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The Intersection of Anorexia Nervosa and Personality Disorders: A Comprehensive Review of Comorbidities, Influencing Factors, and Therapeutic Approaches

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Abstract:

Complex eating disorders like anorexia nervosa (AN) and personality disorders (PDs), including obsessive-compulsive personality disorder (OCPD) and borderline personality disorder (BPD), often co-occur. The confluence of PDs and AN poses distinct difficulties in terms of diagnosis, prognosis, and therapy, complicating clinical management and producing less favorable results. To summarize the most recent findings on the co-occurrence of anorexia nervosa and personality disorders, this review will look at their prevalence, psychopathological relationships, effects on treatment results, and efficacy of different therapy modalities, with a thorough search conducted, concentrating on research published between 2000 and 2024, utilizing peer-reviewed publications from PubMed, PsycINFO, and Proquest. Past literature presents a substantial overlap between PDs and AN, and concomitant PDs have been linked to recurrence rates, treatment resistance, and more severe types of AN. The psychopathological relationships among these illnesses are complex, encompassing both common and unique etiological paths. Depending on the PD implicated, various therapy modalities, such as dialectical behavior therapy (DBT) and cognitive behavioral therapy (CBT), have been investigated with varying degrees of success. This review emphasizes the need for more specialized, integrated treatment approaches targeting AN and concomitant PDs and appeals that future research should concentrate on creating tailored therapies and early detection techniques to enhance therapeutic results. The results emphasize the importance of considering personality pathology while managing AN to improve treatment efficacy and promote long-term recovery.

Keywords: Anorexia nervosa, personality disorder, therapeutic approaches, OCPD, CBT.

1. Introduction

Anorexia nervosa (AN) is a severe and life-threatening eating disorder that is typified by a distorted body image, self-imposed starvation, and fear of gaining weight, as specified by the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) published by American Psychiatric Association (APA). With a lifetime frequency of around 0.9% in females and 0.3% in males, it mainly affects young women and has the most significant death rate among mental diseases [1, 2]. The disorder's societal ramifications are extensive, impacting not only the individuals with AN but also their families, the healthcare system, and society in general, as the chronic condition of AN strains healthcare resources due to its frequent relapses and lengthy treatment [3]. Significant physical health problems are common in AN individuals, including cardiovascular problems, osteoporosis, and malnourishment. These conditions can cause long-term impairment or even death [4]. Current empirical research and literature focus more on the risk factors contributing to AN and the comorbidity between AN and PDs. Still, more needs to be investigated on how specific types of personality disorders could exacerbate or even actively result in anorexia nervosa.

Personality disorders (PDs) are commonly comorbid with AN, with up to 53% of AN individuals meeting the criteria for at least one type of PD [5]. It has been demonstrated that having a PD makes eating disorders worse, increases treatment resistance, and harms overall outcomes in individuals with AN [6, 7]. According to Sansone, PDs can exacerbate the cycle of restricted eating and distorted body image by promoting maladaptive behaviors and cognitive tendencies that further impede recovery [8]. Because typical treatment regimens for AN may be less successful when a PD is present, these comorbid disorders constitute a significant therapeutic challenge.

Despite the deficiency of investigations compared to other

research on AN, the intersection between AN and PDs has been discussed and investigated in current studies, focussing on how these comorbidities affect the course of treatment and the prognosis over the long run. For example, the study conducted by Sanaone looked at the psychopathological processes relating to particular PDs and AN, acknowledging the prevalence in the intersection between obsessive-compulsive personality disorder and anorexia nervosa as the restricting type [8]. Other intersections between AN and PDs will also be recognized in this review, but other than these advancements, the best course of action for treating AN and PDs is still up for debate. Though their effectiveness varies according to the particular PD involved, both more modern therapies like dialectical behavior therapy (DBT) and more established ones like cognitive behavioral therapy (CBT) have demonstrated promise [9]. This review aims to assemble the body of research on the co-occurrence of PDs and AN, emphasizing treatment results, psychopathological relationships, prevalence, and therapeutic modalities. The review looks at these characteristics to find gaps in the present understanding and suggest future research possibilities, with the ultimate objective of guiding the creation of more specialized, efficient treatment plans that better address the particular difficulties brought on by the coexistence of PDs and AN, leading to better recovery outcomes.

2. Method

A thorough search of peer-reviewed literature in databases including PubMed, PsycINFO, and Proquest yielded pertinent research for this study. Useful search phrases included “anorexia nervosa,” “personality disorders,” “comorbidity,” “treatment outcomes,” and “therapeutic approaches.” English-language articles released between 2000 and 2024 were taken into account.

3. Literature Review

3.1 Comorbidity of AN and PDs

Past studies have documented the comorbidity of AN and PDs, providing valuable implications for understanding and treating AN. This part of the review will collect and analyze the articles that indicate a substantial proportion of AN individuals meeting the criteria for one or more PDs. In The comorbidity of personality disorders in eating disorders: a meta-analysis, Martinussen et al.’s study reveals a high prevalence of PDs in AN, in which the significant overlap between both diseases is highlighted by the fact that approximately 49% of people with AN also have PD, indicating that PDs are a frequent AN complication [10]. The most common PD cluster to co-occur with AN is Cluster C, which comprises avoidant, dependent, and obsessive-compulsive PDs. This is especially noteworthy in the case of obsessive-compulsive disorder (OCD) since its prevalence is much greater in AN individuals than in Bulimia nervosa (BN) individuals, as individuals with AN experience OCD at a rate about twice as high as BN individuals. A notable component of Cluster B, which also includes narcissistic, histrionic, and antisocial PDs, is borderline PD, in which both AN and BN have a high prevalence of borderline PD, suggesting that a high degree of impulsivity and emotional instability in individuals with eating disorders [10]. When PDs are present, treating AN might become more complex, possibly with worse results and a longer or more rigorous course of therapy. The results point to the necessity for more investigation into the processes behind the co-occurrence of PD and AN, and knowing if PDs aggravate AN symptoms or the other way around might help develop more efficient treatment plans.

In another study investigating the long-term course of adolescent AN, Müller focused on comparing psychiatric comorbidity in AN and PDs. The research exclusively compared female AN patients with female OCD patients because AN patients are mainly female. Over a ten-year follow-up, 100% of the female AN patients and 61% of the female OCD patients were reexamined. The result presents that a comorbid PD was present in 25% of AN patients, primarily from Cluster C, which, as the previous paragraphs mention, obsessive-compulsive, dependent, and avoidant PDs are frequently present in these diseases. In addition, anxiety disorders are found in 28% of AN patients and 20% of OCD patients, making it the most common comorbid psychiatric condition, and affective disorders present in 16% of both AN and OCD patients, indicating significant comorbidity with mood disorders [11]. The results highlight the high rate of mental comorbidity in both AN and OCD patients, particularly Cluster C PDs, implying that people with these conditions may have a shared susceptibility, which may be related to anomalies in the serotonergic neurotransmitter system. The study emphasizes the necessity of comprehensive treatment plans that address the PDs or psychiatric illnesses that go hand in hand with the eating disorder or OCD.

Moreover, in a recently published article, Juli et al. addressed some alarming data regarding the prevalence of psychiatric comorbidity in AN individuals, in which more than 70% of individuals with eating disorders also suffer from additional psychiatric conditions. The most common comorbidities include personality disorders, affecting more than 53% of ED individuals [12]. This study also proved the claims made in other studies included in previous paragraphs, stating that AN is mostly comorbid with cluster C PDs, including OCPD, borderline personality disorders, and avoidant personality disorders, and indi-

viduals with AN tend to have personality traits, including perfectionism, obsessiveness, and anxiety [12]. The clinical course of anorexia nervosa can be complicated by the presence of various personality disorders, which can make therapy more complex and perhaps extend the condition.

The above studies mainly underscore the comorbidity of OCD and AN, while another PD that frequently occurs with AN is borderline personality disorder (BPD). In Eating Disorders among Patients with Borderline Personality Disorder: Understanding the Prevalence and Psychopathology, Khosravi investigated the psychopathology and prevalence of feeding and eating disorders (FEDs) in BPD individuals with a cross-sectional study on 220 participants and discovered that there is a 65.4% prevalence of FEDs in BPD individuals, in which the highest mean score of the testing scale used is related to AN [13]. The study also found that patients who have comorbid FEDs and BPD suffer from emotional dysregulation, in which they present difficulties in expressing and controlling their emotions. Overall, Khosravi's study provides valuable data on the comorbidity of AN and PDS and provokes further discussion and awareness of BPD's impact on eating disorders.

3.2 Diagnostic Method

It is important to address the limitations of different diagnostic methods and their influence on the validity of research data. Martinussen's study finds that the claimed prevalence rates of PDs depend highly on the diagnosis technique, in which studies that used self-report questionnaires generally reported higher rates of PDs compared to those using structured clinical interviews, suggesting that the observed comorbidity rates may depend on the diagnostic procedure [10]. In Cassin's study, the meta-analysis conducted on EDs and PDs shows that the prevalence of PDs in people with AN and BN varies greatly, from 0% to 58%, and compared to diagnostic interviews, self-report assessments often overstate the frequency of PDs [14]. Hence, Cassin addressed the challenge of accurately assessing personality in ED patients, especially when using self-report measures.

3.3 Influencing Factors

The co-occurrence of anorexia nervosa (AN) and personality disorders (PDs) is impacted by many variables, such as the age of onset, personality traits, gender, family dynamics, and weight history. These variables may affect the kind of PD that co-occurs or worsen the severity of AN. According to Martinussen's study, PD prevalence was impacted by weight status, with overweight AN patients having lower rates of PDs than underweight or normal-weight individuals. In addition, a decreased prevalence of PDs was linked to older age, suggesting that PD comorbidity may decline with patient age [10]. Also, The kind and severity of comorbid PDs are significantly influenced by the age at which AN manifests. According to Cassin et al., the early start of AN, usually in adolescence, is linked to more severe and chronic types of the disorder, such as rigid personality features, especially those associated with obsessive-compulsive personality disorder (OCPD), a condition frequently present in patients with AN, may be more likely to emerge in younger people [14]. Thus, the developmental stage at which AN arises can mold the personality structure and determine the particular kind of PD that manifests. Also, Cassin's study discusses the personality traits that manifest in people with AN and a comorbid PD, especially OCPD, in which patients with AN frequently exhibit high degrees of perfectionism, obsessionality, and harm avoidance, especially if they also have comorbid obsessive-compulsive PD [14]. On the other hand, individuals with comorbid borderline PD are more likely to exhibit impulsivity and emotional dysregulation, and these character attributes may also impede the progression and results of AN treatment. Other studies also present the influence of specific personality traits on AN: Wunderlich's study on personality and AN discovered that high levels of obsession, self-control, and perfectionism seem to be a hallmark of a rather prevalent phenotype in restricting-type AN [14]. Those studies indicate the role of personality in the development, severity, and outcome of AN while also explaining AN and PDs' comorbidity and why it is important to investigate such intersection.

Moreover, the family environment significantly influences the development and maintenance of both AN and PDs, in which people with AN often have a history of dysfunctional familial connections, including judgemental views, entanglement, or overprotectiveness [15]. Dependency and avoidance, which are prevalent in AN patients, are two personality traits typical of Cluster C PDs that may emerge as a result of these dynamics [16]. Furthermore, eating disorders and PDs are linked to a higher chance of developing in early childhood when there is a family history of abuse or neglect [14]. The influence of parents on adolescents with AN is crucial, as specific coping strategies could lead to better recovery while others could lead to more distress that worsens the development of AN. In Monteleone et al.'s study: Coping With Adolescents Affected by Anorexia Nervosa: The Role of Parental Personality Traits, 87 AN adolescents and their parents are examined, and the study mentioned that the parents' coping strategy and accommodation of AN adolescent vary based on their personality traits, illness duration and cooperation between caregivers, in which some factors are positively associated to maladaptive coping strategies and thus caus-

ing distress in the parent. Such distress in caregivers can prompt more distress in their children with AN, as the parents' behavior is often associated with the outcome of AN. To prevent a vicious circle of AN individuals negatively impacting the family and the family maladaptive influencing AN individuals, it is crucial to address the role of the family in treating AN and prompt positive coping and accommodating strategies to improve the AN intervention.

Because parents play an essential role in AN individuals' recovery, this suggests that not only AN individuals need intervention, but also intervention targeting the family so that they learn the necessary information to recognize the disease and cope with their family members suffering from such conditions [12]. Overall, family is a major influencing factor in AN and PDs and requires further investigation to raise awareness and promote better recovery.

Furthermore, emotional regulation serves as a mediator between anorexia nervosa and PDs. In Khosravi's study, AN and BPD individuals exhibit challenges in emotional regulation, and the risk of developing depressive episodes is high before and after recovering from EDs [13]. A different study on ED found that bipolar disorder is also comorbid with ED among youth, in which individuals exhibit multiple adverse clinical characteristics associated with maladaptive emotional regulation strategies [17]. Accordingly, a more comprehensive and delicate treatment approach that targets not only symptom reduction but also emotional regulation methods is required for a better therapeutic outcome.

Finally, the frequency and presentation of AN and related personality disorders are significantly influenced by gender. Studies consistently demonstrate that the prevalence of anorexia nervosa is higher in females than in males, with a female-to-male ratio of around 10:1, in which numerous biological, psychological, and societal variables all have an impact on this difference. First, anorexia nervosa is more common in women partly due to the disproportionate effect of societal pressures and cultural standards regarding body image on women. Particularly in Western nations, the societal idealization of thinness contributes to body dissatisfaction and dieting behaviors, both of which are potent indicators of eating disorders like AN. Also, women are more prone to internalize these social norms, which increases their likelihood of developing the condition of AN [2, 18]. Besides sociocultural factors, biological factors also contribute to gender disparity in AN because of hormonal differences. Early research conducted by Klump et al. indicated that estrogen, a steroid hormone that develops feminine sexual traits and is connected to the female reproductive organs, can affect mood regulation and increase the urge for thinness, increasing vulnerability to AN [19]. In females, the beginning of AN can be brought on by the combination of underlying genetic vulnerabilities and hormonal changes throughout puberty. In addition, the comorbidity of personality problems with anorexia nervosa is also influenced by gender, as comorbid personality disorders such as BPD and OCPD are more common in women with AN. Perfectionism and emotional instability, as discussed in the previous paragraphs, are two characteristics linked to these diseases that are frequently more prominent in female AN patients. Men with AN, on the other hand, may have distinct personality profiles, which are commonly defined by characteristics associated with dependent and avoidant personality disorders [20]. The various influencing factors discussed in this section underscore the complexity of PDs and AN's nature, addressing the importance of a more holistic understanding of the conditions and awareness of risk factors to prevent the progress of illnesses.

3.4 Treatments and Outcomes

Treatment approaches for AN may benefit from including measures targeted at reducing obsessionality, perfectionism, and emotional instability due to the unique patterns of comorbidity, especially the high incidence of borderline and obsessive-compulsive disorders. This may entail using cognitive-behavioral therapy (CBT) strategies designed to target these particular characteristics of PDs. Comprehending the part personality plays in EDs can help with outcome prediction and therapy customization, as the meta-analysis by Cassin emphasizes how crucial it is to consider PDs and personality traits when developing a treatment strategy—moreover, Juli et al.'s study also mentioned the effective of CBT as well as a discussion of different treatment approaches for eating disorders that co-occur with mental health issues [12, 14]. The significance of a psychobiological approach that incorporates therapies for both physical and psychological health is emphasized in the study, in which the cornerstone of treatment is identified as cognitive-behavioral therapy (CBT), which is frequently paired with lifestyle modification programs and weight reduction therapy to effectively manage the symptoms of eating disorders and co-occurring mental illnesses [12]. Another approach mentioned in this article is an intensive inpatient rehabilitation unit where patients are admitted to the rehabilitation center ED specialized ward and receive an intensive treatment program on a day-hospital basis to maintain their nutrition intake and physical and psychological well-being. Such an intensive level of treatment can be employed when the treatment outcomes of non-intensive approaches are ineffective and the patient's condition becomes more severe and presents physical and psychological risks [12].

4. Implications

The above studies on anorexia nervosa and personality disorders collectively bring essential clinical implications and provide direction for more comprehensive research. First, emotional regulation's role in the comorbidity of AN and PD presents itself repeatedly in most of the literature included in this review. Various personality traits and psychiatric conditions such as depression, anxiety, and perfectionism all contribute to such comorbidity and are all related to emotional dysregulation. Thus, addressing such phenomena and adapting treatment targeting emotional regulation is essential to improve therapeutic outcomes. The high occurrence of comorbid PDs in AN patients emphasizes the necessity of thorough evaluation and treatment plans that take care of both illnesses. Medical professionals must check for the presence of PDs during the first examination of patients with AN, given the influence that concomitant PDs have on the severity and duration of AN. Early detection of co-occurring PDs might assist in customizing treatments to the unique requirements of these individuals and guide treatment planning, perhaps leading to better outcomes.

However, as present medications frequently fall short of appropriately addressing the intricate interplay between these illnesses, further research is required to develop and evaluate effective treatment options for patients with AN and concomitant PDs. Moreover, clinical implications should lead to more comprehensive research aims and approaches, and the studies call for future research into the complex interaction between emotional regulation, PDs, and AN to develop more effective treatment approaches. Finally, the past research on the comorbidity of AN and PDs mainly focuses on limited types of PDs, such as OCD or BPD. In contrast, other PDs that could play an essential role in AN patients' overall condition are still under-researched, such as histrionic personality disorder and paranoid personality disorder. Further investigation into more types of PDs would contribute to a more holistic view of treating AN and comorbid PDs.

5. Conclusion

The complexity and prevalence of comorbidity between personality disorders (PDs) and anorexia nervosa (AN) are highlighted in this review, along with the essential clinical implications and difficulties this confluence brings. The studies included in this review present a significant percentage of people with AN who fit the diagnostic criteria for at least one PD, especially in Clusters B (borderline PD) and C (obsessive-compulsive, avoidant, and dependent PDs). PDs in AN patients require a more complex kind of therapy, with medications addressing both conditions. The review also identifies important factors, such as age of onset, gender, personality characteristics, family dynamics, and emotional regulation, that affect the comorbidity of PDs and AN. These elements highlight how crucial it is to comprehend AN and PDs holistically in order to design more focused and successful therapies. In addition, the review points out important gaps in the literature, especially on the need for more study on the function of less-studied PDs, including paranoid and histrionic personality disorders, in the setting of AN. Future studies should concentrate on creating integrated treatment plans that address co-occurring PDs and AN, emphasizing to personality features and emotional control. The ultimate objective is to enhance therapy results and offer more comprehensive care for those who are battling with both AN and PDs by deepening our understanding of the interactions between these disorders.

References

[1] Arcelus, J., Mitchell, A. J., Wales, J., & Nielsen, S. Mortality rates in patients with anorexia nervosa and other eating disorders. A meta-analysis of 36 studies. Archives of General Psychiatry, 2011, 68(7): 724–731.

[2] Smink, F. R., van Hoeken, D., & Hoek, H. W. Epidemiology of eating disorders: incidence, prevalence and mortality rates. Current Psychiatry Reports, 2012, 14(4): 406–414.

[3] Crow, S. J., Peterson, C. B., Swanson, S. A., Raymond, N. C., Specker, S., Eckert, E. D., & Mitchell, J. E. Increased mortality in bulimia nervosa and other eating disorders. The American journal of psychiatry, 2009, 166(12): 1342–1346.

[4] Misra, M., & Klibanski, A. Endocrine consequences of anorexia nervosa. The Lancet. Diabetes & endocrinology, 2014, 2(7): 581–592.

[5] Lilenfeld, L. R., Wonderlich, S., Riso, L. P., Crosby, R., & Mitchell, J. Eating disorders and personality: a methodological and empirical review. Clinical psychology review, 2006, 26(3): 299–320.

[6] Godt, K. Personality disorders in 545 patients with eating disorders. European Eating Disorders Review: The Professional Journal of the Eating Disorders Association, 2009, 16(2): 94-99.

[7] Wonderlich, S. A., Lilenfeld, L. R., Riso, L. P., Engel, S., & Mitchell, J. E. Personality and anorexia nervosa. The International journal of eating disorders, 2005, 37 Suppl: S68–S89.

[8] Sansone, R. A., & Sansone, L. A. Personality pathology and its influence on eating disorders. Innovations in clinical neuroscience, 2011, 8(3): 14–18.

[9] Fairburn, C. G., & Harrison, P. J. Eating disorders. Lancet (London, England), 2003, 361(9355): 407–416.

[10] Martinussen, M., Friborg, O., Schmierer, P., Kaiser, S., Øvergård, K. T., Neunhoeffer, A. L., Martinsen, E. W., & Rosenvinge, J. H. The comorbidity of personality disorders in

eating disorders: a meta-analysis. Eating and weight disorders: EWD, 2017, 22(2): 201–209.
[11] Müller, B., Wewetzer, C., Jans, T., Holtkamp, K., Herpertz, S. C., Warnke, A., Remschmidt, H., & Herpertz-Dahlmann, B. Persönlichkeitsstörungen und psychiatrische Komorbidität im Verlauf der Zwangsstörung und der Anorexia nervosa. Vergleich Zweier 10-Jahres-Katamnesen [Personality disorders and psychiatric comorbidity in obsessive-compulsive disorder and anorexia nervosa]. Fortschritte der Neurologie-Psychiatrie, 2001, 69(8): 379–387.
[12] Juli, R., Juli, M. R., Juli, G., & Juli, L. Eating Disorders and Psychiatric Comorbidity. Psychiatria Danubina, 2023, 35(Suppl 2): 217–220.
[13] Khosravi M. Eating disorders among patients with borderline personality disorder: understanding the prevalence and psychopathology. Journal of eating disorders, 2020, 8: 38.
[14] Cassin, S. E., & von Ranson, K. M. Personality and eating disorders: a decade in review. Clinical psychology review, 2005, 25(7): 895–916.
[15] Monteleone, A. M., Mereu, A., Cascino, G., Castiglioni, M. C., Marchetto, C., Grasso, M., Pontillo, M., Pisano, T., Vicari, S., & Zanna, V. Coping With Adolescents Affected by Anorexia Nervosa: The Role of Parental Personality Traits. Frontiers in Psychology, 2021, 12: 678745.
[16] Wonderlich, S. A., Joiner, T. E., Jr, Keel, P. K., Williamson, D. A., & Crosby, R. D. Eating disorder diagnoses: empirical approaches to classification. The American psychologist, 2007, 62(3): 167–180.
[17] Khoubaeva, D., Dimick, M. K., Roane, J. L., Timmins, V. H., Mitchell, R. H. B., & Goldstein, B. I. Comorbid Eating Disorders in a Sample of Youth With Bipolar Disorder: Elevated Burden of Dimensional and Categorical Psychopathology. The Journal of Clinical Psychiatry, 2022, 83(4): 21r14201.
[18] Mitchison, D., & Hay, P. J. The epidemiology of eating disorders: genetic, environmental, and societal factors. Clinical epidemiology, 2014, 6: 89–97.
[19] Klump, K. L., Bulik, C. M., Kaye, W. H., Treasure, J., & Tyson, E. Academy for Eating Disorders position paper: eating disorders are serious mental illnesses. The International journal of eating disorders, 2009, 42(2): 97–103.
[20] Farstad, S. M., McGeown, L. M., & von Ranson, K. M. Eating disorders and personality, 2004–2016: A systematic review and meta-analysis. Clinical Psychology Review, 2016, 46: 91–105.