social support[xiv] • Having children or dependent others[xv] • Access to/involvement in psychiatric and medical care[61] • Fear of social disapproval[62] • Religiosity/Spirituality and moral object to suicide[62] • Positive coping skills and problem solving [62]

Current research suggests that child interactions with family as early as infancy to middle childhood can impact borderline symptoms of recurrent suicidality, and self-injury in late adolescence.[xvi] Parental withdrawal from an infant as young as 18-months may contribute to borderline traits and suicidality later in life.[7] Additionally, child abuse, as well as role confusion in the parent child relationship (i.e., parentification), can be associated with suicidality.[6, xvii] Significantly, patients with BPD who have experienced child abuse have a 5-fold increase in the rate of lifetime suicide attempts.[8]

New research on Non-Suicidal Self Injury patterns (NSSI; cutting, burning, or otherwise deliberately harming one's own body without the intent to die), examined categories

of self-harm (e.g., habitual or random) and their relation to the likelihood of suicide attempts in BPD patients.[xviii] First, those with habitual patterns of NSSI (i.e., many attempts evenly spaced out) may have lower severity and fewer suicide attempts compared to those with random patterns (i.e., acts of self-harm occurring inconsistently or in seclusion).[9] Not only can NSSI patterns possibly predict amount and severity of future attempts, but also Andrewes and colleagues (2018), note the importance of tracking NSSI patterns during treatment.[9] Specifically, patients with BPD who have habitual patterns tend to have less NSSI before an attempt, while those with random patterns often have an increase in NSSI before an attempt.[9] Clinically, it is important to track these behaviors and understand their relation to future attempts, especially since NSSI is so prevalent in BPD patients.

Over the past six years other research has explored further health concerns and traits that may impact suicide risk in those with BPD. First, Winsper and Tang (2014) recently reviewed the relationship between insomnia and suicide risk.[xix] Specifically, those with BPD often have disrupted sleep patterns which has been found to be related to problems with emotion regulation and self-harm, including suicide attempts.[xx] Impulsivity is increased in mentally healthy patients who do not sleep[xxi] and impulsivity is also a key symptom of BPD. Therefore, it could be hypothesized that BPD patients who have insomnia may have especially high impulsivity, relating to more intense ideation and more frequent attempts.[10] Second, maladaptive cognitions about sleep may link suicide and insomnia in those with BPD (e.g., "I have little ability to manage the negative consequences of disturbed sleep").[xxii] Often BPD patients have negative cognitions about sleep, including the belief that not enough sleep will cause their depression, or that they have no control over their sleep.[10, 13] These same cognitions have been shown to facilitate associations of sleep and suicide in those who are depressed.[10, xxiii]

Relevant literature surrounding BPD, substances, and suicide risk has also been recently published. Many patients with BPD report having chronic pain and are subsequently prescribed opioids as treatment.[xxiv] Both those with BPD, and those with chronic pain, have high risk for suicide; additionally, many individuals with BPD have pharmaceutical opioid dependence.[15] However, the intersection of these disorders and their treatment have not been widely studied.[15] Campbell and colleagues (2015) suggest a multi-disciplinary approach when treating this population to holistically treat the patient.[15] Another drug explored with its relation to suicide risk is cannabis. While some studies report an unlikely effect of completed suicides and cannabis use,[xxv] recent

research continues to debate this topic.[xxvi] Chabrol and colleagues (2014) found that cannabis use was significantly correlated with suicidal ideation, but after controlling for personality disorders and substance abuse the predictor did not reach significance.[17]

Another subgroup of those with BPD that should be identified when treating suicidality are those with auditory hallucinations.[xxvii] Transient, stress related psychotic symptoms are criteria for BPD diagnosis. Of those with BPD, 22-50% experience auditory hallucinations[xxviii] and research suggests that this population is at higher risk for suicide plans, attempts, and hospitalizations.[18] However, this article did not report on if there was also increased risk for death by suicide in this population. To date Slotema and colleagues (2017) are the first paper published to explore this topic and suggest that in this subpopulation treating the auditory hallucinations will improve patients' quality of life and decrease the number of attempts. [18]

There has been recent work around feelings and reactions (i.e., humor and shame) as they relate to suicide risk. First, studies show that shame disposition is related to suicide risk.[xxix] Females who attempt suicide and have been diagnosed with BPD tend to experience high levels of shame, while men, without BPD, with a suicide attempt, display low levels of shame.[20] These findings highlight that shame may only be important to examine as a part of BPD psychopathology as it relates to suicide, because Wiklander and colleagues (2012) did not find that shame was prevalent in attempters without BPD.[20] Lastly, humor is an interpersonal interaction that has been found to be related to personality traits and suicide.[xxx] Previous research has shown that there were links between suicidal ideation, patients who had BPD, and affiliative, self-effacing, or self-defeating, humor styles (opposed to aggressive humor styles). Meyer and colleagues (2017) found that these humor styles were also moderators between BPD traits and suicidal ideation and examining these interactions may help inform therapy.[21]

3 Suicide Attempts and Completions in Patients with BPD

Recent research on BPD and suicide has begun to explore different aspects of an individual's suicidality such as suicide intent and ideation versus suicide plans and prep.[xxxi] These attitudes towards suicide can be helpful to examine when trying to understand suicide attempts in the BPD population. While many argue that patients with BPD often endorse low desire and high plans for suicide, recent research suggests that this attitude towards suicide is not related to BPD.[22] Chu and collogues (2017) concluded that this could be because suicidality amongst patients with BPD

may be more sincere than some previously thought (i.e., not always a cry for attention).[22]

Death often occurs with the first attempt when examining transdiagnostic suicide completions.[xxxii] However, since there are 11 nonfatal suicide attempts for every suicide death[xxxiii] and many patients diagnosed with BPD have multiple non-lethal suicide attempt before they complete, attempts are still a risk for suicide.[5] Overall, this dichotomy is imperative to recognize when treating patients with BPD as threats of suicide within this population may not result in suicide, but often do and should be taken seriously.

4 No-Suicide Contracts vs. Suicide Safety Plan

Many clinicians use the Suicide Safety Plan (SSP) when working with suicidal patients, which is a brief treatment completed by suicidal patients with clinicians in a variety of settings including the emergency department, inpatient units, and outpatient treatment.[xxxiv] The SSP is a document that can be used by patients in times of suicidal crisis when it may be difficult to rationally problem solve.[xxxv] The SSP identity's warning signs, coping strategies, distractions, support systems (e.g., family, friends, clinicians, and emergency services), restriction of suicidal means (e.g., removing extra prescriptions from a medicine cabinet or removing guns), and reasons to live. In implementing a SSP, the clinician should problem solve with the patient and discuss reactions to the plan, potential obstacles, and possibly even roleplay a suicidal crisis.[26]

In many settings the SSP is replacing the use of No-Suicide Contracts (NSC),[xxxvi] which is an agreement between suicidal patients and their clinicians to not harm themselves. Stanley and Brown (2012), note that while SSP give steps for patients to follow if they start feeling suicidal, a NSC do not give any guidelines to follow if patients find themselves in positions where they want to engage in suicidal behaviors.[26] As noted in Goodman and colleagues 2012 article, NSCs have no empirical support[27] and may even hamper communication between suicidal patients and their clinicians as the patient may be afraid to share information about harming themselves (i.e., breaking the contract).[26] Conversely, SSP facilitates the conversation of suicidality between the patient and provider.

5 Treatment

5.1 Psychotherapy

There are several different types of psychotherapies that have emerged to treat suicidality in patients with BPD. The largest evidence base exists for Dialectical Behavioral-Therapy (DBT).[8, xxxvii-xxxviii] DBT is an evidence-based treatment developed to teach mindfulness, interpersonal effectiveness, distress tolerance and emotion regulation, particularly in those with BPD.[8, 28] However,

while DBT is effective in treating many symptoms of BPD, there have been mixed results regarding its success in treating suicidality.[29-32] In a landmark paper by Linehan and colleagues in 2006, results suggested that when compared to treatment by experts, those in DBT required less hospitalizations and were half as likely to attempt suicide. Attempts and self-injurious acts were also less lethal/harmful if the participant was in DBT.[xxxix] However, in more recent studies, little to no difference has been found in suicidal behavior when comparing DBT to Treatment-as-Usual. [29, xl-xli] It has been theorized that since DBT groups discourage openly discussing suicide prevention in group sessions,[xlii] this may contribute to these mixed results.

In some cases, DBT has been effectively combined with other therapies to treat patients with suicidality and co-morbid psychiatric diagnoses.[xliii] For instance, as 47-57% of those with BPD have co-occurring Post Traumatic Stress Disorder,[xliv] Prolonged Exposure (PE) for PTSD has had moderate effect sizes in decreasing suicidality when combined with DBT for suicidal, BPD patients.[34] This intervention consists of individual DBT, DBT groups, and PE induvial therapy. During PE, DBT skills are used to help manage distress and emotional reactions.[34]

Another skills group developed to target suicide is "Project Life Force" (PLF), a novel suicide safety planning group intervention has been designed to fill the critical gap in treatment for suicidality and provide a mechanism to develop and enhance the SSP over time. PLF, a 10-session, manualized, group psychotherapy intervention, combines emotion regulation training and psychoeducational approaches, to enhance SSP development and implementation. While PLF has yet to be researched in a BPD-only population, in the pilot study of PLF about 50% of participants were diagnosed with BPD. Of those that had BPD, suicidal ideations significantly decreased after completion of PLF (M. Goodman, personal communication, September 3, 2018).

Another psychotherapeutic approach to suicidality and BPD is Collaborative Assessment and Management of Suicidality Treatment (CAMS).[xlv] CAMS is a flexible, suicide specific, "therapeutic framework" that emphasizes collective assessment, and treatment planning.[36-xlvi] The suicidal patient helps develop the treatment plan with their clinician, which not only improves the therapeutic relationship, but also increases treatment motivation.[37] One study found CAMS to be as effective as DBT in treating NSSI or suicidality.[36]

An additional psychotherapy used to treat suicidality and BPD is Abandonment Psychotherapy (AP), a manualized treatment

that targets fears of abandonment, a core symptom of BPD.[xlvii] AP examines difficulties in romantic relationships (i.e., disappointed love) that are often related to suicide attempts, meeting twice a week over a three-month period.[38] Recent research on AP suggest that those with BPD participating in this cognitive psychodynamic intervention had significantly less suicidal ideation.[38] They also had fewer suicide attempts compared to Treatment-as-Usual, but this difference did not reach significance. Therefore, further research is needed on the efficacy of this intervention.

Lastly, Mentalization Based Therapy (MBT) was developed for patients with BPD and has been shown to decrease suicidality.[xlviii] Mentalization is the ability for one to understand the mental states of themselves and others.[39] The ability mentalize is often severely impaired in BPD, and this stress can even progress to suicidal thoughts and behaviors.[39] As such, the ability to mentalize can make patients feel less hypersensitive to perceived reactions, make them feel less likely to act out on impulse, and make their experiences more bearable.[39]

5.2 Involving Others in Treatment

In addition to mental health providers, families can play a critical role in BPD treatment and suicide prevention. Family members are often the first responders to crisis, but frequently do not feel equipped with skill to manage these situations.[xlix] To address this need, a manualized, peer led, evidence-based, skills training support program called Family Connections (FC), was developed to provide psychoeducation, social support, and coping skills to families of BPD patients.[l-li] FC decreases family members' burden, grief, and depression, while increasing their mastery and empowerment.[40-41] Additionally, BPD patients display less difficulty with emotional dysregulation and distress when family members completed the program.[lii]

Recently, FC has been adapted to specifically target families of individuals who have had a suicide attempt (P. Hoffman, personal communication, September 9, 2018). This novel, transdiagnostic, adaptation of FCs focuses on suicidality and self- injury providing education, skills training and a support network for family impacted by suicidal behaviors (P. Hoffman, personal communication, September 9, 2018). Research suggests that suicidal teens report feeling more validated after their parents complete standard FCs and therefore this novel intervention may signify a crucial net step in suicide prevention efforts.[liii]

Safe Actions for Families to encourage recovery (SAFER) is another intervention currently being developed for families and suicidal patients. SAFER aims to improve caregiver burden and coping while reducing patients' suicidality through a manualized dyad

treatment focused around the SSP (M. Goodman, personal communication, September 3, 2018).

5.3 *Medication*

Historically, various psychiatric medications have been used to target suicidality in psychiatric patients.[liv] Most empirical support of medications to treat suicidality are for lithium in affective illness.[lv-lvi] and clozapine in schizophrenia.[lvii] The use of these medications has been extrapolated to treat suicidality in BPD patients with mixed results.[lviii] Antidepressants (e.g., SSRIs) are also utilized regularly, but there is a paucity of support for the efficacy of these medication on suicide in the BPD population.[lix]

More recent research has explored the use of low doses of the opioid buprenorphine to treat suicidality. In a recent 2016 study by Yovell and colleagues, in which more than half the patients had BPD, patients given buprenorphine exhibited a significant decrease in suicidal ideation.[lx] Of note, this effect was not specific to BPD patients, but rather was found across all study patients.[51] Additionally, ketamine has also shown positive effects in treating suicidality amongst mood disordered patients,[lxi] but at this point no research has explored this relation in patients with BPD specifically.[lxii]

While there is some support for the use of medication in the treatment of suicidality for other psychiatric diagnoses, data are limited for the use of medications for suicidality in BPD and further study is needed in this high-risk group. Psychotherapy appears to have a more robust evidence base and is considered first line. Additionally, the use of medication to target comorbid psychiatric disorders is also supported.[lxiii]

6 Conclusions

This review suggests there are several well-established modifiable and non-modifiable risk factors for suicide across diagnoses and several risk factors have been identified specially in BPD. These include: negative child interactions with family, NSSI, sleep, drugs, hallucinations, and more. Furthermore, patients with BPD often make suicidal gestures and have multiple attempts before they complete suicide; however, unsuccessful attempts do not suggest low desire to die by suicide.[22] But there is little research on protective factors to prevent suicide in BPD patients. Further research into protective factors for BPD is needed and may be helpful to better facilitate treatment of suicidality in this population.

When examining treatment for suicide in BPD, SSPs are considered standard practice, but NSCs are discouraged.[26] In the past six years there have several psychotherapeutic treatments that have been proved to be efficacious in decreasing suicidality in BPD. [8,28,34,36,38] Further, new treatments are also being

further developed to fill gaps in research surrounding supporting family members in care of a BPD relative.[41] While some support exists for the use of medication in the treatment of suicidality in other psychiatric illnesses [47-48] limited evidence exists for the use of medication for suicidality in BPD. Rather, evidence supports the treatment of psychiatric comorbidities and psychotherapy.[54]

An updated list of helpful resources for treatment of suicidality in individuals with BPD and their families can be found in Table 2.

Table 2: Helpful Resources Regarding BPD Patients Most at Risk For Suicide & Their Families

Resource	For Patients	For Families
Podcast on Awareness, Support and Understanding of BPD (https://rethinkbpd.org/)	X	
Awareness, Support, and Treatment Resources for Sufferers of BPD and Their Families (http://www.tara4bpd.org/)	X	X
NIMH: Overview of Signs, Risk Factors, and Treatments (https://www.nimh.nih.gov/health/topics/borderline-personality-disorder/index.shtml)	X	
Family Connections Program (https://www.borderlinepersonalitydisorder.com/family-connections/)	X	X
Helping Residents Cope with a Patient Suicide (https://www.psychiatry.org/residents-medical-students/residents/coping-with-patient-suicide)	X	
NICE Guidelines: BPD Recognition and Management (https://www.nice.org.uk/guidance/CG78)	X	

Conflicts of interest

Angela P. Spears, Sarah R. Sullivan, and Lea K. Marin, declare no conflicts of interest. Marianne Goodman serves as a consultant for Boehringer Ingleheim Pharmaceuticals and has received grant support the US Department of Defence and Veterans Administration, American Foundation Suicide Prevention (AFSP).

Bibliography

[i] Paris, J., & Lis, E. Can sociocultural and historical mechanisms influence the development of Borderline Personality Disorder? Transcult Psychiatry. 2013;50(1):140-151.

[ii] Soloff, P. H., Lynch, K. G., Kelly, T. M., Malone, K. M., & Mann, J. J. Characteristics of suicide attempts of patients with major depressive episode and Borderline Personality Disorder: A comparative study. *Am J Psychiatry*. 2000;157(4): 601-608.

[iii] Gunderson, J. G., & Ridolfi, M. E. Part I diagnostic and clinical considerations-Borderline Personality Disorder: Suicidality and self-mutilation. *Ann N Y Acad of Sci*. 2001; 932: 61-77.

[iv] American Psychiatric Association. Practice guideline for the treatment of patients with Borderline Personality Disorder. *Am Psychiatric Pub.* 2001.

[v] Goodman, M., Roiff, T., Oakes, A. H., & Paris, J. Suicidal risk and management in Borderline Personality Disorder. *Cur Psychiatry Rep*. 2012;14(1):79-85.

[vi] Soloff, P. H., & Chiappetta, L. Suicidal behavior and psychosocial outcome in borderline personality disorder at 8-year follow-up. *J Pers Disord*. 2017;31(6):774-789.

[vii] Conwell, Y., Duberstein, P. R., & Caine, E. D. Risk factors for suicide in later life. *Biol Psychiatry*. 2002;52(3):193-204.

[viii] Brown, G. K., Beck, A. T., Steer, R. A., & Grisham, J. R. Risk factors for suicide in psychiatric outpatients: A 20-year prospective study. *J Consult Clin Psychol*. 2000;68(3).

[ix] Mann, J. J., Waternaux, C., Haas, G. L., & Malone, K. M. Toward a clinical model of suicidal behavior in psychiatric patients. *Am J Psychiatry*. 1999;156(2):181-189.

[x] Nock, M. K., & Kessler, R. C. Prevalence of and risk factors for suicide attempts versus suicide gestures: Analysis of the National Comorbidity Survey. *J Abnorm Psychol*. 2006;115(3).

[xi] Ratcliffe, G. E., Enns, M. W., Belik, S. L., & Sareen, J. Chronic pain conditions and suicidal ideation and suicide attempts: An epidemiologic perspective. *Clin J Pain*. 2008;24(3): 204-210.

[xii] Buzan, R. D., & Weissberg, M. P. Suicide: Risk factors and therapeutic considerations in the emergency department. *J Emerg Med*. 1992;10(3): 335-343.

[xiii] Wiebe, D. J. Homicide and suicide risks associated with firearms in the home: A national case-control study. *Ann Emer Med*. 2003;41(6): 771-782.

[xiv] Nock, M. K., Deming, C. A., Fullerton, C. S., et al., Suicide among soldiers: A review of psychosocial risk and protective factors. *Psychiatry: Inter Bio Proc*. 2013;76(2): 97-125.

[xv] Malone, K. M., Oquendo, M. A., Haas, G. L., Ellis, S. P., Li, S., & Mann, J. J. Protective factors against suicidal acts in major depression: Reasons for living. *Am J Psychiatry*. 2000;157(7): 1084-1088.

[xvi] Lyons-Ruth, K., Bureau, J. F., Holmes, B., Easterbrooks, A., & Brooks, N. H. Borderline symptoms and suicidality/self-injury in late adolescence: Prospectively observed relationship correlates in infancy and childhood. *Psychiatry Res*. 2013;206(2-3): 273-281.

[xvii] Kaplan, C., Tarlow, N., Stewart, J. G., Aguirre, B., Galen, G., & Auerbach, R. P. Borderline Personality Disorder in youth: The prospective impact of child abuse on non-suicidal self-injury and suicidality. *Comp Psychiatry*. 2016;71: 86-94.

[xviii] Andrewes, H. E., Hulbert, C., Cotton, S. M., Betts, J., & Chanen, A. M. Patterns of non-suicidal self-injury and their relationship with suicide attempts in youth with Borderline Personality Disorder. *Arch Suicide Res*. 2018;22(3): 465-478.

[xix] Winsper, C., & Tang, N. K. Linkages between insomnia and suicidality: Prospective associations, high-risk subgroups and possible psychological mechanisms. *Int Rev Psychiatry*. 2014;26(2): 189-204.

[xx] Selby, E. A. Chronic sleep disturbances and borderline personality disorder symptoms. *J Consult Clin Psychol*. 2013;81(5).

[xxi] Anderson, & Platten. Sleep deprivation lowers inhibition and enhances impulsivity to negative stimuli. *Behav Brain Res.* 2011; 463-466.

[xxii] Espie, C. A., Inglis, S. J., Harvey, L., & Tessier, S. Insomniacs' attributions: Psychometric properties of the dysfunctional beliefs and attitudes about sleep scale and the sleep disturbance questionnaire. *J Psychosom Res*. 2000;48(2): 141-148.

[xxiii] McCall, W. V., & Black, C. G. The link between suicide and insomnia: Theoretical mechanisms. *Curr Psychiatry Rep*. 2013;15(9).

[xxiv] Campbell, G., Bruno, R., Darke, S., & Degenhardt, L. Associations of borderline personality with pain, problems with medications and suicidality in a community sample of chronic non-cancer pain patients prescribed opioids for pain. *Gen Hosp Psychiatry*. 2015;37(5): 434-440.

[xxv] Price, C., Hemmingsson, T., Lewis, G., Zammit, S., & Allebeck, P. Cannabis and suicide: Longitudinal study. *Br J Psych*. 2009;195(6): 492-497.

[xxvi] Chabrol, H., Melioli, T., & Goutaudier, N. Cannabis use and suicidal ideations in high-school students. *Addict Behav*. 2014; 39(12): 1766-1768.

[xxvii] Slotema, C. W., Niemantsverdriet, M. B. A., Blom, J. D., van der Gaag, M., Hoek, H. W., & Sommer, I. E. C. Suicidality and hospitalisation in patients with Borderline Personality Disorder who experience auditory verbal hallucinations. *Eur Psychiatry*. 2017;41: 47-52.

[xxviii] Kingdon, D. G., Ashcroft, K., Bhandari, B., et al., Schizophrenia and Borderline Personality Disorder: Similarities and differences in the experience of auditory hallucinations, paranoia, and childhood trauma. *J Nerv Ment Dis*. 2010;198(6): 399-403.

[xxix] Wiklander, M., Samuelsson, M., Jokinen, J., et al., Shame-proneness in attempted suicide patients. *BMC Psychiatry*. 2012;12(1).

[xxx] Meyer, N. A., Helle, A. C., Tucker, R. P., et al., Humor styles moderate borderline personality traits and suicide ideation. *Psychiatry Res*. 2017;249: 337-342.

[xxxi] Chu, C., Buchman-Schmitt, J. M., Joiner, T. E., & Rudd, M. D. Personality disorder symptoms and suicidality: Low desire and high plans for suicide in military inpatients and outpatients. *J Pers Disord*. 2017;31(2): 145-155.

[xxxii] Isometsä, E. T., & Lönnqvist, J. K. Suicide attempts preceding completed suicide. *The Br J Psych*. 1998;173(6): 531-535.

[xxxiii] Heron, M. P. Deaths: Leading causes for 2010. 2013.

[xxxiv] Stanley, B., Brown, G. K., Karlin, B., Kemp, J. E., & VonBergen, H. A. Safety plan treatment manual to reduce suicide risk: Veteran version. *Washington, DC: US Depart VA*. 2008.

[xxxv] Stanley, B., & Brown, G. K. Safety planning intervention: A brief intervention to mitigate suicide risk. *Cog Behav Prac*. 2012;19(2): 256-264.

[xxxvi] Rudd, M. D., Mandrusiak, M., & Joiner Jr, T. E. The case against no-suicide contracts: The commitment to treatment statement as a practice alternative. *J Clin Psychol*. 2006;62(2): 243-251.

[xxxvii] Chalker, S. A., Carmel, A., Atkins, D. C. et al., Examining challenging behaviors of clients with Borderline Personality Disorder. *Behav Res Ther*. 2015;75: 11-19.

[xxxviii] Feigenbaum, J. D., Fonagy, P., Pilling, S., et al., A real-world study of the effectiveness of DBT in the UK National Health Service. *Brit J Clin Psychol*. 2012;51(2): 121-141.

[xxxix] Linehan, M. M., Comtois, K. A., Murray, A. M., et al., Two-year randomized controlled trial and follow-up of dialectical behavior therapy vs therapy by experts for suicidal behaviors and Borderline Personality Disorder. *Arch Gen Psychiatry*. 2006;63(7): 757-766.

[30]Carter, G. L., Willcox, C. H., Lewin, T. J., Conrad, A. M., & Bendit, N. Hunter DBT project: Randomized controlled trial of dialectical behaviour therapy in women with Borderline Personality Disorder. *Aust N Z J Psychiatry*. 2010;44(2): 162-173.

[31]Goodman, M., Banthin, D., Blair, N. J., et al., A randomized trial of dialectical behavior therapy in high-risk suicidal veterans. *J Clin Psychol*. 2016;77(12): 1591-1600.

[xlii] Dimeff, L. A., & Koerner, K. E. Dialectical behavior therapy in clinical practice: Applications across disorders and settings. *Guil Press.* 2007.

[xliii] Meyers, L., Voller, E. K., McCallum, E. B., et al., Treating veterans with PTSD and borderline personality symptoms in a 12-week intensive outpatient setting: Findings from a pilot program. *J Trauma Stress*. 2017;30(2): 178-181.

[xliv] Zanarini, M. C., Frankenburg, F. R., Dubo, E. D., et al., Axis I comorbidity of borderline personality disorder. *Am J Psychiatry*. 1998;155(12): 1733-1739.

[xlv] Andreasson, K., Krogh, J., Wenneberg, C., et al., Effectiveness of dialectical behavior therapy versus collaborative assessment and management of suicidality treatment for reduction of self-harm in adults with borderline personality traits and disorder—A randomized observer-blinded clinical trial. *Depress Anxiety*. 2016;33(6): 520-530.

[xlvi] Jobes, D. A. The collaborative assessment and management of suicidality (CAMS): An evolving evidence-based clinical approach to suicidal risk. *Suicide Life Threat Behav*. 2012;42(6): 640-653.

[xlvii] Andreoli, A., Burnand, Y., Cochennec, M. F., et al., Disappointed love and suicide: A randomized controlled trial of "abandonment psychotherapy" among borderline patients. *J Pers Disord*. 2016;30(2): 271-287.

[xlviii] Rossouw, T. I. Mentalization-based treatment: can it be translated into practice in clinical settings and teams? *J Am Acad Child Adolesc Psychiatry*. 2013;52(3): 220-222.

[xlix] Hoffman, P. D., Fruzzetti, A. E., Buteau, E., et al., Family connections: A program for relatives of persons with Borderline Personality Disorder. *Fam Process*. 2005;44(2): 217-225.

[l] Hoffman, P. D., Fruzzetti, A. E., & Buteau, E. Understanding and engaging families: An education, skills and support program for relatives impacted by Borderline Personality Disorder. *J Ment Health*. 2007;16(1): 69-82.

[li] Rajalin, M., Wickholm-Pethrus, L., Hursti, T., & Jokinen, J. Dialectical behavior therapy-based skills training for family members of suicide attempters. *Arch Suicide Res*, 2009;13(3): 257-263.

[lii] Payne, L. G. *The Role of Family Intervention in Improving Individual and Family Functioning in DBT for Adolescents* (Doctoral dissertation). 2017.

[liii] Fruzzetti, A. E., & Payne, L. G. The role of families in the treatment of suicidal teens and adults with borderline personality and related disorders. In *Symposium Conducted at the Meeting of the International Society for the Study of Personality Disorders,* Montreal, Canada. 2015.

[liv] Haukka, J., Tiihonen, J., Härkänen, T., & Lönnqvist, J. Association between medication and risk of suicide, attempted suicide and death in nationwide cohort of suicidal patients with schizophrenia. *Pharmacoepidemiol Drug Saf*. 2008;17(7): 686-696.

[lv] Baldessarini, R. J., Tondo, L., & Hennen, J. Lithium treatment and suicide risk in major affective disorders: Update and new findings. *J Clin Psychol*. 2003;64: 44-52.

[lvi] Tondo, L., Hennen, J., & Baldessarini, R. J. Lower suicide risk with long-term lithium treatment in major affective illness: A meta-analysis. *Acta Psychiatr Scand*. 2001;104(3): 163-172.

[lvii] Meltzer, H. Y., Alphs, L., Green, A. I., et al., Clozapine treatment for suicidality in schizophrenia: International suicide prevention trial (InterSePT). *Arch Gen Psychiatry*. 2003;60(1): 82-91.

[lviii] Beri, A., & Boydell, J. Clozapine in Borderline Personality Disorder: A review of the evidence. *Ann Clin Psychiatry*. 2014;26(2): 139-144.

[lix] Cardish, R. J. Psychopharmacologic management of suicidality in personality disorders. *Can J Psychiatry*. 2007;52(6).

[lx] Yovell, Y., Bar, G., Mashiah, M., Baruch, Y., et al. Ultra-low-dose buprenorphine as a time-limited treatment for severe suicidal ideation: A randomized controlled trial. *Am J Psychiatry.* 2016;173(5): 491-498.

[lxi] Lee, Y., Syeda, K., Maruschak, N. A., et al., A new perspective on the anti-suicide effects with ketamine treatment: A procognitive effect. *J Clin Psychopharmacology*. 2016;36(1): 50-56.

[lxii] Glue, P., & Menkes, D. B. Ketamine and suicidal ideation: Direct effect or epiphenomenon? *J Clin Psychopharmacology*. 2017;37(2): 282-283.

[lxiii] Marin, L. K., Kapil-Pair, K. N., Harris, R. E., & Goodman, M. Combination treatments in Borderline Personality Disorder: Bridging the gap between clinical practice and empirical data. *Curr Treat Options Psychiatry*. 2018;5(1): 141-161.

