
Psychological distress in adolescents and young adults with inflammatory bowel disease

Distrés psicológico en adolescentes y adultos jóvenes con enfermedad inflamatoria del intestino

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Recibido: 23 de junio de 2021 / Aceptado: 29 de septiembre de 2021

Abstract

Background: Inflammatory Bowel Diseases (IBD) are a group of pathologies characterized by affecting the digestive tract, which includes Ulcerative Colitis (UC) and Crohn's disease (CD). In recent years, there has been a significant increase in IBD cases in Puerto Rico in children of age 14 and under. In contrast to their peers, adolescents and young adults with IBD experience challenges due to the nature of the disease. While the physical challenges of IBDs are well known, the disease also affects their quality of life due to emotional and social obstacles. The vulnerability of experiencing anxiety and depression symptoms in patients with IBD, could have negative implications in the treatment of the disease. **Objective:** We aimed to describe the psychological distress presented in adolescents and young adults with IBD. **Method:** The database of *Centro Médico Episcopal San Lucas* pediatric unit was used for data collection between the years 2015-2019. Eleven cases of patients between the ages of 14-20 years old with IBD were identified. **Conclusion:** Results did not present a significant difference between the categories of IBD and the presence of depression and the presence of anxiety. However, when UC and CD patients were compared, there was a noticeable increased presence of depression symptoms among patients with UC.

Keywords: adolescents, Chron's disease, IBD, psychological distress, Ulcerative Colitis,

Resumen

Antecedentes: Las Enfermedades Inflammatorias del Intestino (EII) son un grupo de patologías caracterizadas por afectar el sistema digestivo, las cuales incluyen la enfermedad de Crohn (EC) y la Colitis Ulcerosa (CU). En los últimos años, se ha visto un aumento significativo en los casos de EII en Puerto Rico, en especial en jóvenes menores de 14 años. Los pacientes jóvenes y adultos jóvenes con EII experimentan retos a causa de la enfermedad. No solo se experimentan retos físicos, sino también retos sociales y emocionales afectan la calidad de vida. La vulnerabilidad de experimentar síntomas de ansiedad y depresión en pacientes con EII puede tener implicaciones negativas en el tratamiento de la enfermedad. **Objetivo:** Se pretende describir el distrés psicológico presentando en pacientes con EII. **Método:** Se utilizó la base de datos de la unidad pediátrica del Centro Médico Episcopal San Lucas entre los años 2015-2019 para la recopilación de datos. Se identificaron 11 casos de pacientes entre las edades de 14-20 años con EII. **Conclusión:** Los resultados no presentan diferencia significativa entre las categorías de EII y presencia de depresión al igual que, en la categoría de EII y presencia de ansiedad. Sin embargo, se puede observar una tendencia entre los pacientes de CU a la presencia de síntomas de depresión en comparación con los pacientes de CD.

Palabras clave: adolescentes, Colitis Ulcerativa, distrés psicológico, EII, Enfermedad de Crohn's,

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In the last years the prevalence of Inflammatory Bowel Diseases (IBD), which includes Crohn's Disease (CD) and Ulcerative Colitis (UC), has been rising in children and adolescents with a common onset and peak in adolescence and early adulthood (Rosen et al., 2015). It is estimated that 25% of patients diagnosed with IBD are children and adolescents with increasing rates (Mählmann et al., 2017). IBDs are chronic inflammatory disorders of the digestive tract characterized by episodic, intermittent, and recurrent abdominal pain and distress (Baudino et al., 2018; Tamboli et al., 2016). The causes of IBDs are not yet understood but it is stated that there could be environmental, genetic, and microbial factors that can result in the dysregulated mucosal and immune response against the intestinal microbiota (Rosen et al., 2015). Patients who develop IBD related conditions can present symptoms such as frequent diarrhea, rectal bleeding, pubertal delay, and weight loss (Baudino et al., 2018).

The rising incidence of children and adolescents with IBD could be worrying, especially the increasing prevalence of adolescents and young adults in Puerto Rico (Mojica-Ruiz, 2019). The reason for the increased prevalence is still unclear, nonetheless it is important to address the difficulties Puerto Rican adolescents and young adults may face with this diagnosis. Children and adolescents with the disease can present delays in development, pubertal maturation, bone growth, osteoporosis and a higher psychological impact affecting them and their families (Rosen et al., 2015; Brooks et al., 2016, Baudino et al., 2018, Carroll et al., 2018). Also, in comparison to adult IBD children and adolescents with the disease have extensive involvement of their intestines, especially in UC (Carroll et al., 2018). In addition, early onset of IBD in adolescents can have an impact on education, employment, and relationships (Brooks et al., 2016). Children with IBD may have continuous absences in school

because of the condition and treatment, which could affect their academic performance and school experience. This can also be reflected in the work environment where continuous absences can be a precipitant factor for job dismissal. Regarding social relationships, children and adolescents with IBD may have difficulties in their social interactions because of fear of presenting symptoms of the disease in public spaces. Because of this, IBD diagnosis could play a role in the poor development of self-esteem and lack of self-confidence, causing an impact in the social relationships and development of adolescents and young adults with this diagnosis (Brooks et al., 2016).

IBD early onset risk factors

The developmental period of children and adolescents are critical and a vulnerable time, during this time the brain is in its maturation and neuroplasticity phase where a chronic disorder could threaten a healthy psychosocial development (van den Brink et al., 2018). Patients with chronic illness such as IBD, present higher rates of anxiety and depression compared to healthy peers (Crohn's and Colitis Foundation, 2021). Reported prevalence of anxiety and depression symptoms in children and adolescents with IBD rates from 20-50% for anxiety and 25-40% for depression (Keethy et al., 2014; van den Brink et al., 2018). Factors such as the effect of inflammatory cytokines on the brain, sleep disturbances and corticosteroids treatment and disease activity correlate with depressive and anxiety symptoms in patients with IBD (Rosen et al., 2015). It has also been observed that children and adolescents suffering from IBD may experience low self-esteem because of the delayed growth and puberty caused by the disorder. This could increase the probability of bullying or teasing and therefore difficulties in their social interactions which could lead to loneliness and poor socialization.

Moreover, manifestations of IBD symptoms such as abdominal pain, diarrhea, and fatigue interferes with their attention and concentration span, which in turn causes poor academic performance in youth with IBD (Reigada et al., 2015; Waters et al. 2012). Attention difficulties could also be associated with depressive and anxiety symptoms in patients with IBD which could lead to difficulties in school performance and affect psychosocial development (Castaneda et al., 2013). In addition, this could have a long-term impact on young adult job searching and job stability.

Quality of life of patients with IBD

Adolescence, a period of emotional, cognitive and psychosocial adjustments can be difficult in the daily life of teenagers, this could be even more challenging for adolescents with an IBD diagnosis. Adolescents with IBD may struggle with these changes and the adjustment of a chronic illness. IBD diagnosis could cause adolescents to fear fecal incontinence, struggle with body image due to medication weight gain and loss of social learning interactions (Jelenova et al., 2015). In addition, due to the label of embarrassing symptoms indicated by society in the active phase of IBD, adolescents may generate social withdrawal, somatization, separation anxiety, and school phobia (Reigada et al., 2015; Szigethy et al., 2004).

The quality of life of adolescents with IBD can also be affected by pain which is part of the disease and its treatments. This is associated with greater disability, depressive symptoms and poorer quality of life (Claar et al., 2017). Treatments of the disease are extensive and tiring which could exacerbate the psychological distress and diminish the quality of life of patients. Because of this, a multidisciplinary team in the treatment of IBD is needed. This to fulfill the medical needs as well as the emotional burden this patient could face

during the course of treatment of the disease.

In IBD the unpredictable nature of the disease could also be a factor of significant psychological distress for adolescents and young adults, which can lead to higher levels of anxiety and depression (Drell & White, 2005). Research has shown that biopsychosocial factors have been associated to play a role in the health and well-being of children and adolescents with a physical illness (Reigada et al., 2015). Psychological suffering can increase the risk of disease activity and flares (Mardini et al., 2004; Mittermaier et al., 2004; Moser, 2006). Identifying the influence of factors that could cause psychological distress is important since they contribute to a decrease in quality of life and may lead to depressive symptoms (Tomazoni & Benvegnú, 2018). It is imperative to have a clinical team who can evaluate psychological distress and provide coping mechanisms for a better quality of life in adolescents and young adults with this diagnosis.

Psychological factors in IBD

Psychological distress presented in patients with IBD aggravates disease activity and could produce a risk in the increase of IBD symptoms (Tomazoni & Benegnú, 2018). Nonetheless, there is controversy regarding how these symptoms play a role in disease activity (Tomazoni and Benegnú, 2018). It has been established that anxiety and depression are part of the etiology of the disease, while others indicate that they are due to the symptoms and stress generated by IBD (Loftus et al. 2011).

Research has shown that biopsychosocial factors have been associated to play a role in the health and well-being of children and adolescents with a physical illness (Reigada et al., 2015). IBDs nature is unpredictable which could also be a

factor of significant psychological distress for adolescents and young adults and can lead to higher levels of anxiety and depression (Drell & White, 2005). Identifying the influence of factors that could cause psychological distress is important since they contribute to a decrease in quality of life and may lead to depressive symptoms (Tomazoni & Benvegnú, 2018). It is imperative to have a clinical team who can evaluate psychological distress and provide coping mechanisms for a better quality of life in adolescents and young adults with this diagnosis.

Psychological factors in IBD patients in remission

It has been identified that symptoms of anxiety and depression are mainly related to activation rather than remission (Tomazoni & Benvegnú 2018). In an IBD cohort study, Bernstein (2016) established that patients in active phase of the disease perceive more stress than those patients in remission. It was also found that those in remission did not report high levels of psychological distress and difficulties in their coping skills. Nonetheless, some debate that patients in remission and relapse are equally vulnerable to psychological distress (Mikocka-Walus et al., 2007). When examining anxiety symptoms in youth with CD, Reigada et al. (2015) established that in the absence of the inflammation, fear of bowel urgency can still be present. Consequently, this may cause school related issues due to separation anxiety. For this reason, in order to avoid relapse, it is important that patients with IBD in remission should be able to benefit from psychological interventions.

With the increase in cases of IBD in Puerto Rico, a psychological perspective is necessary to provide a better quality of treatment for adolescents and young adults with the condition. For adolescents and young adults living with IBD, the quality of

life is poorer than the general population. They could have higher levels of depression and anxiety compared to the general population (Halloran, 2020). The development of depressive and anxiety symptoms in adolescents with IBD is a risk factor complication for the disease. Higher levels of anxiety and depressive symptoms can exacerbate the disease and could be associated with a poor quality of life and lower medication adherence (Cushman et al., 2021). In this study, our aim was to describe the relationship between IBD and psychological distress, such as anxiety and depression symptoms in a population of Hispanic adolescents and young adults. Because the prevalence of IBD disease is increasing in Puerto Rico it is important to evaluate and assess the emotional burden Hispanic adolescents and young adults face when diagnosed with these diseases. Addressing and identifying the emotional burden could help professionals create an integrated treatment plan for these patients where the emotional and physical aspects of the disease are evaluated. An integrated model of treatment could benefit the quality of life of these patients and with that also improve their academic performance.

Method

After approval of the International Review Board (IRB) of the Ponce Health Sciences University #1908020513, researchers preceded to identify participants within the patient database of Centro Médico Episcopal San Lucas pediatric unit. After identifying all patients under the category of gastrointestinal problems, a new database was created with these selected cases for the purpose of this study. The participants were patients under the category of gastrointestinal problems who were admitted to the hospital between the years 2015-2019. Investigators continued with the revision of medical records to select those cases that met the inclusion and exclusion criteria established in the study. Inclusion criteria for the study

stated that participants must be between the ages of 13 to 21 years old and diagnosed with an IBD condition, such as UC or CD. The exclusion criteria for the study indicated that participants could not be diagnosed with another physical condition that could directly affect their emotional state such as hypothyroidism or anemia. After the revision of medical records, 11 patients who met the inclusion and exclusion criteria were identified. The cases that did not meet the inclusion and exclusion criteria were eliminated from the database, leaving only the 11 cases that met the established criteria.

The cases of identified in patients with IBD were adolescents and young adults between the ages of 14 to 21 years old with CD (X=3) and UC (X=8). During the revision of medical records, patients' sociodemographic information (sex, age, physical preexisting conditions, psychological disorders diagnoses, and number of interventions by the health psychology team made during their stay at the hospital) was identified. Instruments were administered to the patients during their first evaluation by the clinical health psychology team at the hospital, in which they could identify anxiety of depression symptoms. For the purpose of this study instruments administered where used to identify if there where symptoms of anxiety and depression in the participants, they were not analyzed by scale, but as a whole. The instruments used were:

Spence Children's Anxiety Scale (SCAS)- Spanish Version

The Spence Children's Anxiety Scale (SCAS) is a 44-item child self-report measure designed to assess specific anxiety symptoms among six domains: separation anxiety, social phobia, obsessive-compulsive disorder, panic/agoraphobia, generalized anxiety and fears of physical injury. SCAS has been designed to be relatively easy and quick for the child to

answer, taking on average 10 minutes. During administration, the evaluated child is asked to rate on a four-point scale how frequent they experience each symptom. The rating scale ranges from "never" (0), "sometimes" (1), "often" (2), and "always" (3). Within the scale, the domain items are allocated randomly throughout the questionnaire and has six filler positive items to help reduce negative response bias (Spence, 1997/1998; Spence et al., 2003). Due to the popularity of the scale, norms for ages ranging from 7 to 19 years have been provided in the literature across different countries (Essau et al., 2002; Muris et al., 2000a; Muris et al., 2000b; Muris, et al., 2001; Spence et al., 2003). The scale has been extensively studied and has been shown to be a reliable instrument suitable for cross-cultural use, presents internal reliability, test-retest reliability, convergent/divergent validity, discriminant validity and construct validity (Ramme, 2018).

Patient Health Questionnaire (PHQ-9)

The Patient Health Questionnaire-9 (PHQ-9) is the depression module of the Patient Health Questionnaire, which is a self-report measure version of the Primary Care Evaluation of Mental Disorders (PRIME-MD). The PHQ-9 is a 9-item questionnaire that allows the assessment and monitoring of depression severity by allowing the evaluated to rate on a four-point scale how frequent they experience each symptom. The rating scale ranges from "not at all" (0), "several days" (1), "more than half the days" (2), and "nearly every day" (3). The PHQ-9 is a brief, reliable, and valid measure in clinical and research settings to evaluate individuals 12 years and older (Kroenke et al., 2001; Kroenke & Spitzer, 2002; New York State Department of Health, 2016).

Child Depression Inventory (CDI)

The Child Depression Inventory (CDI) is a 27-item self-report measure that evaluates depressive symptoms in children and adolescents from 6 to 17 years of age (Crowley et al., 1994). During administration, the evaluated child is asked to rate on a three-point scale how frequent they experience each symptom and related affects. The rating scale ranges from “absence of the symptom” (0), “moderate symptom” (1), and “severe symptom” (2) (Rivera- Medina et al., 2010). The literature has cited the CDI as a reliable and valid instrument having good internal consistency in Puerto Rican samples (Bernal et al., 1997; Rosselló et al., 1992).

Statistical analysis

SPSS 27 (IBM Corp) was used to perform data analysis. Data preparation and exploration procedures were conducted, and the data was examined for errors and quality. A missing data analysis revealed three data points were missing for the age variable. To address this, a series mean replaced these missing data points (Salgado et al., 2016). Descriptive statistics were also performed to evaluate normality, frequencies, and proportions of ratio and nominal variables. Chi-squared of independence were conducted to assess associations between IBD diagnoses, depression, and anxiety symptoms. The participant's age was normally distributed in the sample, $W(11) = 0.922$, $p = 0.334$. In addition, variables such as sex ($c^2(1) = 0.818$, $p = 0.366$), IBD diagnoses ($c^2(1) = 2.27$, $p = 0.132$), and depression symptoms ($c^2(1) = 2.27$, $p = 0.132$), were also normally distributed. However, psychological diagnoses ($c^2(3) = 9.00$, $p = 0.029$) and anxiety symptoms

($c^2(1) = 4.45$, $p = 0.035$) variables were not normally distributed.

Results

With the purpose of answering our aim the following data was analyzed. The mean age in the sample was 16.45 (SD=2.25) with 64% female. The majority of the participants (64%) did not have a current diagnosed mental disorder, 18% were diagnosed with Attention Deficit Hyperactivity Disorder (ADHD), 9% with anxiety and 9% with adjustment disorder with depressed mood. In addition, 27% of participants reported clinically significant depression symptoms and 18% presented clinically significant anxiety symptoms. As of IBD diagnoses, 73% of patients suffered from UC and 27% from CD. (See Table 1)

Associations between Sociodemographic Characteristics, Mental Illness, Psychological Symptoms and IBD Conditions

Patients had a mean age of 16 years in both UC and CD, this association was not significant, $c^2(6) = 5.11$, $p = 0.529$. However, there were differences in age range for both conditions, where patients with UC had more variability (14 – 21 years of age) compared to those with CD (14 – 19 years of age). There were also sex-related differences within each IBD diagnostic category. While the majority of patients with CD were male (67%), 75% of patients with UC were females. However, these associations were not statistically significant $c^2(1) = 1.63$, $p = 0.201$. Regarding their current diagnosed mental illnesses, nearly 40% of patients living with UC also had a co-occurring mental disorder.

Table 1
Sociodemographic, Psychological and IBD Characteristics (n = 11)

Variable	Frequency	%
Age (years)	M = 16.45 (SD = 2.25) Range (14 – 21)	-
Biological sex		
Females	7	63.6
Males	4	36.4
Mental illness diagnosis		
Anxiety	1	9.1
ADHD	2	18.2
Adjustment disorder with depressed mood	1	9.1
No diagnosis	7	63.6
Psychological symptoms		
Significant depression symptoms	3	27.3
Non-significant depression symptoms	8	72.7
Significant anxiety symptoms	2	18.2
Non-significant symptoms	9	81.8
IBD diagnoses		
Ulcerative Colitis	8	72.7
Crohn's disease	3	27.3

Of these patients, 25% had Attention Deficit Hyperactivity Disorder (ADHD) and 12.5% had Anxiety. Nonetheless, 62.5% had no current co-occurring mental disorder. In comparison patients with CD had lower rates of co-occurring current mental disorder diagnoses (33%), had adjustment disorder with depressed mood which was the only diagnosis within this IBD diagnostic category. Similar to patients with UC, 67% of patients with CD did not have a current co-occurring mental disorder. Nonetheless, these associations were not statistically significant, $\chi^2(3)=3.79$, $p=0.284$.

Regarding the depressive symptoms of the participants, 37.5% of patients diagnosed with UC evidenced clinically significant in this category. However, patients with CD did not present depressive symptoms. These associations were not statistically significant, $\chi^2(1) = 1.54$, $p=0.214$. On the other hand, anxiety

symptoms were more varied within each IBD diagnostic category, where 12.5% of patients with UC evidenced clinically significant symptoms and 33.3% of those with CD (See Table 2).

The general purpose of this study was to describe the presence of psychological distress, anxiety and depression symptomatology in adolescents and young adults diagnosed with UC or CD in the Centro Médico Episcopal San Lucas in Ponce, PR. In accordance with the general objective, it was identified that patients with UC had higher rates of depression symptoms compared to those with CD. Conversely, patients with UC had lower rates of anxiety compared to those with CD. Although, these results were not significant, we identified a tendency of depressive symptomatology among UC patients in comparison to CD patients.

Table 2

A Profile of IBD Conditions, Sociodemographic Characteristics, Mental Disorders and Psychological Symptoms (n = 11)

	Ulcerative Colitis	Crohn's Disease	Chi-squared test
Age (years)	M = 16.38 (SD = 2.32) Range (14 - 21)	M = 16.67 (SD = 2.51) Range (14 - 19)	$\chi^2(6) = 5.11, p = 0.529$
	<i>f</i> (%)	<i>f</i> (%)	
Biological sex			
Female	6 (75)	1 (33.3)	$\chi^2(1) = 1.63, p = 0.201$
Male	2 (25)	2 (66.7)	
Mental illness diagnosis			
Anxiety	1 (12.5)	0	$\chi^2(3) = 3.79, p = 0.284$
ADHD	2 (25)	0	
Adjustment disorder with depressed mood	0	1 (33.3)	
No diagnosis	5 (62.5)	2 (66.7)	
Psychological symptoms			
Significant depression symptoms	3 (37.5)	0	$\chi^2(1) = 1.54, p = 0.214$
Non-significant depression symptoms	5 (62.5)	3 (100)	
Significant anxiety symptoms	1 (12.5)	1 (33.3)	$\chi^2(1) = .637, p = 0.425$
Non-significant anxiety symptoms	7 (87.5)	2 (66.7)	

According to the sociodemographic information collected on the participants, it was determined that there was no significant age difference between those with UD and CD. However, the UC group presented a wider age range compared to the CD group. This could be a product of the large variation of age among the UC group can be attributed to an earlier diagnosis among UC patients (Duricova, 2014). Moreover, this study discerned sex-related differences among the conditions. An UC diagnosis was more prevalent among females, while a CD diagnosis was more prevalent among males. The gender differences in IBD suggest that there are different gender ratios based on age and geographic area. It could be speculated that

there may be environmental exposures by regions that could contribute to the higher incidence in females than males (Brant & Nguyen, 2008). In North America, CD has been identified to be more prevalent among females rather than males. In contrast a study done with Puerto Rican population, identified that CD was more frequently diagnosed among males (Appleyard et al., 2004). The results established by our study reflects similar findings which leads the investigators to agree with the literature, which identifies the importance of geographic regions as a factor on gender prevalence of IBD. In different geographic regions people can be exposed to different kinds of environmental factors which could lead to the development of the diseases.

There are several factors such as gender, course of disease, severity and activity of the disease that can attribute to the differing prevalence rates of comorbid psychiatric disorders among UC and CD (Nowakowski et al., 2016). Patients with IBD have a higher prevalence of developing comorbid psychiatric disorders most commonly anxiety and depression (Nowakowski et al., 2016). Patients in this study with IBD showed comorbidity with psychological disorders that could impact their disease prognosis. However, the UC group demonstrated higher rates of co-occurring mental disorders than those with CD. In the CD it was only identified group comorbidity of Adjustment Disorder with depressed mood. Meanwhile, the UC group presented comorbidity with ADHD and Anxiety. ADHD is not a common comorbidity in children and adolescents with IBD nonetheless as mentioned earlier IBD symptoms such as abdominal pain, diarrhea, and fatigue interferes with their attention and concentration span (Reigada et al., 2015; Waters et al. 2012).

In reference to psychological distress, adolescents and young adults with IBD are at higher risk for developing depression and anxiety. Additionally, the severity of these pathologies could be higher when compared to the healthy peers (Halloran, 2020). Similarly, to our findings, in a study by Trindade et al., (2015), which explored associations between variables of UC and depressive symptomatology, it was identified that UC symptoms (e.g., flatulence, fatigue, bloating, abdominal pain) was positively associated with depression severity. It has been identified that depression rates in UC patients are higher when compared to the general population even when the disease is inactive (Tomazoni & Benvengú, 2017; Trindade et al., 2015).

Alternatively, a predominance of anxiety symptoms has been reported among those with CD (Tomazoni & Benvengú, 2017).

Similarly, the results of our study reflect this predominance among the CD group. It is also reported in Reigada et al., 2015, that young patients with CD have higher rates of developing anxiety symptoms. While our CD group did not report depressive symptoms, the literature suggests that CD patients are at a greater risk for developing higher rates of depressive symptoms than the general population (Gaines et al., 2016; Tomazoni & Benvengú, 2017). Although the results of the study were not statistically significant, the literature is consistent in the presence of psychological distress as anxiety and depression symptomatology in patients with IBD (Gaines et al., 2016; Halloran et al., 2020, Tomazoni & Benvengú, 2017). Because of this it is important to replicate this study with a bigger sample to evaluate the consistency with the literature and if there are discrepancies with the Hispanic population on psychological distress in patients with IBD.

The researchers of this study determine the discrepancy of this study with the literature could be due to underreporting in the self-report scales by the patients or to attributing psychological distress symptoms to the process of the disease. It is also identified that patients in this study were administered self-reporting questionnaires in a hospital setting where they were admitted either to control the exacerbation of the disease or to be diagnosed with one of IBD diagnosis. This could have led to a low incidence in the reporting of psychological difficulties because of the importance of the medical treatment needed in that moment.

Conclusions

This objective was developed to promote research in Hispanic adolescents and young adults diagnosed with IBD. Adolescents and young adults with a chronic and incurable disease such as IBD, could have higher risks of developing a

mental illness associated with their disease (Carroll et al., 2019). In this study psychological distress, anxiety and depression symptoms were not identified as statistically significant. Even though, psychological distress in our sample of IBD was not statistically significant, a tendency of depression symptoms was found in our UC patients.

Research of psychological distress and the emotional state of adults with IBD has been well established. However, research with the population of adolescents and young adults (14-20 years) has not been fully developed, especially in a Puerto Rican population. While the first steps of diagnosing IBD are the medical treatments and assistance, it is essential to assess the mental health of these young patients that could be at risk during the course of the disease. Furthermore, poor mental health could exacerbate or intensify flares typical with IBD. In pediatric patients, IBD could increase psychological distress by affecting their self-esteem, social interactions, concentration, learning and school attendance (Carroll et al., 2019). It has also been established that children and adolescents with IBD present a greater risk than their healthy peers to develop persistent anxiety and depression disorders (Loftus et al., 2011). Although, rates of mental disorders are increasing in pediatric IBD Puerto Rican patients they are not routinely screened for psychological distress symptoms. Furthermore, even if these patients present symptoms, they will mostly remain untreated. It is important to screen adolescents and young adults with IBD for anxiety and depression symptoms to treat the symptomatology and prevent long term mental health disorders. By assessing and treating psychological distress symptoms in these patients it could also benefit their course of IBD, bring benefits not only to their emotional but also to their physical health.

Researchers in this study identified several limitations which could have also attributed to the lack of significance and discrepancy with the literature. It is acknowledged, that because this study's data originated from a database of information collected from the years of 2015 to 2019, the actual emotional wellbeing or psychological distress of the participants cannot be established. Another limitation of the study was the low number of patients that fit the criteria. A bigger sample of participants could have helped established a better value of significance in the study.

Furthermore, the course of the disease and age of diagnosis of each participant was not identified in the database, which could have been a variable to take in consideration when establishing the psychological distress of the participants.

This study addresses the importance to continue developing research in this area with Hispanic adolescents and young adults with IBD diagnosis providing preliminary knowledge to the psychological and emotional states of young patients with IBD. It is imperative to continue developing research in this area with the Hispanic population in different age groups to provide information of the difficulties presented by age of diagnosis and course of the disease. For future directions it is important to evaluate the tendency presented in the study of depressive symptoms in UC compared to CD.

Compliance with research ethics standards

Funding

This study was not funded.

Conflict of interest

There was no conflict of interest between the investigators.

Approval of the Institutional Board for the Protection of Human Beings in Research

This study is approved by the Institutional Review Board- Ponce Health and Sciences University (#1908020513).

Consent or Assessment forms

No consent or assent form was distributed since this study was a review of medical records.

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