March 2019

Social Factors that Exacerbate Features of Borderline Personality Disorder in Young Adult Women Between 25 and 35 years of age Living in the Commonwealth of Puerto Rico

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SOCIAL FACTORS THAT EXACERBATE FEATURES OF BORDERLINE PERSONALITY DISORDER IN YOUNG ADULT WOMEN BETWEEN 25 AND 35 YEARS OF AGE LIVING IN THE COMMONWEALTH OF PUERTO RICO

A Dissertation Presented

by

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Submitted to the Graduate School of the University of Massachusetts Amherst in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

February 2019

College of Nursing

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DEDICATION

Sofia Viktoria, the love of my life, you came to this world and turned it upside down. You make the best of me.

Mom, you gave me life and your unconditional love and support. I love you to the moon and back.

Josue Pacheco, I love you so much. Thank you for being there for me every time I needed a push, an advice and a shoulder to cry on. You are my best friend in the whole world.

Dr. Izander Rosado, my advisor, friend, and role model. Thank you for your love and unconditional support, without it this dream never would have come true. Love you always and forever.

ACKNOWLEDGMENTS

During the hours of study devoted to achieving this personal and academic goal, I have received assistance and encouragement from special people. Dr.Beth Henneman, Dr. Cynthia Jacelon and Dr. Daniel S. Gerber, thank you for your advice and guidance.

Dr. Aurea Ayala receive my gratitude for the opportunity of a life time and your support.

Dr. Eileen Mateo receive my gratitude for all your guidance and support thought out all of these years. Love you to the moon and back.

I will also like to thank my co- workers from the Inter American University. Your support throughout this journey has been invaluable and always will be appreciated.

ABSTRACT

SOCIAL FACTORS THAT EXACERBATE FEATURES OF BORDERLINE PERSONALITY DISORDER IN YOUNG ADULT WOMEN BETWEEN 25 AND 35 YEARS OF AGE LIVING IN THE COMMONWEALTH OF PUERTO RICO

FEBRUARY 2019

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The high prevalence of BPD hospitalizations, unsuccessful treatments, poor social awareness, suicide attempts and complete suicides were motivating forces for this research study. The aim was to uncover pertinent social factors that exacerbate BPD in the lives of individuals with this affliction and therefore find ways to combat this disease. Since most of the individuals affected by this disease are female, the present research was focused on uncovering factors that increased the likelihood of BPD factors in women between the ages of 25-35 years.

Borderline personality disorder is often viewed as difficult to treat. However, recent research shows that BPD can be treated effectively, and that many people with this condition improve over time (Zanarini, Frankenburg, Hennen, Reich, & Silk, 2005). Thus, the findings of this study provide insight into this mental health problem and may potentially serve as useful literature for mental health clinicians at the forefront of this poorly understood disorder.

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CHAPTER I

INTRODUCTION

According to the Behavioral Sciences Institute of the University of Puerto Rico (Canino, et al., 2016), an estimate of 165,497 adults (7.3%) 18 to 64 years old meet the criteria for Serious Mental Illness (SMI). Women have slightly higher prevalence rates (4.2%) than men (3.1%). In the rate of psychiatric disorders, the 12-month prevalence is 23.7%. Anxiety disorders are the most common, affecting 12.5% of the adults 18 to 64 years old, and mood disorders are the second most common affecting 10.4% of the population 18 to 64 years old. A total of 10.5% of women in Puerto Rico met the diagnostic criteria for a psychiatric disorder, compared to 8.2% of the men. A need assessment study conducted by the Institute, asserts that women are also more likely to be diagnosed with depression, dysthymia, and general anxiety than men. The specific amount of people diagnosed with Borderline Personality Disorder are not identified in the study.

Borderline Personality Disorder (BPD) is the most prevalent personality disorder. It occurs in 2-3% of the population (Stuart, 2013). The *Diagnostic and Statistical Manual of Mental Disorders* (DSM-V 2013) defines it as a "pervasive pattern of instability of interpersonal relationships, self-image, and affects, and marked impulsivity that begins by early adulthood and is present in a variety of contexts" (p. 56). It also states that patients with BPD have identity problems, unstable relationships, lack of impulse control, emotional instability and feelings of emptiness, often in combination with anxiety, depression, and substance abuse (Holm & Severinsson, 2008). There is limited information as to why this phenomenon occurs.

The diagnosis of BPD is known for its risk of suicide and self-harm, affective instability, and patterns of idealization. Up to 10% of individuals diagnosed with BPD commit suicide with

more than 70% of BPD patients having histories of suicide attempts (Holm & Severinsson, 2008). Individuals with BPD commonly exhibit impulsive aggression, which leads to self-mutilation, unstable relationships, violence, and suicide (Stuart, 2013).

In the social domain, BPD patients are vulnerable to stress and have low levels of social functioning. Individuals with BPD display emotional dysregulation usually characterized by strong negative emotional reactivity. Such emotional reactions include high levels of anger, rage and shame (Jacob et. al., 2009). They exhibit decreased functioning in work, school, friendships, and romance; often experiencing conflict within close relationships and showing conflict, hostility, disagreement, and ambivalence within these relationships (Stepp et al., 2010). Studies performed by Stepp et al. (2010), found that participants with BPD have few individuals with whom they interact regularly.

An understanding of the few social relations that these individuals have, and the negative emotions surrounding them, help shed light on the chronic state of misery that many patients with BPD experience. BPD is a difficult diagnosis to understand because of its overlap with all other personality disorders such as eating disorders and comorbidity with depression, anxiety, post-traumatic stress disorder, and substance abuse (Critchfield, Clarkin, Levy & Kernberg, 2008). The understanding of BPD is complicated because patients do not exhibit all features equally.

Justification

After an extensive search in multiple data bases, PubMed, EBSCOhost, and CINAHL, the researcher could only find statistics from the Administration of Mental Health and Addiction Prevention Services. No qualitative or quantitative studies were found that were conducted in Puerto Rico with the Puerto Rican population. The acquisition of this knowledge will contribute

to the development of new programs in the nursing field directed specifically towards the prevention of the development of this disorder.

These programs will be developed using Healthy People 2020 as a framework of reference to guide health promotion activities that will focus on eliminating health disparities and increasing quality and years of healthy life. Mental health is essential to a person's well-being, healthy family and interpersonal relationships, and the ability to live a full and productive life. People, including children and adolescents, with untreated mental health disorders are at high risk for many unhealthy and unsafe behaviors such as alcohol or drug abuse, violent or self-destructive behavior, and suicide –the 11th leading cause of death in the United States for all age groups and the second leading cause of death among people aged 25 to 34. It was critical to study the social factors that exacerbate features of BPD in women between the ages of 25 to 35 in order to develop programs that will integrate therapies based on the needs of this population.

Background and Significance

Several theories attempt to explain the causes of BPD. According to Stuart (2013), Developmental Theory explains that an individual with BPD fails to achieve object constancy during the separation-individuation stage of psychosocial development. This interruption in development causes the individual to relate to others as a series of disconnected parts rather than as a whole (Stuart, 2013). Furthermore, Stuart (2013) suggested that people who fail to complete separation from their primary caregiver during childhood fail to develop autonomy in childhood leading to a crisis in adolescence.

Developmental factors have also been linked to BPD. Emotional and physical abuse by a caretaker and sexual abuse by a non-caretaker are frequently reported by patients with BPD.

Some researchers have suggested that a lack of parental caring is internalized, and the individual becomes incapable of bonding with other people. Still other research suggests that influences outside the family, such as peer groups, have an impact on the development of personality disorders (Stuart, 2013).

Social factors that exacerbate BPD include emotional pain (Holm, 2009), insecure forms of attachment, high relationship anxiety (Critchfield, Clarkin, Levy & Kernberg, 2008), and alcohol and drug abuse among family members and the patients themselves (Pizzarello & Taylor, 2011). Emotional pain experienced by individuals with BPD is thought to be an adaptive response to repetitive traumatic experiences in childhood such as loss of a parent, parental mental illness, witnessing violence and abuse. Emotional pain can lead to self-injury as well as social problems related to difficulties regulating emotions (Holm, Berg & Severinsson, 2009). Reports gathered by Holm et al. (2009) showed that women diagnosed with BPD frequently recalled childhood experiences of their parents' abuse of power and forcing them to meet their demands. Women also experienced sexual abuse, shame, guilt, and unpredictability in family relationships.

Family instability, including divorce, broken up extended family, and stress within families can also leave an individual without necessary support systems. Isolation and lack of satisfying relationships influence feelings of loneliness. Additionally, research has proposed that individuals with BPD are likely to experience an incapacitating level of anxiety in response to life events that signify increased autonomy. Such events can include graduation, marriage, or job promotion.

According to the developmental psychopathology perspective, the development of BPD is likely influenced by characteristics of the child, the caregiver, the environmental context, and

dynamic transactions among these characteristics (Crowell, Beauchaine & Linehan, 2009). They propose that early biological vulnerabilities for impulsivity and emotional sensitivity may contribute to temperamental and behavioral qualities of youth on a BPD trajectory, thus they conclude that a taxed caregiving environment perpetuates emotional and behavioral dysregulation in the biologically vulnerable child.

Crowell et al. (2009) point out that an important direction for future research is to follow children at risk for BPD longitudinally in order to determine which variables contribute to both risk and resilience. They consider that although the etiology of BPD remains unknown, there is now sufficient research with which to begin testing developmental theories of BPD. Following this line of research contributes to the identification and prevention of this personality disorder. Crowell et al. (2009) state that when compared with research on other psychological disorders, such as depression and antisocial personality disorder (ASPD), research on the development of BPD has been strikingly sparse. They consider that this is troubling, given the high rates of morbidity and mortality associated with the disorder.

Significance for Nursing

Unfortunately, Borderline Personality Disorder is often under-diagnosed or misdiagnosed. A trained nurse on mental health disorders may detect borderline personality disorder based on a thorough interview and a discussion where he/she can identify classic symptoms. A careful and thorough physical assessment can help rule out other possible causes of symptoms. However, because so little research has been done on treatment outcomes and effectiveness, nurses in mental health who are untrained or unfamiliar with interventions specific to BPD will lack the necessary skills required to produce successful treatment outcomes of BPD. Further, even if they were familiar with the disorder, there is not enough evidence that suggests a

specific treatment approach that proves successful, thus BPD treatment lacks consistency across the board. Therefore, the lack of consistency in treatment approach might be a contributing factor to failed treatment in this mental health disorder.

Nurses need to understand the emotional pain in patients with BPD. Focused care needs to be provided and emotional trauma must be identified to care for the patient (Holm, Berg & Severinsson, 2009). Understanding that early traumas can impact emotions and behaviors in adult lif may help in the recovery of BPD. Care must be given in a therapeutic way in order to allow the patient to tell her/his story (Holm & Severinsson, 2008). Modifying social networks can be key in alleviating and coping with BPD. It can be part of the treatment process. However, more studies need to be conducted (Pizzarello & Taylor, 2011).

Nurses must understand that early childhood experience as well as caregiver relationships significantly impact the psychological development of a child. The relationship between the patient with BPD and their primary caregiver should be assessed (Levy, 2005). Treatment for the patient with BPD must consider both biological factors as well as environmental factors (Nelson-Gray, Mitchell, Kimbrel & Hurst, 2007).

Since no studies were found regarding BPD in Puerto Rico, the results of this research may shed light to the relationship between environmental and biological risk factors of Puerto Rican women between twenty-five and thirty-five years of age. The results could help develop policy making about the treatment and prevention of the condition. It could also lead to new therapies for its treatment. The research may help nurses and other health professionals understand how early childhood experience as well as care giver relationships impact the psychological development of a child at risk for BPD.

Statement of the Problem

Women are considered to have the highest risk for developing borderline personality disorder. 75-80% of the population diagnosed with BPD are women (Stuart, 2013), and up to 80% experience emotional pain as an adaptive response to repetitive traumatic experiences during childhood (Zanarini et al., 1997). In addition, young women with BPD have a suicide rate of 800 times greater than the general public (Holm & Severinsson, 2008).

Data suggest that BPD affects from 1.2% to almost 6% of the general population. Moreover, up to 10% of those who meet criteria for BPD eventually commit suicide, this rate is 50 times that observed in the broader population (American Psychiatric Association, 2001). Thus, BPD is associated with tremendous emotional and financial burden to individuals, families, and society. In light of these costs, identifying precursors to the disorder and the factors that exacerbate BPD traits in specific populations is critical. Given the scarcity of research examining the prevalence of BPD in Puerto Rican women living in the Commonwealth of Puerto Rico, it is crucial to the mental health professionals understand the factors underlying the exacerbation of BPD traits in Puerto Rican women living in the Commonwealth of Puerto Rico.

Purpose of the Study

The purpose of this study was to examine the social factors that exacerbate borderline personality disorder in the female population between 25 and 35 years of age, living in the metropolitan area of the Commonwealth of Puerto Rico based on Crowell, Beauchaine & Linehan's Biosocial Model for BPD. This model explains the emergence of psychiatric conditions during adolescence and the continuity throughout adult development (Beauchaine, Klein, Crowell, Derbidge & Gatzke-Kopp, (2009). According to this approach, the interaction

among psychological, biological, and environmental risk factors contribute to the development of personality disorders.

Research Questions

This research was guided by the following questions:

1. What social factors exacerbate features of Borderline Personality Disorder in the female population?
2. Did participants experience any form of childhood trauma, such as: family violence, neglect, disease, verbal assaults, rejection, and emotional or physical abuse?
3. What are the social factors that contribute to suicidal tendency among the female BPD population?

Variables

Dependent variable - Exacerbation of Borderline Personality features

Independent Variable - Social factors

Nominal definitions

1. Risk factors: analyze emotional pain, insecure forms of attachment, and relationship anxiety as factors that influence on the exacerbation of features of Borderline Personality Disorder.
2. Incidence and prevalence: To understand the incidence and prevalence of these social factors in the Puerto Rican women living in the Commonwealth of Puerto Rico.

Definition of Terms

1. Young adult women: Women between 25 and 35 years of age who are of Puerto Rican ethnicit and reside in the Commonwealth of Puerto Rico, a territory of the United States.
2. Borderline Personality Features: measured using Borderline Features Scale PAI-BOR (Morey, 1991), and characterized by lack of control of anger, intense and frequent mood changes, impulsive acts, disturbed interpersonal relationships, and life-threatening behaviors.
3. Social factors: factors that exacerbate BPD, such as; emotional pain (Holm et al., 2009), insecure forms of attachment, and high relationship anxiety (Critchfield, Clarkin, Levy & Kernberg, 2008).
4. Puerto Rico: A self-governing island Commonwealth of the United States located in the Caribbean Sea, approximately 1,000 miles Southeast of Miami, FL. Puerto Rico is the easternmost, and smallest of the Greater Antilles group, with a total area of 3,515 square miles (Morris, 1995).
5. Puerto Rican population: Population of 3,725,789 who live on the island of Puerto Rico, and is comprised of 1,785,171 males and 1,940,618 females, with a projected population growth of 0.47% (U.S. Census, 2010).
6. Exacerbation: An increase in the seriousness of Borderline Personality Disorder as marked by greater intensity in the signs and symptoms of the patient.

Conceptual Framework

This research was guided by the Crowell, Beauchaine & Linehan's Biosocial Developmental Model of BPD (2009). In accordance with a developmental psychopathology perspective, Crowell et al. (2009) assumed that there are etiological precursors to BPD and that identifying these precursors will lead to more effective prevention and treatment. They describe how reciprocal transactions between predisposing biological vulnerabilities and environmental risk factors shape the development of BPD among vulnerable individuals. They state that impulsive and emotionally sensitive children who are placed in high-risk environments may experience considerable difficulty inhibiting extreme emotions in the face of invalidation by family members, inconsistent use of punishment, and escalation of anger during interactions, and that both psychological and biological factors are presumed to contribute to the development of BPD.

This biosocial developmental model is based on theoretical and empirical evidence which suggests the following (Crowell et al., 2009):

1. Poor impulse control likely emerges early in the development of borderline pathology, and this may account for the overlapping biological vulnerabilities for BPD and other impulse control disorders.
2. The development of extreme emotional lability characteristic of BPD is shaped and maintained by the caregiving environment and is based on characteristics of the child (e.g., baseline emotional sensitivity) and the developmental context.
3. Reciprocal reinforcing transactions between biological vulnerabilities and environmental risk processes potentiate emotion dysregulation and more extreme

behavioral dyscontrol and thereby contribute to negative cognitive and social outcomes.

4. By mid- to late adolescence there is a constellation of identifiable features and maladaptive coping strategies that indicate heightened risk for later BPD.
5. These traits and behaviors may exacerbate risk for BPD across development due to evocative effects on interpersonal relationships and social functioning and via interference with healthy emotional development.

Summary

The high prevalence of BPD hospitalizations, unsuccessful treatments, poor social awareness, suicide-attempts and complete suicides were motivating forces for this quantitative research. The aim was to uncover pertinent social factors that exacerbate BPD in the lives of these individuals with this affliction and therefore find ways to combat this disease. Since most of the individuals affected by this disease are within the female population, the paper is focused on uncovering factors that increase the likelihood of BPD in women between the ages of 25-35 years of age. Borderline personality disorder is often viewed as difficult to treat. However, recent research shows that BPD can be treated effectively, and that many people with this disorder improve over time (NIMH, 2018; Zanarini et al., 2003). The findings of this study can provide insight into this mental health problem and may potentially serve as useful literature for mental health providers who are at the forefront in the treatment of this little understood disorder.

CHAPTER II

REVIEW OF THE LITERATURE

There is not enough research to develop intervention and prevention strategies for borderline personality disorder (BPD) patients living in the Commonwealth of Puerto Rico. The reviewed articles on BPD provide only limited information on the disorder in Puerto Ricans living in Puerto Rico. Studies conducted with Hispanics and Puerto Ricans residing in the mainland specifically concluded that there are significant cultural variations in social determinants and health patterns among the different Hispanic groups (Westphal et al., 2013; Grilo et al., 2004).

Research identifies differences between the social determinants of health of Puerto Ricans living in the United States and Puerto Ricans residing in Puerto Rico as well (Ramos et al., 2014). Research on BPD in Puerto Ricans living in Puerto Rico may provide health care professionals with an overview of features, characteristics, and treatment outcomes for BPD in Puerto Rican patients residing in Puerto Rico.

As stated in the *Diagnostic and Statistical Manual* (2013), BPD begins in early adulthood. A stage in which key fundamental issues such as occupations, marriage, and interpersonal choices are significant sources of stress. Early adulthood is a period when BPD patients struggle to face life responsibilities because they are unable to cope with stressors (Quiles, López & Millán, 2006; Skodol & Bender 2003). Even more, Puerto Ricans living on the island are currently facing additional social, financial, and psychosocial stressors because of the fiscal crisis that Puerto Rico has been facing during recent years (Toro, 2008). The crisis escalated in 2016. The uncertainty produced by this situation may be an additional risk factor for the exacerbation of BPD traits in young Puerto Ricans.

Given the level of emotional and social dysfunction in BPD patients, personal, professional, and therapeutic relationships can be tough. Bradley, Zittel & Westen (2005) affirm that borderline personality disorder patients can become irrational and therefore perceive problems as disastrous and insolvable. Moreover, they state that PBD patients have difficulty self-soothing and become overly dependent on others to help regulate their emotions. The subsequent outcomes often lead to an unhappy and unhealthy life. Gender differences have been described as important factors on the prevalence of BPD although other studies conclude that there is no significant difference by gender (Holm & Severisson, 2008; Sansone & Sansone, 2011; Grilo et al., 2004).

This review will focus on selected literature which can be useful to understanding social factors that exacerbate BPD features in young women between the ages of 25-35 who live in Puerto Rico. The subject literature of this chapter is organized into the following discussion sections:

(i) BPD in Women

(ii) Social Factors that Exacerbate BPD in Young Adults and Women

(iii) Prevalence of BPD in Hispanics

(iv) Prevalence of BPD in Puerto Rican Women

BPD in Women

Research examining the social factors that exacerbate BPD features link repetitive childhood traumatic events to the emergence and development of the disorder. Identified early risk factors for vulnerable children include environmental factors such as family dysfunction, psychiatric problems, and insecure attachments. Studies show an association between risk factors

and experiences of abuse, childhood difficulties with separation, shame, guilt, and unstable and unpredictable family relationship (Crowell et al., 2009; Zanarini et al., 2005). Compiling research suggests that genetic vulnerabilities combined with childhood physical and sexual abuse, neglect, and lack of protective factors potentiate the development of BPD in women (Beauchaine et al., 2009; Sprague, Javdani, Sadeh, Newman & Verona, 2012; Rüsch et al., 2007; Zanarini et al., 2005; Crowell et al., 2009). In summary, studies agree that adverse childhood experiences interacting with genetic vulnerabilities and environmental factors exacerbate BPD features.

The literature indicates that gender differences are risk factors in the development of BPD. Research shows that a higher percentage of patients receiving treatment for BPD are females who make up 75-85% of diagnoses of which younger women have a suicide rate up to 800 times greater than the general public (Holm & Severisson, 2011). The available evidence suggests that genetic factors combined with sociocultural and environmental conditions may predispose differential vulnerability to the development of BPD among males and females (Beauchaine et al., 2009; Sprague et al., 2012; McCormick et al., 2007; Sansone & Sansone, 2011; Tadić et al., 2009).

When compared with men, women often show higher self-stigma resulting from intense labeling of mental illness, worse emotional and social role, higher levels of obsessive compulsiveness, more negative views of themselves, higher levels of negative affectivity, frequent interpersonal difficulties, social problems related to difficulties regulating emotions, and higher levels of shame (Rüsch et al., 2006; Sprague et al., 2012; McCormick et al., 2007; Rüsch et al., 2007). Additionally, researchers examining BPD in women found higher comorbidities with eating disorders, anxiety, social phobia, self- injuries, PTSD, and depressive

compulsiveness (Beauchaine et al., 2009; McCormick et al., 2007; Rüsch et al., 2007; Sansone & Sansone, 2011; Biskin, Paris, Renaud, Raz & Zelkowitz, 2011; Tadić et al., 2009). Furthermore, there also appears to be a link between female BPD diagnosis and substantial mental and physical disability (Bridget et al., 2008).

McCormick et al. (2007) and Rüsch et al. (2007) point out that the challenges suffered by women with BPD when dealing with emotions compromise social and emotional functioning and lead to a poorer quality of life than men. Emotion dysregulation is an essential maintenance factor of BPD features; among women, higher levels of emotion dysregulation have been found (Beauchaine et al., 2009; Sprague et al., 2012). In contrast, some studies suggest a relationship between male diagnosis of BPD and higher levels of aggression, substance abuse, intense anger, explosive temper, novelty seeking, and comorbidity with antisocial personality disorder and PTSD. (Beauchaine et al., 2009; Sansone & Sansone, 2011). Nevertheless, Bradley, Zittel & Westen (2005) assert that men and Caucasian personality disorder patients are understudied groups.

Social Factors that Exacerbate BPD in Young Adults and Women

It is critical to understand the biological, social, and psychosocial precursors of BPD in childhood and mid-adolescence. Traits and maladaptive coping strategies develop during this stage, thus exacerbating the development of BPD in early adulthood (Crowell et al., 2009). During childhood and adolescence, exposure to adversities is predictive of psychiatric disorders, however; BPD and Mood Disorders are more associated with early life stress (Crowell et al., 2009).

Early adulthood is a benchmark point for the development of major social roles and when vocational, interpersonal, religious, political, and sexual choices become critical. The evolution of an adult life structure can be a great source of stress (Quiles, López & Millán, 2006; Skodol & Bender, 2003). Evidence shows that patients with BPD are extremely vulnerable to stress and loss. Benchmark stressors can become unbearable and distorted for BPD patients; thus, sufferers from BPD respond chaotically to situations which are common among people their age. As discussed in Psych Central (2016), low self-concept, poor quality of life, anger, and hostility predispose BPD patients to repeated traumatic events and extreme emotional reactions. Women with BPD tend to inhibit negative affect and feelings associated with loss or grief. Consequently, intense, painful feelings and the notion that life is not worth living potentiate a pattern of self-mutilation and suicide attempts in women with BPD (Psych Central, 2016).

Some studies indicate that psychosocial factors which may exacerbate BPD features in young adults and women develop from feelings associated with "unrelenting crises," that predispose to a pattern of self-mutilation, suicide, and various interpersonal difficulties (Psych Central, 2016; Quiles, López & Millán, 2006; Gutz, Renneberg, Roepke & Niedeggen, 2015). Another factor mentioned in the literature is the inclination to recreate negative experiences using a negative projection of the depriving or abusive figure in another person with whom they develop an insecure attachment. Even more, the misuse of alcohol or drugs is identified as an exacerbating factor (Gunderson, 2011; Barazandeh et al., 2016). Moreover, research points out that regular interpersonal difficulties, insecure attachments, experiences of social exclusions, the frequent occurrence of environmental trauma, abusive relationships, and being victims or perpetrators of violence, rape, and serious sexual assault, exacerbate BPD features. Additionally, chronic mental illnesses can lead to canceled appointments, missed work, doctor visits, and

subjective distress all risk factors that increase BPD features in young adults and women (Psych Central, 2016; Rüsch et al., 2006; Gutz et al., 2015; Bradley, Zittel & Westen, 2005).

Incidence of BPD in the Hispanic Population

Social, cultural, and spiritual factors have a great impact on perceptions of symptoms, participation in psychiatric treatment, treatment outcomes, and protective factors. Researchers studying the importance of sociocultural factors stress their significance for mental health care (Stuart, 2013; Bradley, Zittel & Westen, 2005; Grilo et al., 2004). Health patterns vary in different cultures regarding the way in which symptoms will be experienced or expressed; therefore, the ease or difficulty of participating in psychiatric treatment and the ability to achieve recovery may also be determined by sociocultural factors (Stuart, 2013).

Although ethnicity is a cultural characteristic, there may be differences among members of the same ethnic group. Zsembik & Fennell (2005) describe health patterns among Hispanics and state that there are different health advantages, health patterns, and disparities among Cubans, Dominicans, Mexicans, and Puerto Ricans. Nevertheless, findings in studies related to BPD in monolingual Hispanic patients in the United States are similar to findings in other cultural contexts. However, although research suggests that DSM-IV criteria for BPD are similar across cultural contexts, differences by gender in the frequency of specific criteria have been identified (Bradley, Zittel & Westen, 2005; Grilo et al., 2004). These differences were only for affective instability, with this criterion being more frequent in women. According to Grilo et al. (2004), affective instability was the most frequently occurring of the BPD symptoms among Hispanics. Only one other symptom, feelings of emptiness, was found in more than half of the participants in this study (Grilo et al., 2004).

Incidence of BPD in Puerto Rican Women

The Commonwealth of Puerto Rico is facing its worse financial crisis, which affects all aspects of the life of its citizens. Fears of uncertainty are common among local citizens. In response, many Puerto Ricans have migrated to the United States, mainly to Florida. The Census Bureau Report (2013) showed that Puerto Rico's population fell 1.7% in the year ending in June, an acceleration from the 1.6% decline for the year before that one. The island population has decreased steadily by more than 1.1% for five straight years. In 2014, 84,000 people migrated to the United States, and about 20,000 returned, creating a migratory balance of -64,000 (Puerto Rico Statistics Institute, 2015). Social and economic inequalities are considered the cause of many of the crises that the Puerto Rican population is facing. Toro (2008) reports that a factor affecting the social and economic inequality in the Commonwealth of Puerto Rico can be the little social mobility although this can be difficult to document. Moreover, he states that long-standing difficulties in the formulation of a societal consensus around a given political direction may have an association with inequality in Puerto Rico.

It is evident that the crisis faced by the government of the Commonwealth of Puerto Rico has taken its toll on the health care system. In 2005, Puerto Ricans living in the United States and the Commonwealth of Puerto Rico were described as experiencing more health disparities than mainland youth and other Hispanics (Zsembik & Fennell, 2005). Currently, the situation has not changed regarding Puerto Ricans living in the Commonwealth of Puerto Rico. Ramos et al. (2014) point out that social determinants of health must be considered a priority for the reduction of health disparities in the Commonwealth of Puerto Rico.

They state that there is a lack of awareness about social determinants of health such as

poverty, stigma, social support, and social class among Puerto Rican health professionals in the Commonwealth of Puerto Rico. However, this awareness is critical since social inequalities, health disparities, and the uncertainty created by the fiscal crisis are key factors that may be affecting the mental health of the Puerto Rican population. Moreover, in the year 2015, only 10% of government budget was used in mental health services, and 15% went to the state psychiatric hospital (Puerto Rico Statistics Institute, 2015). About 50% of psychiatric patients were living in the municipality of San Juan, the island capital and 52% of patients in mental health programs were women (World Health Organization, 2015; Puerto Rico Statistics Institute, 2015).

Puerto Rican youth report slightly worse physical and psychological health than mainland youth and have high rates of asthma, headaches, and stomachaches. Six in 10 island youth use public health insurance and 1 in 3 regularly receive care at the emergency department (Langellier et al., 2012). The literature points out that a significant number of Puerto Ricans on the island and abroad, have less access to mental health services than do other Americans. Moreover, due to their lower socioeconomic status, Puerto Ricans on the island and abroad are prone to suicide. Furthermore, they are 2 to 3 times more likely to have a mental disorder (Safran et al., 2009).

Although specific studies on BPD in Puerto Rican women were not available, research about suicidal attempts may shed some light about precipitants for extreme emotional behaviors in the Puerto Rican population living in the Commonwealth of Puerto Rico since the inability to deal with stressors, make BPD patients prone to self-damage and suicide. Research about suicidal attempts in Puerto Ricans living in the Commonwealth of Puerto Rico may be helpful to identifying social factors that exacerbate catastrophic behavior. In a study about suicide attempters admitted to an emergency unit in the Commonwealth of Puerto Rico, Quiles, López &

Millán (2006) found that 72.8% of suicidal attempters identified interpersonal challenges as the precipitant.

The problems that exacerbated this behavior were described as fight or rupture with partner and problems with the family or friends. Other precipitants reported by 13.5% of male participants were poor compliance or change of medication, hallucinations, and difficulty coping with medical or psychiatric conditions. Furthermore, female attempters outnumbered men 6 to 1. Other stressors were social roles (occupational and marital), not having a partner, and unemployment. Given the lack of studies about BPD in the Puerto Rican population and specifically on Puerto Rican women living in the Commonwealth of Puerto Rico, it is imperative to conduct research focusing on the association of sociocultural factors with the development of the disorder.

Summary

In this review, social and psychosocial risk factors for the development of BPD have been examined. The review of the literature confirms that psychosocial factors and biological vulnerabilities are predisposing risk factors of BPD. The literature points out that BPD patients have childhood traumatic backgrounds. Furthermore, common risk factors for BPD are related to childhood neglect and abuse by parents and caretakers.

Overall, the literature asserts that the exacerbation of BPD features in young adults and women are related to their inability to face stressful events and feelings typically associated with early adulthood. Research showed that there is a relationship between extreme emotional reactions and dysfunctional lifestyle and low quality of life. Research on BPD features indicates

that there is similarity across cultural contexts. However, some differences in frequency of symptoms are found.

Although there are studies conducted with Hispanics and Puerto Ricans living in the United States, there are no studies with female Puerto Rican BPD patients residing in the Commonwealth of Puerto Rico available. Furthermore, during the past years, the Commonwealth of Puerto Rico has been experiencing difficult socioeconomic situations which may negatively impact the mental health of the Puerto Rican population. Therefore, it is critical to study the exacerbation of BPD traits within the unique cultural and psychosocial context of the Commonwealth of Puerto Rico.

CHAPTER III

THEORETICAL UNDERPINNINGS

Researchers have found that patients with BPD have great difficulties with emotional responses. Thus, they usually fluctuate between inhibiting emotional expression and displaying extreme emotional outbursts (Salsman & Linehan, 2012; Crowell et al., 2009; Paris, 2005; Gunderson, 2011; Verona, Sprague & Javdani, 2012). Several studies state that BPD patients are difficult to treat because they lack emotion regulation skills. Therefore, they present some of the most challenging and troubling problems in psychiatry (Paris, 2005; Psych Central, 2016; Gunderson, 2011). Consequently, individuals with BPD are difficult to keep in therapy; they are challenging, fail to respond, and while in treatment, continue to be at risk for self-harming behaviors and suffering, and they tend to drain the emotional resources of the therapist (Psych Central, 2016).

The Biosocial Model of Borderline Personality Disorder was developed by Marsha Linehan to explain the causes of this disorder and develop an adequate treatment. In conjunction with Crowell and Beauchaine (Crowell et al., 2009), she proposed the formulation of interventions to specifically target the invalidation and negative reinforcement of emotional liability and specifically addresses the need to treat at-risk children. Moreover, Crowell et al. (2009) describe emotion dysregulation as an emotion linked cognitive process that presents facial and muscle reactions, action urges, and emotion-linked actions. Overall, the literature asserts that emotion dysregulation is a very broad concept.

According to Crowell, Beauchaine, and Linehan, the transaction between biological and psychosocial variables across the development are critical contributing factors for the

development of BPD. Based on the developmental psychopathology perspective, Linehan's theory describes transactions as the interaction between vulnerability and learning history to shape and maintain dysregulated emotional, behavioral, interpersonal, and cognitive aspects of "self" that create the "borderline" personality (Crowell et al., 2009). Moreover, they assert that the reactions to emotional situations produced by these transactions result in increased risk for adverse outcomes or longer lasting traits that repeated over time contribute to the emergence of BPD. Crowell, Beauchaine and Linehan propose a biosocial developmental model of BPD that explains the development of this PD as a transaction between biological and psychosocial factors. In summary, they view BPD as an outcome of multiple interacting risk factors, causal events, and dynamic processes involving genetic, neural, behavioral, familial, and social factors.

Transactional Model of BPD

The developmental psychology science asserts that there is an interaction between nature and nurture which presents a critical role in human development. Thus, the transactional model of BPD proposes that these interrelationships affect thought and behavior. In addition, the model states that there is an interaction between the nature of the brain in influencing behavior and behavior influencing brain development (Crowell, Beauchaine & Linehan, 2009). Consequently, vulnerable youth are at increased risk for BPD when reared in invalidating environments characterized by socioeconomic disadvantage, violence, crime, and adverse family contexts. However, research also shows these transactions are also risk factors for other PDs and psychopathology.

Crowell, Beauchaine & Linehan (2009) emphasize that BPD has temperamental and behavioral precursors which emerge at different times over the course of development with

varying levels of predictive specificity. Furthermore, they assert that this process may illustrate biological vulnerabilities affecting the temperament of children, which in turn affects environmental contexts. Consequently, environmental contexts affect children's biological functioning in several of the mood-and-emotion sub-serving systems. Moreover, early vulnerability and learning history interact to shape and maintain dysregulated emotional behavior. Similarly, the interaction between interpersonal and cognitive aspects of "self", create the borderline personality. This interaction is synergistic since each in isolation demonstrates a weak association with PDs.

Crowell, Beauchaine & Linehan (2009) ascribe great importance to the transactions among biological vulnerabilities, child contribution, and caregiver contributions. Moreover, per the developmental model of BPD gene-environment correlations occur as a transaction between children's challenging behavior and ineffective, coercive parenting. They point out that when inherited impulse control deficits meet with environmental reinforcement of emotional liability, the result is an increased risk for psychopathology and heightened emotion dysregulation. Similarly, Gunderson (2011) concluded that environmental factors delimit or exacerbate children's inherited temperament for affective dysregulation, impulsivity, and interpersonal hypersensitivity into adult BPD. Likewise, Briley & Tucker-Drob (2014) state that both genetic and environmental influences on personality, increase in stability with age. Crowell, Beauchaine & Linehan (2009) summarize their model in the following hypotheses:

1. Poor impulse control and emotional sensitivity are early biological vulnerabilities for BPD.
2. Broad emotion dysregulation is fostered and maintained within an invalidating developmental context.

3. Reciprocal transactions between biological vulnerability and environmental risk potentiate emotion dysregulation and lead to more extreme behavioral dyscontrol.
4. There are early behavioral indicators of risk for BPD.
5. Traits and behaviors indicative of BPD emerge sooner than a full diagnosis and may exacerbate risk for BPD via evocative effects on interpersonal relationships with healthy emotional development.

On the other hand, Gill & Warburton (2014) concluded that although both emotional vulnerability and invalidating parenting can independently exert their effects upon borderline traits, the interaction between emotional vulnerability and invalidating parenting is significant but not high.

Biological Factors

Heritable impulsivity is mentioned as a principal vulnerability for BPD by different researchers (Gunderson, 2011; Paris, 2005; Beauchaine, Klein, Crowell, Derbidge & Gatzke-Kopp, 2009, Few et al., 2014; Distel et al., 2009; Amad et al., 2014; Gill & Warburton, 2014). Crowell, Beauchaine & Linehan (2009) propose that heritable traits affect the functioning of early maturing brain regions, thus triggering impulsivity, which may affect neurodevelopment of later maturing brain regions responsible for executive operation and planning. Crowell et al. (2009) point out that the developmental trajectory leading to BPD begins with biologically driven temperamental vulnerabilities. Indeed, their model proposes that traits of affective instability and impulsivity account for most of the heritability of BPD. They theorize that the development of BPD is similar to the development of antisocial personality disorder, both

characterized by a pattern of heterotypic continuity described as early predisposing traits rather than specific symptoms.

Similarly, Gunderson (2011) refers to inborn factors as "level of heritability" and points out that it is estimated to be 52% to 68%. On the other hand, Amad et al. (2014) concluded that genetic vulnerability for BPD is approximately 40%. Likewise, other researchers assert that there is a genetic vulnerability for BPD (Paris, 2015; Distel et al., 2009; Few et al., 2014). Crowell, Beauchaine & Linehan's developmental model of BPD, states that many biological correlates of BPD are similar to those observed across impulse control disorders such as ADHD, substance use disorder, antisocial personality disorder, and conduct disorder. Similarly, other researchers propose that these vulnerabilities indicate risk for different overlapping psychosocial conditions (Beauchaine et al., 2009, Few et al., 2014).

Moreover, the Biosocial Model of BPD explains that some high-risk genes confer differential vulnerability to aggression in boys and self-injury and mood dysregulation in girls. Furthermore, the model proposes that MOA polymorphisms may confer vulnerability for mental diseases and affect males and females differently, predisposing externalizing behaviors among men and internalizing behaviors among women. Consistent with the developmental approach, behavioral genetics and family history are considered a reliable component of BPD. In the Biosocial Model of BPD, biologically driven vulnerabilities are described as follows:

- Genetic influences - 5-HT (serotonin s/s polymorphemes), TPH-I gene, 5-HT receptor genes, and DAT-I
- Abnormalities of brain systems (5-HT, dopamine, and hypothalamic –pituitary-adrenal axis)
- Front-limb dysfunction, low respiratory sinus arrhythmia

Likewise, Gunderson (2011) emphasizes that some BPD-specific disposition is inherited and glues together phenotypes for affective dysregulation, impulsivity, and interpersonal hypersensitivity.

The Biosocial Model of BPD explains that extreme impulsivity is primarily seen as the beginning of difficulties leading to behavioral and emotional dysregulation later, which is considered as a predisposition to BPD (Crowell, Beauchaine & Linehan, 2009; Beauchaine et al., 2009; Distel et al., 2009; ** Paris, 2005; Gunderson, 2011). According to Crowell, Beauchaine & Linehan (2009), temperamental differences observed early in childhood are closely related to adult personality patterns and psychopathology. Although PD traits in childhood may be precursors of mental health disorders, age specific manifestations are unclear. However, disruptive behaviors in childhood ADHD, oppositional defiant behavior, conduct disorder, childhood anxiety disorders, and childhood depression may be precursors of PDs (Beauchaine et al., 2009). These researchers state that PD traits can be identified and are common in adolescence. Furthermore, they explain that these traits may be precursors of Axis I psychopathology and Axis I disorders.

Sociocultural Factors

The Biosocial Model of BPD also emphasizes the importance of environmental risk factors in the development of, delinquency, and criminality. For example, impulsive children reared in neighborhoods characterized by socioeconomic disadvantage, violence, and crime, have a higher risk for delinquency than their peers. Moreover, they propose that when coercive and invalidating family processes become operative in childhood, family interaction patterns arise and negatively reinforce emotional-liability, aggression, and interpersonal violence.

Crowell et al. (2009) hypothesize that in adolescence, these children may develop peer group affiliations in which boys on an antisocial trajectory learn delinquent behavior from their friends and girls on a borderline trajectory learn self-injurious behaviors from their friends. Nevertheless, Paris (2005) asserts that social factors in BPD are suggested by indirect evidence although characteristic symptoms of BPD are less common in traditional societies in which there is little change from one generation to the next.

Crowell et al. (2009) concluded that children subject to negative environment reinforcers, such as poor quality of care, disrupted attachments, abuse, and neglect, and who also present impulsive traits, develop automated response patterns of emotional dysregulation. Similarly, Gunderson (2011) states that about 70% of people with BPD report a history of physical and or sexual abuse, and approximately 30% have experienced early parental loss or prolonged separation from their parents which may contribute to fears of abandonment, characteristic of BPD patients. According to Gunderson (2011), sexual or other abuse can be the "ultimate" invalidating environment, but when the caretaker is the abuser, the child may need to engage in splitting (denying feelings of hatred and repulsion to preserve the idea of being loved). Similarly, Gunderson concluded that childhood traumas might contribute to BPD symptoms such as alienation, desperate search for protective relationships, and an eruption of intense feelings.

Research on the cultural correlates of BPD is scarce. Consequently, the impact of culture, race, ethnicity, neighborhood and socioeconomic status on BPD have not received much attention by researchers although there is a difference in the prevalence of BPD across different racial-ethnic and socioeconomic groups (Zsembik & Fennell, 2005). Crowell et al. (2009) point out that even when BPD has roughly the same prevalence and shows similar rates of heritability

cross-culturally, research is needed to determine how specific cultural experiences may serve as protective risk factors for the development of BPD.

Dialectical Behavior Therapy

Dialectical Behavior Therapy (DBT) is a treatment developed by Marsha Linehan for borderline personality disorder based on the Biosocial Model of BPD. It is an out-patient treatment with a one-year duration although patients can stay in therapy for longer. DBT has its roots in dialectics which focuses on the process of arriving at the truth by stating a thesis. First, a synthesis is sought between the two extremes, embodying the valuable features of each position, and resolving any contradictions within the two. Then, synthesis acts as the thesis for the next cycle. Later, truths emerge as a process which turns into transactions between people, and finally, truth is approached midway between extremes. Dialectics is rooted in the concept that everything is composed of opposites and that change occurs when one opposing force is stronger than the other i. e. thesis, antithesis, and synthesis (Psych Central, 2016).

DBT is described as an elaborate effective treatment (Palmer, 2002). It is a type of cognitive behavioral therapy; therefore, the primary goal is to teach the patient the necessary skills to cope with stress, regulate emotions, improve relationships with others, and deter self-invalidation and extreme rigid thinking. Patients learn new behaviors to enhance their lives. Linehan firmly believes that BPD patients can learn to overcome their chaotic emotional regulation system employing an intense treatment that includes individual therapy, group skills training, telephone contact, and therapist consultation. DBT is considered an effective approach to help BPD patients change their self-destructive behavior and deteriorated lifestyle. Despite

being an extremely severe mental condition, Marsha Linehan believes in the possibility of successful BPD treatment.

Summary

The Biosocial Model of BPD explains the cause, development, and treatment for BPD, a disorder characterized by emotion dysregulation and chaotic patient lifestyle. The literature asserts that these individuals present a high risk for self-harming and unfortunately are tough to keep in therapy. Also, they may pose a challenge to the emotional resources of the therapist. This model proposes that BPD results from the transactions among multiple interacting risk factors, causal events, and dynamic processes involving genetic, neural, behavioral, familial, and social factors. It is a transactional model that elucidates a close relationship between predisposing biological vulnerabilities and environmental risk factors.

Heritability accounts for inherent vulnerabilities that are predisposing factors for the development of BPD. The model proposes that affective instability and impulsivity are the most prominent heritable traits leading to the development of PD. These traits may be present in infancy and identified as early precursors of psychopathology in general. Other researchers have validated this assumption, as well. For instance, noted biological vulnerabilities are described as the onset of BPD.

According to the Biosocial Model of BPD, there exists a number of sociocultural factors that potentiate the development of BPD in vulnerable children. Some of these are invalidating family processes that reinforce intense emotional displays, physical abuse sexual abuse, neglect, parental loss or separation from parents, socio-economic disadvantage, and violence. The interaction of childhood traumatic experiences and biological vulnerabilities produce the BPD

personality. To treat these patients successfully, Marsha Linehan developed the Dialectical Behavior Therapy based on the Biosocial Model of BPD. It is an intense cognitive behavioral therapy that teaches patients new behaviors and thinking processes to change emotion dysregulation patterns and self-destructive lifestyle reinforcers.

CHAPTER IV

METHOD

Study Purpose

The purpose of this study is to identify the social factors that exacerbate Borderline Personality Disorder (BPD) in females ages 25 and 35 years old, living in Puerto Rico.

Study Aims

1. To establish the reliability of an investigator developed chart review tool designed to retrospectively collect relevant medical record data regarding social factors that exacerbate BPD.
2. To identify the social factors associated with an exacerbation of BPD requiring hospitalization in females ages 25 and 35 years old, living in Puerto Rico.

Design

The study design was a medical record review using an investigator-developed chart review tool. This technique was used to count and rank the social factors that exacerbate BPD in the sample. Hospital medical records provided a rich data source for description of BPD female patients and social factors that exacerbate features of the disorder.

Setting

The study took place at a regional hospital in a large metropolitan city in Puerto Rico that provides mental health care services to patients. The chart abstraction process was carried out in the Information Management Department (IMD). The IMD director arranged for the charts to be available to the researcher and trained research assistants.

Sample

The sample for this study consisted of 50 medical records of patients meeting the following inclusion criteria: 1) female, 2) hospital admission with a diagnosis of BPD, 3) age 25 to 35 at time of hospital entry, 4) BPD diagnosis prior or on the date of hospital admission, 5) BPD diagnosis included either the administration of McLean Screening Instrument for BPD (MSI-BPD) or the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II), 6) the client chart is available, and 7) the client chart includes a signed data release form.

Instrument

The investigator developed a chart review sheet (CR) as the tool to extract pertinent data from the medical records (See Appendix A). The medical record consisted of clinician notes, including ambulatory and emergency room reports, laboratory and diagnostic testing reports, admission and discharge documentation, and additional pertinent client documentation.

The CR tool consists of 31 social factors known to exacerbate BPD in various groups of patients. These factors were obtained from the BPD profiles developed by the experts Gunderson (2011), and Linehan (1993). Items were scored as "1" for present and "0" if either absent, or not applicable. The tool also includes pertinent client demographic information and has a place for narrative assessment remarks. The type of narrative data annotated by the researcher during the assessment was anything she believed pertinent/noteworthy to establish some deviation or pattern different from what is known in the general population. This instrument had no client identifiers and was coded by number.

Protection of Human Subjects

To assure confidentiality and privacy of participants, client names were not included on the data collection tool and numerical identifiers were assigned to the medical record. Standards in participant protection were maintained through the following measures: information collected is confidential and applied only to the specified research purposes, hospital records were kept in the designated hospital location, and participant identifiers are not linked to collected data.

The study was reviewed and approved by the University of Massachusetts Institutional Review Board and the appropriate hospital administrators prior to the start of the study.

Data collection process

Medical records of patients who met the study inclusion criteria were made available to the researcher by the director of the Information Management Department. The charts were then reviewed by the researcher and her assistants. As anticipated, the reviews took from 2 to 4 hours per chart. Fifty records were evaluated. These were about 10% of the BPD population receiving treatment in the institution under study.

Specific Aim 1. To establish the reliability of an investigator developed chart review tool designed to retrospectively collect relevant medical record data regarding social factors that exacerbate BPD.

The reliability of the CR tool was established prior to it being used in the study. The researcher tested the reliability of the tool using the interrater method with two research assistants. The sample selected for establishing reliability was not part of the final study sample. Each research assistant independently completed two chart review sheets and then the researcher

completed reviews on the same four charts. A percent agreement of 90% or greater was considered acceptable. The reliability of the tool using the interrater method and percent agreement was determined to be 95%.

Specific Aim 2. To identify the social factors associated with an exacerbation of BPD requiring hospitalization in females ages 25 and 35 years old, living in Puerto Rico.

Descriptive statistics were used to determine the frequency with which each social factor was present in the study participants. This data was used to rank the most significant social factors that exacerbate BPD features in young Puerto Rican women.

CHAPTER V

RESULTS

Introduction

The purpose of the study was to examine the social factors that exacerbate Borderline Personality Disorder (BPD) in the female population between 25 and 35 years of age living in the metropolitan area of the Commonwealth of Puerto Rico. Based on Crowell, Beauchaine & Linehan's Biosocial Model for BPD, attention was given to psychological, biological, and environmental risk factors that contribute to the exacerbation of this disorder. A chart review tool was used to register demographic and background information obtained from the 50 medical records of female patients aged 25 to 35 at the time of hospital admission with a diagnosis of BPD, which comprises the sample of the study.

This chapter is organized into the following sections: (1) results of interrater agreement, (2) sociodemographic profile, (3) medical conditions and mental illness, (4) alcohol or drug use, (5) results regarding the research questions, and (6) a summary of the findings.

Results of Interrater Agreement

Percent agreement among raters was used to establish the reliability of the chart review sheet (CR) developed by the researcher to extract pertinent information. The tool was assessed by three reviewers in the pilot phase to measure reliability prior to the start of the study. Each rater reviewed 5 charts using the chart review sheet (CR). Each judge reviewed the same 5 medical charts under the supervision of the researcher. Since the study is about a mental health condition, the expected agreement of judges was determined to be of 90% or more in order to be

considered reliable. Table I shows the researcher's guidelines to align the findings according to Polit & Beck's (2006) formula. The TIR if all agree is 1 (100%), and if all disagree is 0 (0%). The results are shown on table 2.

Table 1

General Guidelines for percent value of agreement

% Value	Interpretation
90% and up	excellent
80 – 89%	good
70 – 79%	adequate
below 70%	may have limited applicability

Reference: U.S. Department of Labor Employment and Training Administration. (1999). Chapter 3: Understanding Test Quality-Concepts of Reliability and Validity. Retrieved to https://www.hr-guide.com/Testing_and_Assessment/Reliability_and_Validity.htm

Table 2

Percent agreement

No. record	Judge 1	Judge 2	Agreement
1	31*	31	1
2	30	20	0
3	31	31	1
4	31	31	1
5	31	31	1
6	31	31	1
7	31	31	1
8	31	31	1
9	31	31	1

10	31	31	1 9/10= 90%

Legend: * = social factors listed of tool review

The results show a percent agreement of 90%, which is considered acceptable.

Sociodemographic Profile

The age of the patients ranged from 25 to 35 years, with a mean age of 29. Their age of onset of the BPD ranged between 8 and 20 years with a mean of 14 years. Forty-four percent of the females were diagnosed before age of 13. Sociodemographic data was unavailable for one patient. (See Table 1)

Table 1

Distribution of BPD female patients by age of onset of the BPD condition

Age of onset of condition	Frequency $\sum$ **f**	Percentage **%**
12 years or less	22	44
13 to 16 years	16	32
17 to 20 years	11	22
Data not on record	1	2
Total	50	100

All five regions of Puerto Rico were represented in the sample, as displayed in Table 2. Thirty-four percent of patients lived in municipalities designated as a metropolitan region. Twelve women lived in the Eastern region of Puerto Rico (24%), eleven in the North (22%), 8% in the West (n = 4), and 6% in the South region (n = 3). The records of three female patients (6%) indicated they lived at foster homes certified by the Department of Family Affairs. In two of these three cases the patients had been placed in more than 30 homes.

Table 2

Distribution of BPD female patients by region of place lived most of life

Region	Frequency ∑ **f**	Percentage **%**
Metro	17	34
East	12	24
North	11	22
West	4	8
South	3	6
Department of Family	3	6
Total	50	100

Note. Appendix B provides details of the distribution by municipalities of the Commonwealth of Puerto Rico.

With respect to level of education, 44% of the women (*n* = 22) completed grades 10 through 12, which corresponds to the high school level. Three patients (6%) completed an elementary-middle school grade and three others (6%) attended college for two or three years. Data on educational attainment was not available for 22 cases (44%), as presented in Table 3.

Table 3

Distribution of BPD female patients by highest level of education achieved

Level of education	Frequency ∑ **f**	Percentage **%**
6th	1	2
8th	2	4
10th	1	2
11th	5	10
12th	16	32
2 or 3 years of college	3	6
Data not on record	22	44
Total	50	100

Medical Conditions and Mental Illness

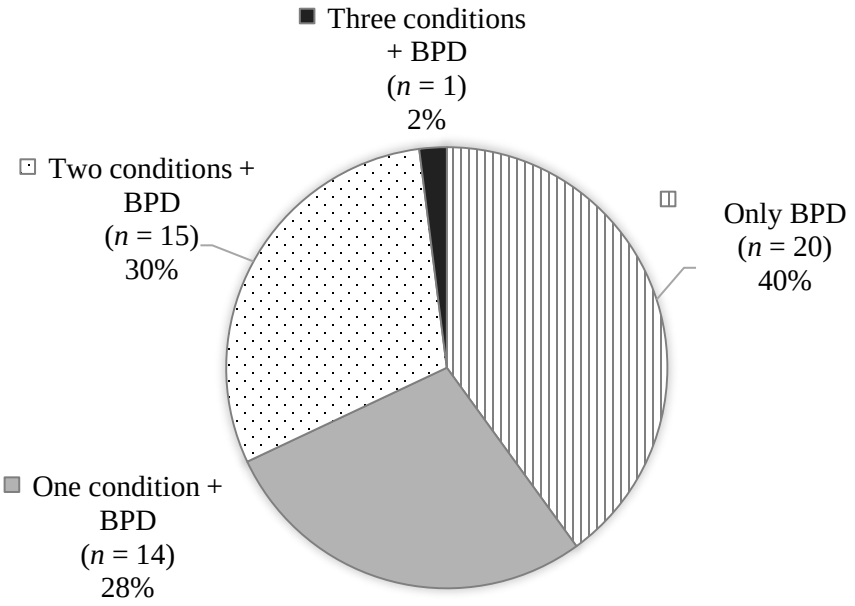
Medical conditions, mental health of the patients and details of their family history of mental illness are described in this section.

BPD females' medical and mental conditions

Patients in the study had a variety of additional medical and mental health conditions. Most of the patients had BPD and one (28%) or two (30%) additional conditions. One patient (2%) had three conditions in addition to BPD. In 20 of the 50 cases (40%) the only diagnosis noted was BPD. Figure 1 presents the distribution by number of medical and/or mental conditions.

Figure 1

Distribution of BPD female patients by number of medical and mental conditions



In addition to BPD, many patients had other medical or mental health disorders. Approximately one-third of the sample (n = 17, 34%) was diagnosed with both BPD and bipolar disorder. Seven females (14%) had a diagnosis of BPD and schizoaffective disorder. The patient with the greatest number of additional conditions had both intellectual disability and schizoaffective disorder and was HIV positive. Four more cases of HIV+ were reported in the sample. Table 4 includes the complete list of medical and mental conditions of BPD females in the study.

Table 4

Distribution of BPD female patients by their medical and mental conditions

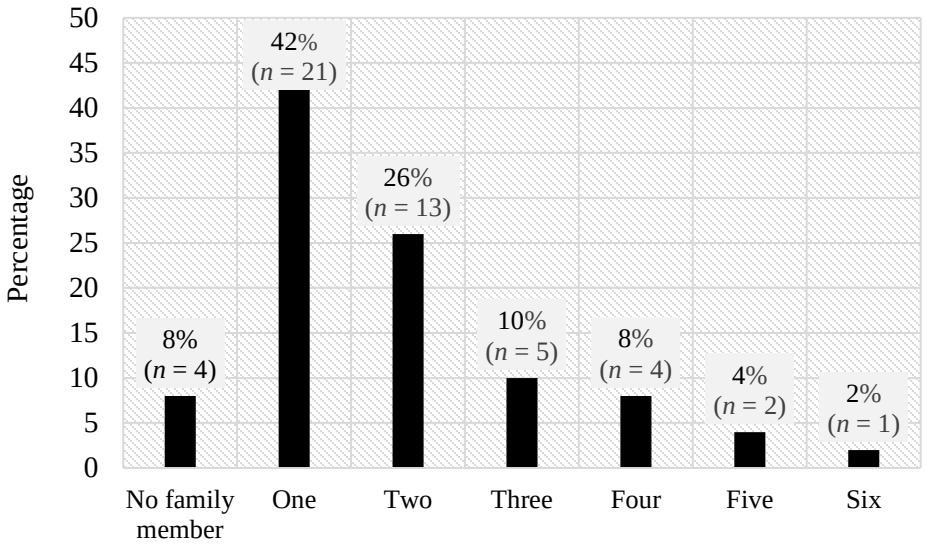
Condition	Frequency ∑ **f**	Percentage **%**
Bipolar disorder	17	34
Schizoaffective disorder	7	14
Human immunodeficiency virus (HIV+)	5	10
Antisocial behavior	4	8
Intermittent explosive disorder	4	8
Major depression	3	6
Intellectual disability	2	4
Psychosis	2	4
Hypothyroidism	2	4
Attention-Deficit/Hyperactivity disorder (ADHD)	1	2

Family History of Mental Illness

One of the variables explored in the study was the family history of mental illness. As seen in Figure 2, many patients had one (42%) or two (26%) family members with mental health conditions. In one case (2%) six family members had a mental illness. In four cases (8%) there were no family members with a mental disorder or condition.

Figure 2

Distribution of BPD female patients by number of family members with mental illness



In many cases, a close family member had a mental illness, such as their mother (*n* = 36, 72%) or father (*n* = 20, 40%). Data presented in Table 5, also reflects that a higher proportion of female figures of the immediate and extended family of the BPD sample were diagnosed with mental health conditions. In addition to mothers, results revealed a history of mental illness of grandmothers (24%), sisters (24%) and aunts (8%). Family member mental health disorders included depression, schizophrenia, bipolarity, antisocial personality, and addictive behaviors.

Table 5

Distribution of BPD female patients by family members with mental illness

Family member	Frequency	Percentage
Mother	36	72
Father	20	40
Grandmother(s)	12	24
Sister(s)	12	24
Brother(s)	7	14
Aunt	4	8
Grandfather(s)	2	4

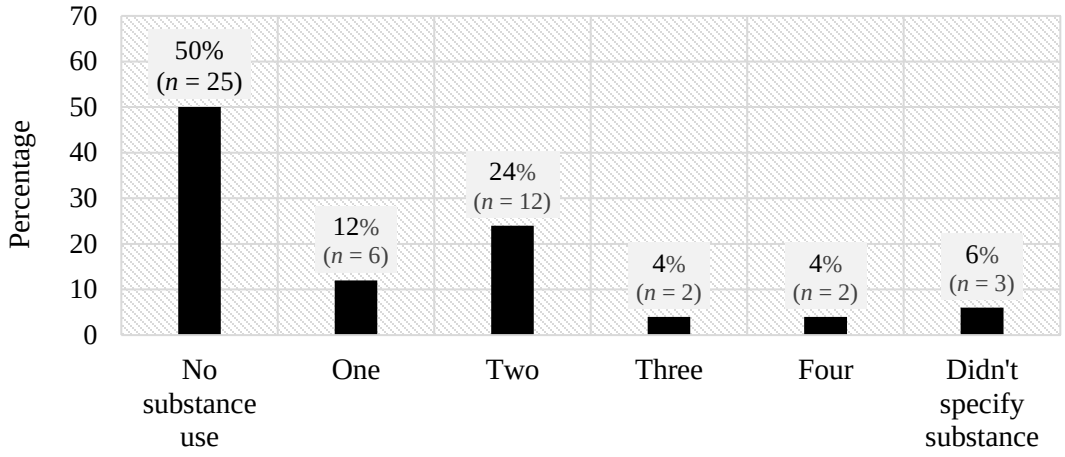
Note. Percentages were calculated by dividing each frequency by the number of sampled cases (50).

Alcohol or Drug Use

Substance use disorders in female patients with BPD was an additional variable examined in the study. Twenty-five cases of the sampled group of females with BPD (50%) were engaged in alcohol or drug use. The summary data of the number of substances used by these patients are displayed in Figure 3. Six cases (12%) reported the use of one substance, while 16 patients (32%) reported using two or more substances. Three females used drugs, but information of the specific substances consumed by them was not available.

Figure 3

Distribution of BPD female patients by number of substances used



In terms of the specific drugs used, Table 6 contains frequencies and percentages of responses collected. The common substance of abuse in the sample was cocaine (n = 14, 28%). Notable percentages of BPD females were alcohol (18%), crack (18%) or cannabis (16%) consumers. If percentages are calculated based on the 25 cases reporting alcohol or drug use, the results are: cocaine 56%, alcohol 36%, crack 36%, and cannabis 32%. Cocaine and cannabis consumption with alcohol or crack was the combination of abuse of BPD females that ingested three or four drugs. The substances least consumed by BPD females in the sample were: benzodiazepines (n = 2) and heroine (n = 1).

Table 6

Distribution of BPD female patients by substance used

Substance	Frequency	Percentage
Cocaine	14	28
Alcohol	9	18
Crack	9	18
Cannabis	8	16
Benzodiazepines	2	4
Heroine	1	2

Note. Percentages were calculated by dividing each frequency by the number of sampled cases (50).

Results by Research Questions

Three research questions were posed in this study. In this section, results are reported for each question.

Research Question 1

What social factors exacerbate features of Borderline Personality Disorder in the female population?

The social factors identified with the exacerbation of BPD included alcohol or drug use (*n* = 25, 50%); being a victim of a violent act (*n* = 24, 48%); and economic crisis (*n* = 20, 40%). Additional social factors included parents with poor parenting skills (*n* = 17, 34%) and girlfriend or boyfriend problems (*n* = 14, 28%). Approximately one-fourth of the sample identified major change in eating (*n* = 13, 26%) and sleeping (*n* = 12, 24%) habits. Infidelity and loss of a job were reported in 11 cases (22%).

Table 7

Social factors that exacerbate features of Borderline Personality Disorder more present in BPD female patients

Social factors	Frequency		Percentage	
	Present	Absent	Present	Absent
Alcohol or drug use	25	25	50	50
Being a victim of a violent act	24	26	48	52
Economic crisis	20	30	40	60
Parents with poor parenting skills	17	33	34	66
Girlfriend or boyfriend problems	14	36	28	72
Major change in eating habits	13	37	26	74
Major change in sleeping habits	12	38	24	76
Infidelity	11	39	22	78
Loss of a job	11	39	22	78

Social factors with the lowest percentages (Table 8) included: lived through a lot of arguments or repeated breakups (n = 7), loss or damage of property (n = 6) and lived in an area of high violence (n = 6). Two additional factors were mentioned by five cases each. These were: being accused of a violent act (10%), and legal troubles resulting in arrest or jail (10%). Other violence risk factors were alluded in the medical records, in particular: lived with sibling violence (n = 2, 4%); and violence in school or bullied (n = 2, 4%).

Table 8

Social factors that exacerbate features of Borderline Personality Disorder least present in BPD female patients

Social factors	Frequency		Percentage	
	Present	Absent	Present	Absent
Lived through a lot of arguments or repeated breakups	7	43	14	86
Loss or damage of property	6	44	12	88
Lived in an area of high violence	6	44	12	88
Miscarriage or abortion	5	45	10	90
Being accused of a violent act	5	45	10	90
Legal troubles resulting in arrest or jail	5	45	10	90
Parents used drugs or alcohol	4	46	8	92
Death of parent	3	47	6	94
Separation or divorce of parents due to conflict	2	48	4	96
Lived with sibling violence	2	48	4	96
Violence in school or bullied	2	48	4	96
A loved one committed suicide	2	48	4	96
Major personal illness or injury	1	49	2	98
Pregnancy	1	49	2	98
Change residence within the same town or city	1	49	2	98
Death of a child	1	49	2	98
Change in religion beliefs	1	49	2	98
Abandonment of either parent or significance care giver	1	49	2	98
Other factors:				
Children removed from home by court	1	49	2	98
Stress due to university	1	49	2	98

Factors associated with parental relations or actions included: parents used drugs or alcohol (*n* = 4, 8%); death of parents (*n* = 3, 6%); separation or divorce of parents, due to conflict (*n* = 2, 4%); and abandonment of either parent or significant caregiver (*n* = 1, 2%). Other factors included in this list were associated with: miscarriage or abortion (*n* = 5, 10%); pregnancy (*n* = 1, 2%); and death of a child (*n* = 1, 2%). One case expressed that a social factor that exacerbate its BPD condition was change in religious beliefs. She changed from being catholic to a non-believer (atheism). Another case mentioned the change in residence within the same town or city. Two social factors not included in the chart but registered in the medical records were: children removed from home by court (*n* = 1, 2%); and stress due to university (*n* = 1, 2%).

In no cases were a major change in usual type and/or amount of recreation, loss of family member, lost a pet and witness of violence to either parent identified as factors that exacerbated BPD.

Research Question 2

Did participants experience any form of childhood trauma, such as: family violence, neglect, disease, verbal assaults, rejection, and emotional or physical abuse?

A large number of patients had experienced a sexual abuse trauma (*n* = 21, 42%). Specifically, they were raped or sexually abused by: their stepfather (*n* = 7, 14%); father (*n* = 6, 12%); uncle (*n* = 3, 6%); grandfather (*n* = 1, 2%); brother (*n* = 1, 2%) or an unknown person (*n* = 1, 2%). Two cases were sexually molested by a sister (4%). Emotional or physical abuse were described as traumas and BPD triggers of nine cases (18%). The sum of these percentages revealed that 60% of the sample had experienced childhood abuse (sexual, emotional or physical).

Six females (12%) suffered feelings of grief or separation due to death of a family member (grandparent, father, brother or aborted baby), change of residence or children placed in the custody of the Department of Family Affairs. Other family related traumas reported were: parents' divorce (*n* = 5, 10%); a family member mental disease (*n* = 3, 6%); family violence (*n* = 2, 4%); feelings of rejection due abandonment by the mother (*n* = 1, 2%). In two cases the BPD trigger was identified as drug use (4%). The information regarding childhood trauma was not available for one patient.

Table 9

Childhood and adolescence traumas experienced by BPD female patients

Form of trauma	Frequency	Percentage
Sexual abuse	21	42
Emotional or physical abuse	9	18
Feelings of grief or separation	6	12
Trauma of divorce	5	10
Family mental disease	3	6
Family violence	2	4
Drug consumption	2	4
Rejection	1	2
Data not on record	1	2
Total	50	100

Note. Appendix C provides details of the distribution by childhood-adolescence experience and form of trauma.

Research Question 3

What are the social factors that contribute to suicidal tendency among the female BPD population?

A total of nine of the 50 cases (18%) were associated with suicide attempts (*n* = 5) and self-mutilation (*n* = 4). More than one-third of the nine cases with suicidal and self-injurious

tendencies had one or a combination of the following social factors: being a victim of a violent act (44%), economic crisis (44%), parents with poor parenting skills (44%), major change in eating habits (33%), infidelity (33%), and loss of a job (33%).

Table 10

Social factors that exacerbate features of BPD among female patients with suicidal and self-mutilation tendency

Social factors	Suicide attempts		Self-mutilation		Total	
	f	%	f	%	f	%
Being a victim of a violent act	1	20	3	75	4	44
Economic crisis	3	60	1	25	4	44
Parents with poor parenting skills	0	0	4	100	4	44
Major change in eating habits	2	40	1	25	3	33
Infidelity	2	40	1	25	3	33
Loss of a job	2	40	1	25	3	33
Major change in sleeping habits	2	40	0	0	2	22
Alcohol or drug use	0	0	2	50	2	22
Loss or damage of property	2	40	0	0	2	22
Major personal illness or injury	1	20	0	0	1	11
Separation or divorce of parents due to conflict	1	20	0	0	1	11
Death of parent	1	20	0	0	1	11
Change in religious beliefs	1	20	0	0	1	11
Being accused of a violent act	0	0	1	25	1	11
Legal troubles resulting in arrest or jail	0	0	1	25	1	11
Lived in an area of high violence	0	0	1	25	1	11
Violence in school or bullied	1	20	0	0	1	11
Parents used drugs or alcohol	0	0	1	25	1	11
Children removed from home by court	1	20	0	0	1	11

In the five cases of BPD females who attempted suicide, the social factor with the highest percentage was economic crisis (n = 4, 60%). Other factors pointed out by this group with

suicidal tendency were: major change in eating habits, infidelity, loss of a job, major change in sleeping habits and loss or damage of property. Each of these factors grouped 40% of cases. Otherwise, the social factors with the highest percentages in the group of four females with self-mutilation behavior were: parents with poor parenting skills (100%), being a victim of a violent act (75%), and alcohol or drug use (50%).

Childhood and adolescence trauma experienced by the nine BPD females with suicidal and self-injurious tendency was also examined to address this last research question. The summary data presented in Table 11 revealed that six of these females (66%) faced rape or sexual abuse by their stepfather. In the case of the five females who attempted suicide, three experienced sexual abuse by stepfather, one was bullied at school and another suffered the loss of her grandparents in an accident. In contrast, the reports of the four females that exhibit self-mutilating behavior indicates that three of them were raped by stepfather and one faced physical abuse from mother. In summary, females with suicidal or self-mutilation tendency experienced childhood abuse in the form of sexual, emotional or physical mistreatment.

Table 11

Childhood and adolescence traumas experienced by female patients with suicidal and self-mutilation tendency

Form of trauma	Suicide attempts		Self-mutilation		Total	
	f	%	f	%	f	%
Sexual abuse						
Raped by stepfather	1	20	3	75	4	44
Sexual abuse by stepfather	2	40	0	0	2	22
Emotional or physical abuse						
Physical abuse from mother	0	0	1	25	1	11
Bullied at school	1	20	0	0	1	11
Feelings of grief or separation						
Loss of grandparents in an accident	1	20	0	0	1	11

Summary of Findings

This study aimed to identify the social factors associated with an exacerbation of BPD in young adult women living in the Commonwealth of Puerto Rico. The main social factors that exacerbated BPD in the sample, as examined by Research Question 1, were: alcohol or drug use (50%), being a victim of a violent act (48%), and economic crisis (40%). Parents with poor parenting skills, girlfriend or boyfriend problems, major change in eating or sleeping, infidelity and loss of a job were also associated with the exacerbation of BPD condition in young women. In no cases, a major change in usual type and/or amount of recreation, loss of family member, lost a pet or witness of violence to either parent were identified as factors that exacerbated BPD.

In relation to Research Question 2, the results show that participants experienced childhood trauma in diverse forms. Most of the patients (42%) experienced a sexual abuse trauma, characterized by being raped or sexually abused by their stepfather, father, uncle, grandfather, brother or an unknown person Emotional or physical abuse (18%) was also reported as childhood trauma and BPD triggers. In sum, 60% of the sample had experienced childhood abuse (sexual, emotional or physical). Other traumas reported were: feelings of grief or separation (12%), trauma of divorce (10%), family mental disease (6%), family violence (4%), drug consumption (4%), and rejection due to being abandoned by the mother (2%).

Finally, in relation to Research Question 3, nine of the 50 cases (18%) were associated with suicide attempts (n = 5) and self-mutilation (n = 4). The social factors that contribute to suicidal tendency among this group of BPD were: being a victim of a violent act (44%), economic crisis (44%), parents with poor parenting skills (44%), major change in eating habits (33%), infidelity (33%), and loss of a job (33%). The social factor with the highest percentage in the group that attempted suicide was economic crisis (60%), followed by: major change in eating habits, infidelity, loss of a job, major change in sleeping habits and loss or damage of property. This group experienced childhood trauma in the form of sexual abuse by stepfather (n = 3), bullied at school (n = 1) and loss of grandparents in an accident (n = 1). Analysis revealed that the social factors with the highest percentages in the group with self-mutilation behavior were: parents with poor parenting skills (100%), being a victim of a violent act (75%), and alcohol or drug use (50%). The childhood trauma experienced by the group with self-mutilating behavior were: sexual abuse in the form of being raped by stepfather (n = 3) and physical abuse from mother (n = 1). Sexual, emotional and physical abuse characterized childhood trauma of females with suicidal or self-mutilation tendency.

Next, on Chapter VI, the discussion of the results and conclusions of the study are presented. A list of recommendations was developed, with emphasis in mental health intervention, nursing care and future research.

CHAPTER VI

DISCUSSION AND CONCLUSIONS

Introduction

This chapter provides a brief overview of the study and a discussion that relates the findings to prior research concerning BPD. Conclusions drawn are also part of this exposition and recommendations are made for future lines of research. The purpose of this quantitative study based on content analysis was to examine the social factors that exacerbate Borderline Personality Disorder (BPD) in the female population between 25 and 35 years of age, living in the metropolitan area of the Commonwealth of Puerto Rico. Psychological, biological, and environmental risk factors that contribute to the development of this disorder were examined based on Crowell, Beauchaine & Linehan's Biosocial Model for BPD (Crowell et al., 2009). A chart review tool was designed to collect information from the medical records of 50 female patients aged 25 to 35 with a diagnosis of BPD.

The two main aims of study were: 1) to establish the reliability of an investigator developed chart review tool designed to retrospectively collect relevant medical record data regarding social factors that exacerbate BPD; and 2) to identify the social factors associated with an exacerbation of BPD requiring hospitalization in females between 25 and 35 years of age, living in Puerto Rico. This second aim was addressed by three research questions which related to: 1) social factors that exacerbate features of BPD in females, 2) childhood trauma experience, and 3) social factors that contribute to suicidal tendency among BPD females. Results from this study have implications for mental health intervention, nursing practice and represent a

contribution to knowledge on BPD, particularly concerning studies with females and in the Puerto Rican context.

Discussion of Results

The age of onset of the BPD disorder in the sample of 50 young adult women ranged between 8 and 20 years, with a mean age of 14. This finding differs from the *Diagnostic and Statistical Manual* (2013), which states that BPD begins in early adulthood when BPD patients struggle to face life responsibilities and cope with stressors (Quiles, López & Millán, 2006; Skodol & Bender, 2003). In this study it was found that the highest percentage of females with BPD lived most of their life in the San Juan metropolitan region. This result is similar to data stating that about 50% of psychiatric patients were living in the municipality of San Juan, the island capital, and 52% of patients in mental health programs were women (World Health Organization, 2015; Puerto Rico Statistics Institute, 2015). The sociodemographic profile of the women was characterized by a high school grade as their level of education and they had one or two additional mental health disorders. Bipolarity and schizoaffective disorder were the conditions more reported. This finding is consistent with Grilo et al. (2004) statement that affective instability was the most frequently occurring of the BPD symptoms among Hispanics.

Specific Aim 1

The first aim of the study was to develop a reliable tool to collect medical record data regarding social factors that exacerbate BPD. It was established that the tool contained an exhaustive list which is supported by the literature reviewed and previous studies on BPD. The reliability of the tool using the interrater method and percent agreement was determined to be

95% which is higher than the 90% or greater stated as acceptable (McHugh, 2012).

Specific Aim 2

Descriptive statistics based on frequency and percentage distributions were used to identify social factors associated with an exacerbation of BPD requiring hospitalization in females between 25 and 35 years old, living in Puerto Rico. The social factors that exacerbate BPD disorder, childhood trauma experience and factors that contribute to suicidal tendency in the female sample were ranked from the highest to lowest percentage. The discussion of results is provided below based on the three questions that guided the research.

Research Question 1: Social factors that exacerbate features of BPD in females

As recognized by Crowell, Beauchaine & Linehan (2009), the present study sustains that BPD is an outcome of multiple interacting risk factors, causal events, and dynamic processes involving genetic, neural, behavioral, familial, and social factors. The most frequent factor that exacerbates features of BPD in young adult females was found to be alcohol or drug use. This finding validates the report by Pizzarello & Taylor (2011), who stated that social factors that exacerbate BPD include alcohol and drug abuse among family members and the patients themselves. It is also consistent with Gunderson (2011) and Barazandeh et al. (2016) who reported that the misuse of alcohol or drugs is an exacerbating factor in BPD.

Being a victim of a violent act also ranked high as a social factor that produces exacerbation of BPD disorder in the sampled group of females. This finding is consistent with literature which states that patients suffering from BPD report emotional pain interpreted as an

adaptive response to traumatic experiences such as witnessed violence, emotional, physical and sexual abuse (Holm & Severinsson, 2008; Zanarini et al., 1997).

The majority of the violent acts cited in the medical records were rape and sexual abuse primarily by close family members. This is similar to studies that demonstrated an association between risk factors and experiences of abuse and unstable family relationship (Crowell et al., 2009; Zanarini et al., 2003).

Economic crisis also emerged as a risk factor experienced by the BPD females in the sample and is consistent with literature concerning sociocultural correlates of BPD. Socioeconomic status is one of the environmental influences on the development of BPD and is considered an area that has received relatively little research attention, as stated by Crowell et al. (2009).

Alcohol or drug use, being a victim of a violent act and economic crises as factors that exacerbate features of BPD are supported by the Biosocial Model of BPD developed by Crowell et al. (2009), which emphasizes that vulnerable youth are at increased risk for BPD when reared in invalidating environments characterized by socioeconomic disadvantage, violence, crime, and adverse family contexts.

Poor parenting skills, girlfriend or boyfriend problems, major change in eating or sleeping, infidelity and loss of a job were factors associated with the exacerbation of BPD condition in young women. This finding highlights diverse and complex vulnerabilities and environmental influences as described by Crowell et al. (2009) that impact the development and manifestation of BPD. Results also support the findings of other researchers who examined BPD in women and found comorbidities including eating disorders, anxiety, social phobia, self-injuries, PTSD, and depressive compulsiveness (Beauchaine et al., 2009; McCormick et al.,

2007; Rüsch et al., 2007; Sansone & Sansone, 2011; Biskin et al., 2011; Tadić et al., 2009). In contrast with reports of others, no issues related to a change in usual type and /or amount of recreation or loss of a pet as a factor that exacerbates BPD traits in the sample. This might be due to sociocultural factors and learned behavior.

Similar to findings of other studies, the interaction between psychosocial risk factors and biological vulnerabilities emerged as predisposing risk factors for the development of BPD (Crowell et al., 2009). The women in this study had close family members with mental health conditions. This is consistent with the Biosocial Model of BPD (Crowell et al., 2009; Gunderson, 2011).

A genetic vulnerability for BPD, referred to as level of heritability (Gunderson, 2011), is a risk factor for the development of BPD and other overlapping psychosocial conditions (Beauchaine et al., 2009; Few et al., 2014). The findings in the study may reflect the interaction of genetic vulnerability and environmental reinforcement of emotional liability (Crowell et al., 2009), resulting from a low quality of life, which potentiates extreme emotional reactions and exacerbation of BPD features.

Research Question 2: Childhood trauma experience

The results of the study revealed that participants experienced childhood trauma in diverse forms. Most of the females had experienced sexual abuse trauma due to being raped, sexually abused or molested by stepfather, father, uncle, grandfather, brother, sister or an unknown person. Another BPD trigger and childhood trauma was emotional or physical abuse. Undeniably, abuse in all of its manifestations is a distressing experience at any stage of life, including childhood. These findings are similar to those of Zanarini et al. (2005) who reported elevated rates of sexual abuse among those with BPD and high levels of neglect. They are also congruent with reports of Holm (2009) which showed that women diagnosed with BPD frequently recalled childhood experiences of their parents' abuse of power and forcing them to meet their demands. The results add further support to research which suggests that genetic vulnerabilities in combination with childhood physical and sexual abuse, neglect, and lack of protective factors potentiate the development of BPD in women (Beauchaine et al., 2009; Sprague et al., 2012; Rüsch et al., 2007; Zanarini et al., 2005; Crowell et al., 2009).

Other traumas reported in a lower percentage of female patients were: feelings of grief or separation, trauma of divorce, family mental disease, family violence, drug consumption, and rejection due to being abandoned by the mother. These finding address family instability or stressful relationship in the form of divorce, violence and rejection; in conjunction with drug abuse and grief responses to losses that can derive in feeling of emptiness or loneliness. They are aligned with literature which exposes that patients with BPD have identity problems, unstable relationships, emotional instability and feelings of emptiness, often in combination with anxiety, depression, and substance abuse (Grilo et al., 2004; Holm & Severinsson, 2008). The topics of abandonment fears, separation and rejection lead to profound changes in BPD patients and can

be related to an intolerance of being alone and a need to have other people with them, as stated by Gunderson (2011).

Research Question 3: Social factors that contribute to suicidal tendency among BPD females

The DMS-IV-TR Diagnostic Criteria states that BPD diagnosis includes the manifestation of recurrent suicidal behavior, gestures or threats, or self-mutilating behavior (Gunderson, 2011). At the present study, 18% of women had committed self-destructive acts of suicide attempts or self-mutilation. This percentage was lower than reported in literature that establishes more than 70% of BPD patients having histories of suicide attempts (Holm & Severinsson, 2008) and that they commonly exhibit impulsive aggression, which leads to self-mutilation, unstable relationships, violence, and suicide (Stuart, 2013). Existing literature posits the notion that feeling that life is not worth living potentiates a pattern of self-mutilation and suicide attempts in women with BPD (U.S. Department of Health and Human Services, 2017).

The specific social factors that exacerbate features of BPD among this group of BPD females with suicidal and self-mutilation tendency were: being a victim of a violent act, economic crisis, parent with poor parenting skills, major change in eating habits, infidelity, and loss of a job. These are distressing, and the critical experiences that mark them are similar to studies that indicate psychosocial factors which may exacerbate BPD features in young adults and women develop from feelings associated with “unrelenting crises” that predispose to a pattern of self-mutilation, suicide, and various interpersonal difficulties (U.S. Department of Health and Human Services, 2017; Quiles, López & Millán, 2006; Gutz et al., 2015). These factors allude to management of interpersonal relations with parents, marital partner or

employers. This observation coincides with Quiles, López & Millán (2006) study about suicide attempters admitted to an emergency unit in the Commonwealth of Puerto Rico. The authors found that 72.8% of suicidal attempters identified interpersonal challenges as the precipitant.

The social factor with the highest percentage in the group that attempted suicide was economic crisis (60%). This group had experienced trauma related with being sexually abused by a stepfather, being bullied at school and the loss of grandparents in an accident. On the other hand, high percentages in the group with self-mutilating behavior revealed that the social factors that exacerbated BPD were: parents with poor parenting skills, being a victim of a violent act, and alcohol or drug use. The childhood trauma experienced by this particular group was focused on sexual, emotional and physical abuse**.**

Suicide attempt in patients diagnosed with Borderline Personality Disorder (BPD) is the most frequent cause of hospitalization in this clinical category and suicidal risks are usually the first manifestation of such disorder. Patients frequently relapse, thus generating high personal and family costs, including: treatments, hospitalizations, medication, work disability in economically active people, and even death. More specifically, criterion five of the disorder mentions self-mutilating behavior, threats, and recurrent suicidal behavior (Espinosa, Blum Grynberg & Romero Mendoza, 2009). DSM-V reports that 8-10% of borderline patients commit suicide. In the Commonwealth of Puerto Rico however, there are no specific data about people diagnosed with BPD who actually have committed suicide.

An important factor that must be taken into consideration is the recession affecting the Commonwealth of Puerto Rico since 2006. Accordingly, the residents of the island have been experiencing difficult social, financial, and psychosocial stressors (Toro, 2008) which escalated in 2016. These may exacerbate BPD traits in patients as a result of their vulnerability and low

level of social functioning thus triggering emotional dysregulation leading to self- mutilation and suicide. Holm & Severinsson (2008) assert that 10% of the BPD patients eventually commit suicide. Moreover, according to a study conducted by Quiles, López & Millán (2006), female attempters outnumbered men six to one.

In the present study, among the women who attempted suicide, the major social factor was economic crisis. Other potentially contributing factors in this group of women with suicidal tendency were: major change in eating habits, infidelity, loss of a job, major change in sleeping habits, and loss or damage of property. The social factors with the highest percentages in the group of females with self-mutilation behavior were: parents with poor parenting skills, being a victim of a violent act, and alcohol or drug use. Other specific studies about suicide and self-mutilation in Puerto Rican patients were not available.

Conclusions

Based on the results of the present study, the following conclusions were drawn:

- Early and middle childhood was detected as the onset stage of BPD in young adult women living in the Commonwealth of Puerto Rico.
- The San Juan metropolitan region was the highest incidence of BPD in the sample of female patients included in the study.
- The combination of BPD with substance use disorders was common in female patients with BPD.
- The identification of female family members with mental illness history was common in the BPD female patients in the study.

- The social factors with highest ranking exacerbating BPD features were: alcohol or drug use, being a victim of a violent act and economic crisis.
- Diverse forms of childhood trauma and BPD triggers were identified. Sexual and emotional or physical abuses, in that order, were the most traumatic experiences of BPD females.
- BPD females' childhood trauma was also associated with unstable relationships, family violence or separation, abandonment fears due to loss of significant family or rejection.
- Suicidal attempts and self-injurious acts were not the most prominent behaviors identified or recorded on medical records of the BPD female patients.
- Differences were detected when considering social factors that exacerbate BPD in females that reported suicide attempts and those with self-mutilation behavior. Economic crisis was the factor most mentioned by females that experienced suicidal attempts although all females with self-mutilation behavior argued parents with poor parenting skills.
- Sexual, emotional and physical abuse emerged again as the main childhood trauma of BPD females when identified as patients that presented suicidal or self-mutilation tendency.

Limitations of the Study

The chart review tool was originally constructed on the basis of literature related to social factors that exacerbate BPD disorder and factors that contribute to this group of females' suicidal and self-mutilating behavior. A more specific identification of possible elements or alternatives regarding alcohol or drug abuse, family history of mental illness and other variables examined

will have made the collection of data easier and more precise. Some medical records exhibited lack of information, such as a clear description of family mental disorders. Therefore, important and relevant data could have been unavailable for examination under the study.

A limitation related to the sample is that since it consists only of women, there is no criteria for comparing the results of the study with social factors that exacerbate traits in young Puerto Rican men. If this information were available, differences between young male and female Puerto Rican BPD patients could be compared. The size of the sample was another limitation since it was a quota sampling of 50 women.

Implications

One of the main implications of this study is that it was able to demonstrate that biological and environmental factors contribute to the development or exacerbation of BPD disorder in young Puerto Rican women. These results support Crowell, Beauchaine & Linehan's Biosocial Model for BPD.

Given the scarcity of research in relation to BPD in Puerto Ricans residing in the Commonwealth of Puerto Rico, and since the literature asserts that women are at higher risk for the development of this disorder, this study shares new knowledge that is helpful for mental health professionals who work with young Puerto Rican women living in the Commonwealth of Puerto Rico as well as for health professionals working with children and adults. Moreover, the findings provide needed information to identify the risk factors for the development of the condition in young women, the identification of its precursors, and prevention strategies.

Similarly, it implies that the identification of early risk factors for the emergence and development of BPD in children is a chief priority because the transaction between biological

and environmental risk factors create the borderline personality. As seen in this study, the onset age of BPD in the group of Puerto Rican women was from early to middle childhood in consonance with Crowell, Beauchaine & Linehan's Transactional Model of BPRisk factors such as family dysfunction, poor quality of care, experiences of physical and or sexual abuse, childhood difficulties with separation, shame, guilt, unsecure family relationships, and coercive and invalidating family processes stated by Crowell et al. (2009), Zanarini et al. (2005), Sprague et al. (2012), and Rüsch et al. (2007) were present in these women. Moreover, genetic vulnerabilities were present specifically in the notoriousness of female family members with mental illness history.

In relation to Nursing and mental health professionals, the study implies that specialized training regarding early detection of the factors that might be identified as precursors of BPD in children and teens as well as in specific treatment intervention is necessary. Furthermore, it implies the need for the development of new programs in the nursing field aimed at the prevention and treatment of this disorder.

The study suggests that the development of policy making about treatment and prevention of the condition is critical.

Recommendations

Based on the study findings, the following specific recommendations are presented:

Recommendations for Mental Health Intervention

- Develop preventive programs implementing Dialectical Behavior Therapy training and treatment centers.

- Relationships between the patient with BPD and the mental health professionals must be a learning experience in which the mental health professional teaches the patient the necessary skills to cope with stress, regulate emotions, improve relationships with others and put a stop to self-invalidation and extreme rigid thinking to overcome their emotional dysregulation and change their chaotic lifestyle.
- Develop public policy and health policy in relation to BPD patients, so that the condition can be accepted as primary diagnosis for hospitalization when BPD outbursts occur since medical insurance plans do not accept this disorder as a primary diagnosis for hospitalization.

Recommendations for Nursing Practice

- Provide focused care and identify emotional trauma in order to provide and coordinate adequate patient care.
- Mental health nurses must be trained on interventions specific to BPD in order to be empowered with the skills required to produce successful achievements in BPD treatment. Some topics of discussion are cognitive behavioral therapy, individual therapy, and group skills training.

Recommendations for Health Professional Education or Formation

- Develop new programs focused on the prevention and treatment of BPD emphasizing early risk factors in children.
- Develop programs aimed at the early detection of self-injury and mood dysregulation in girls.

- Develop policy making about the treatment and prevention of BPD in young Puerto Rican women as well as studying exacerbation of BPD traits in men.
- A longitudinal BPD study in the Puerto Rican context must be conducted to determine which variables contribute to risk, resilience and the possibility or lessons of success on BPD treatment.
- More qualitative research could be developed to gather data in relation to lived experiences of Puerto Rican women with BPD and the strategies they use to prevent exacerbation.

Summary

This study was conducted to examine the social factors that exacerbate BPD in female population residing in the Commonwealth of Puerto Rico. The findings support that the onset of BPD in women occurs during early and middle childhood and likewise supports that the interaction among psychological, biological, and environmental factors produce the BPD personality in women. This study uncovered pertinent social factors that exacerbate BPD in young adult women with this condition which can be identified at early or middle stages of their lives. Research findings may help in the prevention and treatment of self-harming and suicidal behavior in young women. In addition, these findings may serve as useful insight that promotes more understanding of BPD by mental health and nursing professionals, among others.

The identification of transactions among the interacting risk factors definitely helps to explain the cause, development, and treatment of this disorder in young Puerto Rican women between 25 and 35 years of age living in the Commonwealth of Puerto Rico. Undoubtedly, the

acquisition of this knowledge will contribute to overcome the sparse research on BPD in Puerto Rican young women living in the Commonwealth of Puerto Rico.

APPENDIX A

CHART REVIEW TOOL

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CHART REVIEW SHEET: Social Factors That Exacerbate Features of Borderline Personality Disorder.

Check each reactive according to information in patients chart.

FACTORS	PRESENT	ABSENT	N/A	Observations
1. Major personal illness or injury				
2. Major change in eating habits				
3. Major change in sleeping habits				
4. Major change in usual type and/or amount of recreation				
5. Been a victim of a violent act (rape, assault, etc.)				
6. Pregnancy				
7. Miscarriage or abortion				
8. Change residence within the same town or city				
9. Alcohol or drug use				
10. Girlfriend or boyfriend problems				
11. Infidelity				
12. Loss of a job				
13. Separation or divorce of parents due to conflict				
14. Loss of family member				
15. Death of parent				
16. Death of a child				
17. Change in religion beliefs				
18. Loss or damage of property				
19. Lost a pet				
20. Been accused of a violent act (assault, etc.)				
21. Legal troubles resulting in arrest or jail				
22. Lived through a lot of arguments or repeated breakups				
23. Lived in an area of high violence				
24. Lived with sibling violence				
25. Violence in school or bullied				
26. Economical crisis				
27. Parents with poor parenting skills				
28. A loved one committed suicide				
29. Parents used drugs or alcohol				
30. Witness of violence to either parent				
31. Abandonment of either parent or significance care giver				
32. Other (please specify): _____				

Remarks:_____

Demographic Information

Age_____ Age of onset of condition_____

Place lived most of life_____ Family history of mental illness: _____

Author: Erika Carrasquillo Melendez (2015)

APPENDIX B

DISTRIBUTION OF BPD FEMALE PATIENTS BY PLACE LIVED MOST OF LIFE AND REGION AT PUERTO RICO

Region	Place lived most of life	Frequency	Percentage
Metro	San Juan	6	12
Metro	San Juan -Río Piedras	3	6
Metro	San Juan - Santurce	1	2
Metro	Toa Baja	3	6
Metro	Carolina	2	4
Metro	Guaynabo	1	2
Metro	Trujillo Alto	1	2
East	Caguas	4	8
East	Río Grande	3	6
East	Humacao	2	4
East	Aguas Buenas	1	2
East	Cayey	1	2
East	Yabucoa	1	2
North	Arecibo	3	6
North	Ciales	2	4
North	Lares	2	4
North	Hatillo	1	2
North	Naranjito	1	2
North	Toa Alta	1	2
North	Vega Baja	1	2
West	Sabana Grande	2	4
West	Aguadilla	1	2
West	Hormigueros	1	2
South	Ponce	2	4
South	Adjuntas	1	2
Department of Family	DF - 30 homes	1	2
Department of Family	DF - 40 homes	1	2
Department of Family	DF	1	2
TOTAL		50	100

APPENDIX C

DISTRIBUTION OF BPD FEMALE PATIENTS BY CHILDHOOD-ADOLESCENCE EXPERIENCE AND FORM OF TRAUMA

Form of Trauma	BPD trigger or detonating experience	Frequency	Percentage
Drug consumption	Use of cannabis and cocaine	1	2
Drug consumption	Use of crack	1	2
Emotional or physical abuse	Bullied at school	1	2
Emotional or physical abuse	Physical abuse by mother	3	6
Emotional or physical abuse	Physical abuse from mother	1	2
Emotional or physical abuse	Physical abuse of mothers	1	2
Emotional or physical abuse	Physical abuse to mother by father	1	2
Emotional or physical abuse	Physical and emotional abuse by mother	1	2
Emotional or physical abuse	Physical and emotional abuse by parents	1	2
Family mental disease	Grew up with grandmother, mother history of mental health and drugs (crack, cocaine, cannabis)	1	2
Family mental disease	Grew up with his grandmother, mother with mental health and drug history (crack, cocaine)	1	2
Family mental disease	Mother diagnosed with schizophrenia; Grew at extreme poverty environment	1	2
Family violence	Domestic violence both parents	1	2
Family violence	Domestic violence to mother by father	1	2

(continue)

Appendix C Continued

Form of Trauma	BPD trigger or detonating experience	Frequency	Percentage
Feelings of grief or separation	Loss of baby (abortion)	1	2
Feelings of grief or separation	Loss of grandparents in an accident	1	2
Feelings of grief or separation	Three children in the Department of Family	1	2
Feelings of grief or separation	Death of brother (was killed)	1	2
Feelings of grief or separation	Death of father (a shot in the head)	1	2
Feelings of grief or separation	Moved to the United States to a place of high gang violence	1	2
Rejection	Abandoned by mother	1	2
Sexual abuse	Raped at 9 - 16 years by maternal grandfather	1	2
Sexual abuse	Raped by brother	1	2
Sexual abuse	Raped by father	4	8
Sexual abuse	Raped by stepfather	5	10
Sexual abuse	Raped by uncle	1	2
Sexual abuse	Raped by unknown person	1	2
Sexual abuse	Sexual abuse by father	2	4
Sexual abuse	Sexual abuse by stepfather	2	4
Sexual abuse	Sexual abuse by uncle	2	4
Sexual abuse	Sexually molested by sister	2	4
Trauma of divorce	Divorce of parents	1	2
Trauma of divorce	Parents' divorce	3	6
Trauma of divorce	Parents' divorce and move to USA	1	2
Data not on record	No information	1	2
Total		50	100

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