The buffer role of meaning in life in hopelessness in women with borderline personality disorders

1.Introduction

Borderline personality disorder (BPD) is characterized by a pattern of instability in interpersonal relationships, self-image, and affectivity, as well as marked impulsivity (APA, 2000). BPD is a mental disorder affecting from 1 to 5.9% of the general population (Lenzenweger, 2008), and studies with clinical samples showed that about 75% of patients are women (Gunderson and Links, 2008; ten Have et al., 2016). The lifetime risk of death by suicide among patients with BDP ranges from 3%–10% (Paris and Zweig-Frank, 2001), and they represent 9-33% of all suicides (Runeson and Beskow, 1991). Moreover, 40% to 85% carry out multiple suicide attempts (Oumaya et al., 2008; Silverman et al., 2007). BDP is associated with a high incidence of completed suicide, between 8% and 10%, and the probability of suicide in BPD patients is 50 times higher than in the general population (Oldham, 2006). Thus, it is necessary to study the variables that increase the knowledge about the proximal and distal risk factors of suicide in BPD.

Studies on suicidality have traditionally focused on identifying potential risk factors. Among the risk factors studied, hopelessness has been proposed as a fundamental risk factor of suicide in several suicide theories (e.g., Beck et al., 1985; Joiner, 2005; Klonsly and May, 2015) and follow-up studies have found that one of the most reliable and potent predictors of future suicidal ideation, attempts, and death by suicide across the lifespan was having a prior history of suicide attempts (Suominen, et al., 2004). Other factors strongly associated with the risk of suicide are: self-harm,

depression, impulsivity, unemployment, living alone, low social support, or schizophrenia (Beautrais, 2004; Hawton and van Heeringen, 2009). Regarding personality disorders, longitudinal studies conducted with people with depressive symptoms found that the most important factor predicting the risk of suicide attempts was the presence of personality disorder, mainly BPD (Conrad et al., 2009; May et al., 2012). However, the presence of risk factors does not fully explain suicidal behavior (Hawton and van Heeringen, 2009). Recently, research on suicide has focused on studying the skills and beliefs that can act as buffers of risk factors for suicidality and protect the person from eventual suicide (e.g. Johnson et al, 2010b). However, few studies have focused on resilience to suicidality in clinical samples (Johnson et al., 2010a).

Meaning in life is a basic construct of the human condition and a core facet of the Positive Psychology movement (Schulenberg and Melton, 2010).There are numerous definitions of meaning in life. Steger (2012) defined meaning as emerging from the web of connections, interpretations, aspirations, and evaluations that make our experiences comprehensible, direct our efforts toward desired futures, and provide a sense that our lives matter and are worthwhile. Martela and Steger (2016) stated that meaning in life is composed of three components: a) Coherence, the cognitive component of meaning in life, is associated with people making sense of the world, rendering it comprehensible and coherent; b) Purpose, the motivational component of meaning in life, is a central self-organizing life aim that organizes and stimulates goals, manages behaviors, and provides a sense of meaning (Mcknight and Kashdan 2009); and c) Significance, the evaluative component of meaning in life, is the degree to which individuals feel that their existence has significance and value; it is the worthwhileness

and value of one's life, the sense of life's inherent value (George and Park, 2014). People who experience meaning in life are better prepared to successfully tackle life's circumstances, and they have a strong sense of autonomy, self-determination, and purpose in life (Frankl, 2006). By contrast, the absence of meaning in life is a negative cognitive-emotional-motivational state associated with hopelessness, a perception of lack of control over one's life, and the absence of vital goals (García-Alandete et al., 2009).

Studies with participants diagnosed with BPD (Marco et al., 2015a) found that meaning in life was highly and negatively correlated with the main symptoms of BPD. Participants diagnosed with BPD had a lower sense of meaning in life than participants with a mental disorder but no BPD diagnosis. In addition, results revealed that meaning in life was moderately and inversely correlated with emotional dysregulation in participants with BPD. Meaning in life was highly and negatively associated with emotional symptoms and moderately associated with behavioral symptoms such as non suicidal self-injuries, and it was negatively correlated with suicide threats, suicide attempts, high risk behaviors, drug overdose, and aggressive behaviors (Marco et al., 2015a). In the same way, in another study with BPD participants, meaning in life was a predictor of NSSI during the one-year follow-up, controlling for NSSI frequency at baseline, depression, and hopelessness (Marco et al., 2015b). The aforementioned studies suggest that meaning in life is an important variable in the BPD psychopathology.

Low meaning in life has been associated with depression and suicide (Edwards and Holden, 2003; Mascaro and Rosen, 2005; Psarra and Kleftaras, 2013; Volkert, Schulz et al., 2014), whereas high meaning in life has been found to be a protective

factor against suicidal ideation (Heisel and Flett, 2004; Henry et al., 2014; Kleiman and Beaver, 2013) and psychopathology (Schulenberg et al., 2011). In this direction, Marco et al. (2016) in a clinical sample of patients with eating disorders, anxiety disorders, depression disorder, schizophrenia, and substance dependence disorder, found that meaning in life moderated the association between distal suicide risk factors and hopelessness. However, in this study (Marco et al., 2016), only 5.4% of participants met the criteria for BPD. Thus, it would be necessary to extend the research in this area of knowledge using participants with BPD. Specifically, the aim of this study is to explore the buffering role of meaning in life in the relationship between risk factors for suicide, mainly risk of previous suicide attempts and hopelessness, in a clinical sample composed of women diagnosed with BPD. Therefore, we hypothesize that meaning in life will act as buffer between the risk of have previous suicide attempts and hopelessness.

2.Method

2.1. Sample and participant selection

The sample was recruited from the outpatient unit of four public mental health clinics in Spain. Participants were consecutively recruited from January to December 2015. Participants were included in the study if they were women and met the DSM-IV-TR criteria for BPD (APA, 2000). The exclusion criteria were psychosis and moderate or severe mental retardation. Participants were European Whites, and all of them understood Spanish. The initial sample was made up of 129 participants, but 5 were excluded because they did not meet full BPD criteria (<5). Participation was voluntary, informed consent was given by participants, and no compensation was offered to them.

Ethical approval for carrying out this study was granted by the Hospital Ethics Committee.

The final sample consisted of 124 women. Participants' age range was broad: 13-56 years old, with an average age of 31.49 (*SD* = 9.19). The duration of the BPD diagnosis was 1-35 years, with an average of 12.96 years (*SD* = 7.41), and 61.7% (*n* = 76) of participants had made previous suicide attempts. The score on the DSM-IV Global Assessment Functioning Scale ranged from 30 to 88, with an average of 52.93 (*SD* = 9.64), and 100% of participants were receiving pharmacological treatment and psychotherapy. As for the participants' educational level, 23.3% (*n* = 29) had college-level education, 45.1% (*n* = 56) had high school education, and 31.6% (*n* = 39) had primary school education. Regarding employment status, 30% (*n* = 37) were employed, and 70% (*n* = 87) were unemployed. As for marital status, 18.7% (*n* = 23) were married, and 81.3% (*n* = 101) were single or separated.

2.2.Assessments and measures.

Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID II; First et al., 1997). This is an interview for DSM-IV-TR (APA, 2000) Axis II Personality Disorder diagnoses. It includes 119 questions and has a Kappa of 0.74, demonstrating reliability for admitted patients (First et al., 1997).

Purpose in Life-10 (PIL-10; García-Alandete et al., 2013). This scale is a reduced version of the PIL (Crumbaugh and Maholick, 1969). It consists of a 10-item Likert scale (7 response levels) related to different aspects of meaning in life (e.g. enthusiasm vs. boredom, presence of clear life goals, having a reason to be alive, capacity to find meaning). The total score ranges from 10 to 70, and higher scores indicate greater meaning in life. The PIL-10 offered good psychometric properties and

high reliability for the global scale (α = 0.85). The scale was validated in the Spanish population following standard procedures and offered good psychometric properties (García-Alandete et al., 2013). In our sample, there was adequate internal consistency for the PIL-10 (α = 0.91).

Beck Hopelessness Scale (BHS; Beck et al., 1974). This is a 20-item dichotomous (true-false) scale designed to assess current negative expectations about the future. Hopelessness assessed by the Beck Hopelessness Scale (BHS) (Beck et al., 1974) is accepted as a measure of eventual suicide for psychiatric patients and the general population (Beck, 2006; Klonsky et al, 2012; Kuo et al., 2004). The scale was validated in the Spanish population following standard procedures and offered good psychometric properties (Viñas et al., 2004). For our data, the internal consistency for the total score was adequate, (α = 0.92).

Suicide Risk Scale (SRS; Plutchik et al., 1989). It is a self-report questionnaire that assesses significant predictors of suicidal behavior, or suicide risk factors. The SRS assesses lifelong symptoms, including patients' past history of suicide attempts ("Have you ever attempted suicide?"), family history of suicide attempts ("Has anyone in your family ever tried to commit suicide?"), among others. It uses 15 dichotomous items (yes/no) to discriminate between patients who have attempted suicide and those who have not. The purpose of the SRS is not to predict future suicides, but rather to predict the risk of suicide attempts. The logic of this approach is that many suicide attempters or suicides have made at least one a suicide attempt in the past, and so this scale makes it possible to identify suicide attempters (Plutchik et al., 1989). The scale was validated in the Spanish population following standard procedures and offered good psychometric

properties (Rubio et al., 1988), reliability was α = 0.90, and showed adequate reliability in our data, α = 0.95.

2.3.Procedure

Three individual assessment sessions were conducted during two consecutive weeks. All the assessment sessions were conducted by clinical psychologists with more than 10 years of experience in clinical psychology. In the first session, we explained the aim of the study, and we asked if they were interested in collaborating in the study. In the second session, the diagnosis of personality disorders was made with the SCID-II (First et al., 1997). In the third session, the participants filled out the questionnaires.

2.4.Statistical procedure

Prior to the analyses, taking into account that the SRS (Plutchik et al., 1989) assesses significant predictors of suicidal behavior and item 7 assesses hopelessness ("I see the future without hope"), we decided to eliminate item 7 to reduce potential confusion between the measures. First, correlation analyses were carried out among the key variables. Second, a hierarchical regression analysis was conducted to examine whether meaning in life measured by the PIL-10 moderated the association between risk factors of suicide measured by the SRS and hopelessness measured by the BHS. In the first step of this analysis, age was entered into the regression model as covariate. In the second step, hopelessness (BHS) and suicide risk factors (SRS) were entered. In the third step, meaning in life (PIL-10) scores were entered. In the fourth step, the interaction term between suicide risk factors (SRS) and meaning in life (PIL-10) was entered. In each step, standardized variables were used to avoid multicollinearity (Frazier et al., 2004). If the addition of the interaction term in the fourth step added significant predictive variance to the regression model, this indicated a moderating

effect of meaning in life (PIL-10) in the association between suicide risk factors (SRS) and hopelessness (BHS) (Cohen and Cohen, 1983; Frazier et al., 2004). Data were analyzed using SPSS 20.

3.Results

Participants had high scores on risk factors of suicide (SRS) (M = 12.39, SD = 6.43), hopelessness (BHS) (M = 13.471, SD = 8.42), and low meaning in life (PIL) (M = 37.52, SD = 13.77). Risk factors for suicide assessed with the SRS were highly correlated with hopelessness (BHS) (r = 0.78, p<0.001). Similarly, meaning in life (PIL-10) was found to be moderately and inversely correlated with hopelessness (BHS) (r = -0.48, p< 0.001). There were no correlations between risk factors for suicide (SRS) and meaning in life (r = 0.05, p = 0.57). Variance Inflation Factors (VIF) were calculated for the variables in the multiple regression, and none of them was higher than 10, which has been considered as showing no multicollinearity problems (Stevens, 2007).

As Table 1 shows, meaning in life (PIL-10) moderated and buffered the association between suicide risk factors (SRS) and hopelessness (BHS) when age was controlled. After suicide risk factor scores (SRS) were entered, meaning in life (PIL-10) predicted hopelessness, both in addition to suicide risk factors (SRS), β= -0.39, and when interacting with suicide risk factors (SRS), β= -0.23, thus supporting a moderating impact of meaning in life (PIL-10) in the association between suicide risk factors (SRS) and hopelessness (BHS). Figure 1 shows that in those patients with higher levels of meaning in life (PIL-10), increased suicide risk factors (SRS) corresponded to smaller increases in hopelessness (BHS) than in the patients with low meaning in life.

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4.Discussion

The main aim of this study was to determine whether meaning in life moderates and buffers the relationship between risk factors for suicide, mainly risk of

previous suicide attempts and hopelessness, in a sample of women with a BPD diagnosis. The sample recruited for this study had the main suicide risk factors: diagnosis of a psychiatric disorder, high levels of hopelessness (Beck et al., 1974), a high number of suicide risk factors assessed with the SRS (Plutchik et al., 1989), previous suicide attempts in the past (Hawton and van Heeringen, 2009), and low meaning in life (Mascaro and Rosen, 2005). The main results of this study show that meaning in life, assessed with the PIL-10 (García-Alandete et al., 2013), moderated and buffered the association between suicide risk factors and hopelessness. Our findings are consistent with previous results indicating a negative association between meaning in life and risk of suicide in non-clinical (Henry et al., 2014; Kleiman and Beaver, 2013) and clinical populations (Marco el al., 2015a).

The results of the present study suggest that meaning in life could be a resilience source to suicide through hopelessness as a specific risk factor. We chose hopelessness to assess suicidality because hopelessness is a variable that has been proposed as an important risk factor of suicide in several suicide theories (e.g., Beck et al., 1985; Joiner, 2005; Klonsly and May, 2015), and several studies have shown that it is an important predictor factor of suicide (e.g. Beck, 2006; Hawton and van Heeringen, 2009; Klonsky et al., 2012).

The concept of low meaning in life is implicitly present in current theories of suicide. Schnell (2014) argues that a sense of meaning is based on an appraisal of one's life as coherent, purposeful, and significant. However, this author also adds a fourth dimension, belonging, defined as being part of something larger than the self. In this sense, low levels of belonging and high levels of burdensomeness are two main variables in Joiner's Interpersonal Psychological Theory of Suicide (Joiner 2005;

Ribeiro et al., 2015). The Three-Step Theory of suicide (Klonsky and May, 2015) states that hopelessness is a important factor for suicide ideation, and that the combination of pain and hopelessness is necessary to bring about suicidal ideation. Moreover, in the second step of the theory, the authors state that disrupted connectedness is necessary to continue with the future suicide attempt (Klonsky and May, 2015). Connectedness refers to one's attachment to a job, project, role, interest, or any sense of perceived purpose or meaning that keeps one invested in living. This concept is similar to meaning in life, and the authors also suggest that connectedness can be a protective factor.

These findings highlight the importance of identifying the variables that buffer specific suicide risk factors in order to develop psychotherapeutic interventions designed to strengthen these buffering factors. The results of this study support the introduction of therapy focused on values such as meaning in life, or values that make it possible to build a life worth living, as a way to enhance the evidence-based treatment for BPD, such as Dialectical Behavioral Therapy (DBT) (Cameron et al., 2014; Linehan, 2015). Concretely, at the beginning of group emotional regulation skills of DBT, the therapist could introduce and explain the construct of meaning in life and the concept of sources of meaning, and encourage to participants to discover their main sources of meaning in his life story. In addition they would discover why they have been disconnected from their sources of meaning. The ultimate goal would be that the patient again connected with these sources of meaning. In each module DBT Skills the participants could practice the emotional regulation skills taking into account these sources of individual meaning.

Therefore, future studies should examine whether adding a specific treatment component focused on meaning in life to the usual treatment of people with BPD could

increase the efficacy of these treatments in reducing the risk of suicide. Similarly, these results suggest that the implementation of intervention programs specifically focused on values such as the meaning of life. In this sense, the Acceptance and Commitment Therapy (ACT) (Hayes et al., 1999) has as an important target teaches to people with BPD diagnoses to make decisions and choices consistent with their core values and reduce impulsive acts that are against individuals core values. The ACT has proven effective in treating people with BPD (Chakhssi et al., 2015; Morton et al., 2012).

Martela and Steger (2016) state that the three components of meaning are: Coherence, purpose, and significance. In this study we used the PIL-10 to assess meaning in life, and this scale includes two dimensions of meaning in life (García-Alandete et al., 2013): Satisfaction and Meaning in Life (significance) and b) Life Goals and Purposes (purpose), but it does not assess coherence. Therefore, future research should analyze the moderator effect of each component of meaning in life separately on the risk factors of suicide.

The present study is a cross-sectional study, which means we cannot talk about causality between variables, so it is an important limitation. Therefore, future research should replicate this study using a longitudinal design.

We want to highlight that the sample comes from several different public mental health institutions, and participants had major suicide risk factors. We have been selected only women because is very important to select clinical samples generalize to clinical settings. In this sense, studies with clinical samples showed that about 75% of patients are women (ten Have et al., 2016). As the inclusion criteria were very broad, it is reasonable to state that the sample is representative of women patients seen in daily clinical practice. However, in the same way, these results cannot be generalized to men

diagnosed with BPD. So, in future research will be necessary replicate this study using a clinical sample composed by men diagnosed with BPD. On the other hand, in future research it would be particularly helpful to study whether meaning in life might have a different moderator effect in different age groups, for example adolescents or adults diagnosed with BPD. In the same way, it would be interesting to study whether meaning in life might have moderator effect between previous suicide attempts and hopelessness in participants diagnosed with depressive disorder.

The present study supports the importance of the construct of meaning in life in the psychopathology of people diagnosed with BPD.

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Table1

Hierarchical regression analyses predicting hopelessness

Moderator Variable	Step	Variable entered	β	SE β	Total R^2	ΔR^2	Durbin-Watson
Covariates	1	Age	0.00	0.00	0.00		
Meaning in life (PIL-10)	2	SRS	0.80***	0.57	0.60	0.60***	
	3	SRS	0.77***	0.04	0.75	0.15***	
		PIL-10	-0.42***	0.04			
	4	SRS	0.93***	0.05	0.79	0.04***	1.901
		PIL-10	-0.39***	0.04			
		SRS x PIL-10	-0.23**	0.05			

Note. SRS= Suicide Risk Scale; PIL-10= Purpose In Life-10.
*p< 0.05, **p<0.01, ***p< 0.001.

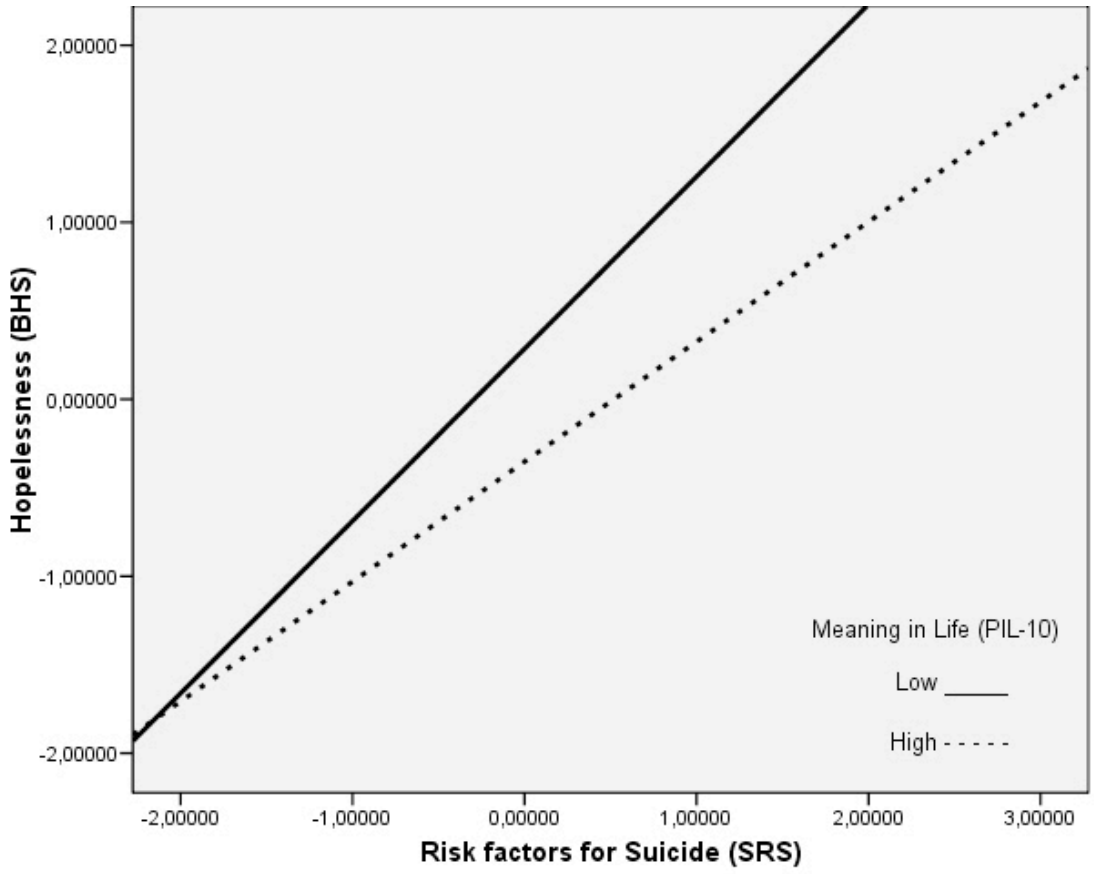

Figure 1. Meaning in life buffers the association between suicide risk factors and hopelessness. PIL-10= Purpose in Life-10; SRS= Suicide Risk Scale; BHS= Beck Hopelessness Scale.