Revista Argentina de Clínica Psicológica
2020, Vol. XXIX, N°5, 468-477
DOI: 10.24205/03276716.2020.1044

Meaning in life in Eating Disorders patients with Non-Suicidal Self Injuries

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Abstract

Low meaning in life it is associated to psychopathology in a large amount of research in clinical sample. However, the studies on meaning in life in people with eating disorders is scarce. Moreover, important NSSI rates have been reported in patients with eating disorders. The aims of the study are: (1) to analyze whether the participants diagnosed with eating disorders have lower meaning in life than the general population; (2) to analyze possible differences in meaning in life among participants based on the eating disorder diagnosis (anorexia nervosa, bulimia nervosa and EDNOS) or subtype (restrictive vs. purgative); (3) to study which psychopathological variables (hopelessness, meaning in life) differentiate the participants diagnosed with eating disorders with NSSI from participants without NSSI. We obtained data from 76 participants diagnosed with eating disorders, 19.7% with NSSI. Results showed that participants diagnosed with eating disorders had lower meaning life than the non-clinical participants. We did not find any statistically significant differences in meaning in life between participants diagnosed with anorexia nervosa, bulimia nervosa and EDNOS. Finally, only meaning in life differentiated between participants with NSSI and participants without NSSI. This study examines the association between meaning in life and eating disorders, and it indicates that meaning in life is a relevant variable in the psychopathology of eating disorders.

Keywords: Meaning in life, Non-Suicidal Self-Injury, Eating Disorders, Anorexia Nervosa, Bulimia Nervosa.

Meaning in life in Eating Disorders patients with Non-Suicidal Self Injuries

Meaning in life is a fundamental construct of the human condition and a core facet of the Positive Psychology movement (Schulenberg, & Melton, 2010). It has numerous definitions, including coherence in life and sense of fulfillment, self-actualization, goal directedness, sense of purpose or authentic living; thus, meaning and purpose can be used interchangeably (Przepiorka, 2012). Meaning in life is related to the experience of freedom, responsibility, self-determination, a positive view of life, purpose and accomplishment of existential goals, satisfaction with life, and self-realization. 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; García-Alandete, Gallego-Pérez, & Pérez-Delgado, 2009). By contrast, low meaning in life is a negative cognitive-emotional-motivational state associated with hopelessness, perception of a lack of control over one's life, and the absence of life goals.

To develop a feeling of meaning in life is a making process during all the life span, although, it could be especially relevant in the adolescence. Adolescence is a important stage for the development of a individual/collective identity, which is associate with purposes, aims, goal, and commitments to accomplish towards in life (e.g., Bronk, 2011).

A large amount of research has been conducted on the link between the experience of meaning in life and psychopathology. Studies carried out with adults' samples, found that people with high meaning in life have more positive emotional regulation (Shin, Lee, & Lee, 2005) and positive affect (e.g. Steger, Kashdan, & Oishi, 2008). Meaning in life is inversely correlated with levels of substance use (Harlow, Newcomb, & Bentler, 1986), depression (Psarra & Kleftaras, 2013;

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Volkert, Schulz, Brütt, & Andreas, 2014), hopelessness (Marco, Guillen, & Botella, 2017) and suicide (Edwards & Holden, 2003), and positively associated with mental health and psychological well-being (Ho, Cheung, & Cheung, 2010). Moreover, several studies with adolescents' samples found that, meaning in life was a strong predictor of wellbeing, mental health, and healthy behaviors (e.g., Wilchek-Aviad & Ne'eman-Haviv, 2018). Finally, studies carried out in clinical samples, such as patients with schizophrenia or major depression (Schulenberg, Strack, & Buchanan, 2011), found that patients reported lower levels of meaning in life than participants without these mental disorders.

As we can see in the aforementioned studies, meaning in life has been studied in several clinical samples, including people diagnosed with major depression, schizophrenia, anxiety and borderline personality disorders (e.g. Marco, García-Alandete, Pérez, & Botella, 2014). However, the studies about meaning in life in people diagnosed with eating disorders are scarce.

Recently, Marco, Cañabate, Perez, & Llorca (2017) found that in participants with eating disorders diagnoses meaning in life was a predictor of eating disorders psychopathology and suicide ideation. Moreover, Marco, Cañabate, Llorca & Pérez (2019) proposed the meaning-making model of eating disorders as a new perspective to describe the relationship between the psychopathology of eating disorders and secondary psychopathology such as depression, suicidal ideation, hopelessness. This model suggests that, when there is a discrepancy between the global meaning (e.g. " I need to have control of my weight ") and situational meaning (e.g. "fast weight gain") in people with a high vulnerability to eating disorders, the person experiences negative emotions, and s/he need to reduce these discrepancies between the global and the situational meaning through meaning-making processes. Therefore, as Marco et al. (2019) suggested, in the short term, the eating disorders symptoms, including control over their bodies, weight, and food, give patients a sense of control and a new identity, creating a new situational meaning ("after losing weight, I have the control again, and so I am an ideal girl"). However, in the long term, these dysfunctional goals and values keep people with eating disorders from developing an authentic feeling of meaning in life. Thus, a long-term consequence is that people with eating disorders can have a lower sense of meaning in life, greater hopelessness, and more suicide ideation than non-clinical participants. To see a more extensive explication of the meaning-making model of eating disorders you can see Marco et al. (2019).

Non-Suicidal Self-Injury (NSSI) is the direct, intentional destruction of one's own body tissue without the purpose of committing suicide (Nock & Favazza, 2009). More specifically, Klonsky and Muehlenkamp (2007) define NSSI as any deliberate socially unaccepted self-harm behaviors that are not intended to end one's life. Patients with NSSI are characterized by substance abuse, disinhibition traits, and more aggressive and impulsive behaviors (Claes et al., 2010). NSSI are associated with emotion dysregulation (Gratz & Roemer, 2008), impulsivity (Janis & Nock, 2009), negative emotionality, (Klonsky, Oltmanns, & Turkheimer, 2003), depression, anxiety, substance-related disorders and borderline personality disorder (Andover, Pepper, Ryabchenko, Orrico & Gibb, 2005). Other risk factors associated with NSSI are: sexual abuse in childhood (O'Connor, Rasmussen, & Hawton, 2009; Klonsky & Moyer, 2008), and a history of suicidal ideation, violence, and drug and alcohol abuse (Deliberto & Nock, 2008). NSSI behaviors have a high frequency. In non-clinical populations, they are observed in 32.2% of adolescents between 12 and 19 years old (Calvete, Orue, Aizpuru, & Brotherton, 2015). They are seen in 4.3 - 20% of adult psychiatric inpatients, and this percentage increases to 40% in adolescent psychiatric inpatients (Klonsky & Muehlenkamp, 2007). Adolescence is configured as an evolutionary stage in which the risk of getting into NSSI is high (Plener, Schumacher, Munz, & Groschwitz, 2015).

Important NSSI rates have been reported in patients with eating disorders; however, the prevalence is different from one study to another, and the range is quite broad. The prevalence of NSSI was between 13.6% and 42.1% for restricting anorexia nervosa, between 27.8 and 68.1% for purging anorexia nervosa, and between 26% and 55.2% for bulimia nervosa (Svirko & Hawton, 2007). On the other hand, in a study of NSSI in participants with eating disorders with a larger sample (Paul, Schroeter, Dahme, & Nutzinger, 2002), the prevalence of NSSI was 34.6%, and the 6-month rate of NSSI occurrence was 21%.

The high prevalence of NSSI in eating disorders may be justified because both behaviors (eating behaviors and NSSI) are accepted as dysfunctional emotional regulation strategies (Anestis et al., 2012). A large amount of research indicates that the most common reason a person diagnosed with eating disorders performs NSSI behaviors is affect regulation, in order to control or escape from emotions such as anger, punish oneself, and

replace emotional pain with physical pain (Anestis, et al. 2010; Claes, Klonsky, Muehlenkamp, Kuppens, & Vandereycken, 2010; Claes & Vandereycken, 2007). In addition, there is widespread agreement among researchers that disturbed eating behaviors also have the function of regulating emotions in people with eating disorders (Safer, Telch, & Chen, 2009; Sipos, Bohus, & Schweiger, 2011; Marco, García-Palacios, Navarro, & Botella, 2012). The affect regulation model suggests that binge eating and other types of dysfunctional eating behaviors (e.g., vomiting, restrictive eating) are behavioral strategies used to influence or change painful emotional states (Haedt-Matt & Keel, 2011; Lineham & Chen, 2005).

As indicated above, these studies clearly suggest that NSSI and eating behaviors are dysfunctional emotion regulation strategies. However, the question is why some people with eating disorders use eating behaviors as their emotion regulation strategy and other people with eating disorders use NSSI as emotion regulation strategy. To date, no studies have investigated the psychopathological characteristics that differentiate people with eating disorders who use NSSI behaviors from people who use disordered eating behaviors as their emotion regulation strategy.

In summary, the aims of the present study are 3: (1) to analyze whether the participants diagnosed with eating disorders have lower meaning in life than the general population; (2) to analyze possible differences in meaning in life among participants based on the eating disorder diagnosis (anorexia nervosa, bulimia nervosa and EDNOS) or subtype (restrictive vs. purgative); (3) to study which psychopathological variables (hopelessness, meaning in life) differentiate the participants diagnosed with eating disorders with NSSI from participants without NSSI.

Method

Participants

We obtained data from 76 participants with eating disorders admitted to three Eating Disorder Clinics in different cities in Spain. The inclusion criteria included patients between 13-60 years old who satisfied the DSM-IV-TR diagnostic criteria for eating disorders (APA, 2000). The exclusion criteria included moderate or severe intellectual disability. Participants were European whites. Participation was voluntary, participants gave their informed consent, and they received no compensation. Ethical approval for carrying out this study was granted by the Hospital Ethics Committee. The sample comprised 76 severely ill participants, 96.1% women, *n* = 73, and 3.9% men, *n*= 3. Regarding the eating disorder, 34.28%, *n* =26, matched bulimia nervosa purgative criteria; 13.2%, *n* = 10, bulimia nervosa non purgative; 13.2%, *n* = 10, anorexia nervosa restrictive; 13.2%, *n* = 10, anorexia nervosa, purgative; and 26.2%, *n* = 20, eating disorder not otherwise specified (EDNOS). The participants' ages ranged from 13 to 60 years, with an average of *23.24* (*SD* = 6.70). The duration of diagnosis was 1-40 years, with an average of 13.52 (*SD*=7.76). Table 1 shows the participants' sociodemographic characteristics.

Assessments and measures

Purpose in Life (PIL; Crumbaugh & Maholick, 1969). The Spanish version was used of the PIL-Part A from the original Crumbaugh and Maholic (1969) 20-item Likert-type scale with seven response categories (categories 1 and 7 have specific labels, and category 4 indicates neutrality), offering a measure of the presence of meaning in life. The scores range between 20 and 140 points and distinguish three levels: below 90 indicates the absence of meaning in life; between 90 and 105 indicates uncertainty about meaning of life; and above 105 indicates meaning in life achievement (Noblejas de la Flor, 2000). The Spanish version offers good psychometric properties and high reliability (α= .88) (Noblejas de la Flor, 2000), and in our sample it showed excellent internal consistency (α= .93).

Beck Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974). These twenty dichotomous items (true-false) scale is designed to assess negative expectations about the future. It was validated in the Spanish population (Viñas et al., 2004). In our data, the internal consistency for the total score was excellent, α =. 93.

Structured Clinical Interview for DSM-IV Axis I Disorders (SCID I; First, Spitzer, Gibbon, & Williams, 2002). This is an interview for making the major DSM-IV-TR (APA, 2000) Axis I diagnoses. It offers good psychometric properties: Kappa .66, demonstrating reliability (Lobbestael, Leurgans, & Arntz, 2011).

Inventory of Clinical Information. It was designed ad hoc for this research and completed by expert therapists in clinical psychology. First, a multi-axial diagnosis was performed, following the criteria of the DSM-IV-TR (APA, 2000). Second, it collects the frequency of NSSI (from 0 to the maximum number of NSSI). NSSI was conceptualized as self-injurious behaviors that were not intended to be an attempt to end one's life. The number of NSSI behaviors in the 6 months

prior to the assessment were assessed through an open question and categorized by clinical psychologists specialized in eating disorders.

Procedure

At the baseline, all participants filled out the BHS, and PIL questionnaires. The researchers completed the Inventory of Clinical Information. The diagnosis for eating disorders was established using the SCID-I (First et al., 2002). When evaluating participants under 18 years of age, caregivers were also interviewed to confirm the information. The assessment was carried out by psychologists specialized in clinical psychology with more than 10 years of experience in evaluation and treatment of eating disorders.

Statistical procedure

First, to verify whether the participants with eating disorders had lower scores on meaning in life than participants without eating disorders, we conducted an independent samples *t* test. The data for the non-clinical sample were obtained from a study with the PIL in the Spanish population with 309 undergraduates (207 women, 102 men), from 18 to 45 years old, with an average age of 21. 4 (*SD* = 3.25) and similar sociodemographic characteristics than the clinical sample (García-Alandete, Martinez, Soucase, & Gallego-Perez, 2011).

Second, we divided the participants with eating disorders according to their diagnosis of eating disorders and according their subtype of diagnosis (restrictive vs. purgative). To analyze whether there were differences between the two groups, we performed a *t* test for independent samples. Finally, we divided the participants with eating disorders according to their frequency of NSSI, creating two groups: participants with NSSI (19.7%, *n*= 15), and participants without NSSI (80.3%, *n*= 61). To analyze whether there were differences between the two groups, we performed a univariate analysis of covariance. Data were analyzed using SPSS 20 (SPSS, Chicago, IL).

Results

Participants diagnosed with eating disorders had lower meaning in life (*M*= 75.37, *SD*=24.47) than the non-clinical population, (*M*=109.39, *SD*=14.37) ($t_{(83,83)}$ =11.78, *p*<.000). Our data indicate that participants diagnosed with eating disorders had an absence of meaning in life, and the non-clinical sample had high meaning in life, according to their PIL scores (Noblejas de la Flor, 2000).

However, we did not find statistically significant differences in meaning in life among participants with anorexia nervosa, bulimia nervosa and EDNOS ($F_{(2,73)}$ =1.073, *p*=.34). Nor did we find statistically significant differences between participants with the purgative subtype and the restrictive subtype ($t_{(73)}$ =-.690, *p*=.49). Table 2 shows these results.

Finally, univariate analysis of covariance were carried out to compare the participants with NSSI and the participants without NSSI on the variables dependents: Meaning in life, and Hopelessness. The covariates were: Age of the participants, and the Duration of the diagnosis. Univariate comparisons showed that there were differences between participants with NSSI and the participants without NSSI while Age of the participants, and Duration of diagnosis were controlled (see Table 3). Participants using NSSI had lower Meaning in life than participants without NSSI. Hopelessness no reached statistically significant differences between these two groups of participants.

Discussion

The aims of the present study were: (1) to analyze whether the participants diagnosed with eating disorders have lower meaning in life than non-clinical participants; (2) to analyze the differences in meaning in life between participants according to their eating disorder diagnosis (anorexia nervosa, bulimia nervosa and EDNOS) or subtype (restrictive vs. purgative); (3) to study what psychopathological variables (hopelessness, meaning in life) differentiate the participants diagnosed with eating disorders who use NSSI to the participants who don´t use NSSI.

Results showed that participants diagnosed with eating disorders had lower meaning life than the non-clinical participants, and the participants with eating disorders had an absence of meaning in life. This result coincides with other previous studies that showed a strong association between low meaning in life and psychopathology in non-clinical (García-Alandete et al., 2009; Hunter & O'Connor, 2003) and clinical samples (Heiself & Flett, 2004; Schulenberg et al., 2011; Marco et al., 2017).

Second, we did not find any statistically significant differences in meaning in life between participants diagnosed with anorexia nervosa, bulimia nervosa and EDNOS. Nor did we find statistically significant differences between participants diagnosed with purgative and non-purgative subtypes. This result is similar to that found by Marco, Cañabate & Perez (2019) who suggested that meaning in life was a predictor of eating disorders psychopathology and suicide ideation in all the eating disorders subtypes. These

preliminary results could suggest that meaning in life could be a transdiagnostic variable in the same way as perfectionism, interpersonal problems and self-esteem (Fairburn, Cooper, & Shafran, 2003). Future studies with larger samples of participants diagnosed with eating disorders are necessary to confirm these preliminary results.

Third, meaning in live differentiated between participants with NSSI and participants with eating disorders but without NSSI. This result is consistent with other studies that found association between meaning in life and NSSI in clinical samples, such us participants diagnosed with borderline personality disorder (e.g., Marco et al., 2015). So, regarding these results and other studies that found that NSSI are dysfunctional emotion regulation strategies (Haedt-Matt & Keel, 2011; Lineham & Chen, 2005; Safer, Telch, & Chen, 2009; Simonich & Mitchell 2009) one possible function of NSSI is controlling or escaping from negative emotions associated with low meaning in life.

The present study suggests that psychotherapeutic interventions aimed at developing meaning in life in people with eating disorder patients (adults and adolescents) could act as a protective factor of NSSI including Acceptance and Commitment Therapy (Berman, Boutelle, & Crow, 2009) and Dialectical Behavioral Therapy (Lineham, 1993). In this sense, DBT has been shown to be effective in the treatment of patients with eating disorders with NSSI behaviors in adults (Chen, Matthews, Allen, Kuo, & Linehan, 2008; Marco et al. 2012; Sipos et al., 2011) and with adolescents (Rathus & Miller, 2002). Dialectical Behavioral Therapy teaches patients to identify or change the core values in their lives, and subsequently create a life worth living. Thus, it teaches them to select their long-term goals, targets and weekly actions based on their new life values (Carmel, Comtois, Harned, Holler, & McFarr, 2016). Moreover, our results suggest that meaning centered therapy could improve the treatments we currently have for eating disorders, such as cognitive behavioral therapy, in adults and adolescents with eating disorders and NSSI.

One of the strengths of this study is the sample used, which comes from three different Eating Disorder clinics and has participants with severe eating disorders. NSSI prevalence in this study is similar to what was reported in the study by Paul et al. (2002), and the inclusion criteria were very broad. Therefore, it is safe to state that the sample is representative of patients seen in daily clinical practice, and that these results may be generalizable to other populations of participants with eating disorders.

This study presents some limitations that should be emphasized. The most important limitation of this study is that we have not studied other variables in the eating disorder psychopathology, such as perfectionism, over preoccupation about weight, self-esteem and body image. Future research should analyze the association between feeling meaning in life and other areas of the psychopathology of eating disorders. Second, we did not use additional self-report measures to assess NSSI. However, an exhaustive review (Hamza, Stewart, & Willoughby, 2012) pointed out that studies examining NSSI behavior by employing one-item NSSI measures or self-report questionnaires found that the type of assessment did not influence the results. Third, we should take into account that, although the entire sample was adequate in size, the number of participants with NSSI was relatively small, which could have contributed to a lack of significant results for other variables that might be seen in a larger sample. Finally, no different measures were used for the different age of the participants (adults or adolescents). The reason is that there were no versions for adolescents of the questionnaires used (PIL and HS). Therefore, these limitations should always be taken into consideration when interpreting these results, which should be considered preliminary.

The results of this study suggest the need to include self-reports or interviews to measure meaning in life in the assessment protocol for eating disorders, especially in severely ill patients with NSSI behaviors.

Although this is a preliminary study, it indicates that meaning in life is a relevant variable in the psychopathology of eating disorders.

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Tables

Table 1. **Socio-demographic characteristics of the participants with eating disorders.**

Variable	Category	*N*	%
Marital status	Single	57	75
	Married	19	25
Children	Yes	18	23.7
	No	58	75.3
Educational level	College-level	25	32.9
	High school	40	52.6
	Primary school	11	14.5
Employment status	Unemployed	31	40.7
	Employed	25	32.9
	Student	20	26.4

Note. *N* = 76.

Table 2. **Differences in meaning in life according to diagnosis or subtype.**

Diagnosis	***n***	***M (SD)***	$F_{(2,73)}$	***p***
BN	36	77.69 (25.53)	1.073	0.34
AN	20	68.50 (22.30)		
TCANE	20	78.05 (24.45)		
Subtype			$t_{(73)}$	***p***
Purgative	36	73.57 (22.61)	-0.690	0.49
Restrictive	40	77.50 (26.17)		

Note. AN= Anorexia Nervosa; BN= Bulimia Nervosa; EDNOS= Eating Disorder Not Otherwise Specified

Table 3. **Univariate comparisons between participants with NSSI and participants without NSSI.**

	NSSI (*n*=15)	**No NSSI (n=61)**			
Measure	*M (SD)*	*M (SD)*	$F_{(1,75)}$	*p*	η^2_p
PIL	62.27 (21.98)	78.59 (24.12)	6.005	0.02	0.08
BHS	10.67 (6.53)	8.84 (6.34)	2	0.16	0.02

Note. PIL= Purpose in Life; BHS= Beck Hopelessness Scale