



Suicidality in Huntington's Disease

Cooper Elkins, MS-3*; Itamar Shapira, MS-3*; Shirley Zhang, MS-3*; Pamela Parker, MD⁺

*University of Alabama at Birmingham School of Medicine

⁺University of Alabama at Birmingham Department of Psychiatry and Behavioral Neurobiology

Introduction

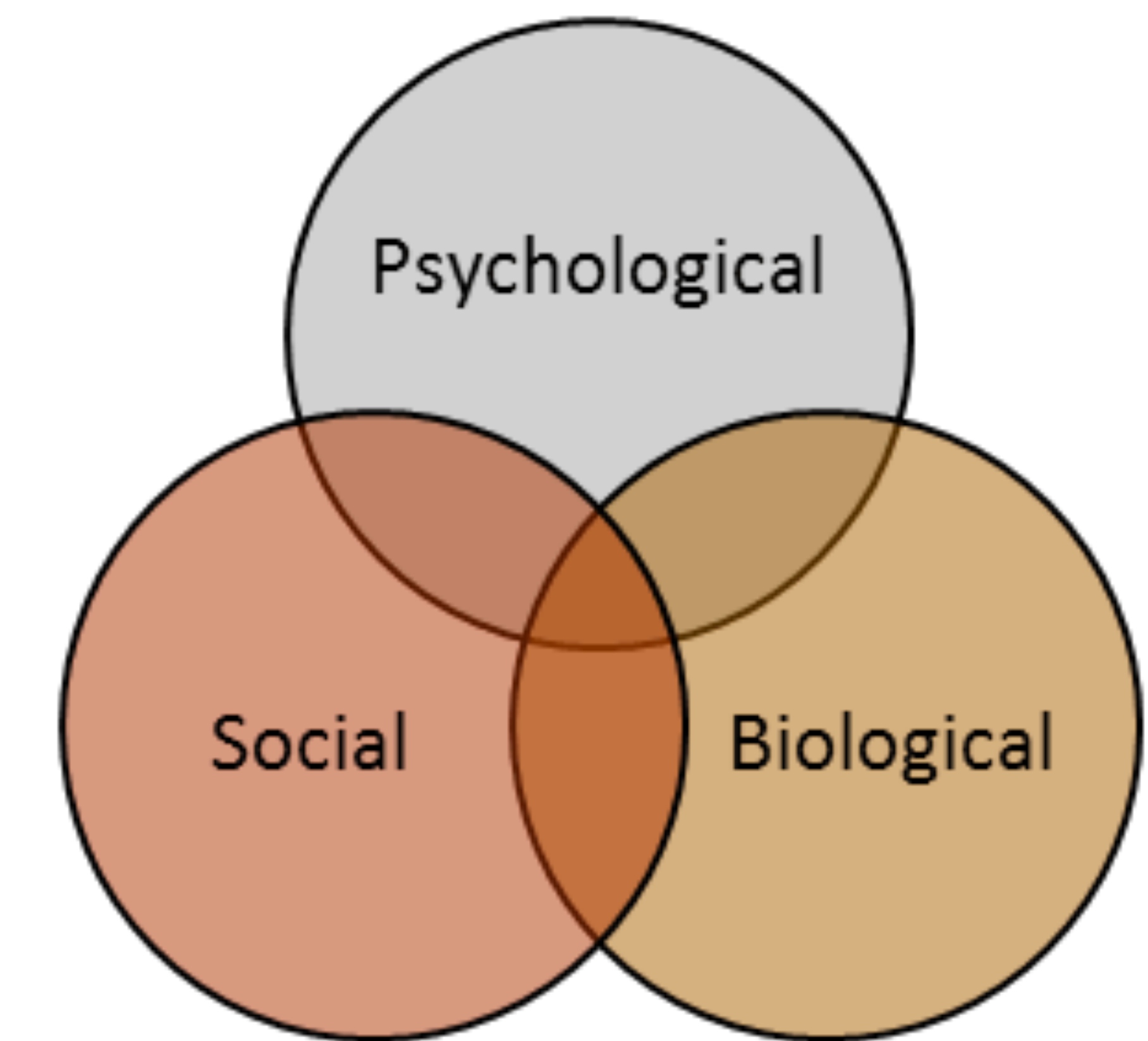
Chronic non-communicable diseases have been strongly associated with depression.⁵ In Huntington's disease, up to 98% of patients develop a psychiatric disorder or experience psychiatric symptoms at some point during their disease, with the most frequent being depression.¹ The prevalence of depression in Huntington's disease has been estimated between 9 and 63% with suicidal ideation occurring in 20-30% of patients and suicide attempts in approximately 7% of patients.^{1,6} This association between Huntington's disease, depression, and suicidality is inadequately characterized but is thought to go beyond the life disruption and psychological toll of motor symptoms, being at least in part organic.^{2,3}

Case Report

The patient is a 38-year-old male with a past medical history significant for Huntington's disease diagnosed in 2017 who presented after leaping from a 3-story building in an apparent suicide attempt, sustaining multiple traumatic fractures of the lower extremities and spine. The patient reported increasing depression leading up to the suicide attempt focused on the progression of his disease. The patient's mother died from complications of Huntington's disease at age 36, and his worry has increased as he is now past this age. He also lost two other relatives in his mother's family to Huntington's disease. In addition, he reported a continuous feeling of stress that he attributed to being homeless. He denies any previous suicide attempts and reports feeling glad his attempt failed. The patient was initially resistant to contacting family, stating that he did not want to further burden his sister, stating that she had done enough already. Upon obtaining collateral from sister, conflicting information was obtained. The patient has been living in an apartment supplied by his sister. The sister manages the patient's finances, provides him with groceries, and delivers his medications. His sister has been supporting the patient in this manner for the last three years. The patient's sister reported that just prior to this event, the patient abruptly left home without any notice, and the sister was about to file a missing person's report. She was glad to hear that he was in the safe care of the local hospital.

Discussion

This patient's presentation is significant for its ability to bring both awareness to the burden and severity of depression in patients with Huntington's Disease and the unique social stressors that these patients face. With the alarming rate of depression and suicidality in patients with Huntington's disease, it is crucial that suicidal thoughts and behaviors are closely followed in this patient population.⁵ There is some debate on how rates of suicidality differ with the stages of Huntington's disease. One prominent school of thought is that rates of suicidality peak bimodally, first with symptom onset and second with a patient's loss of independence. This is followed by a subsequent decrease in suicidality as disease progression impacts cognition and personality with apathy and affect blunting becoming increasingly prevalent.^{1,4} This patient presents well past symptom onset with several years of diminished independence and a first-time suicide attempt. This was contrary to the suggested bimodal distribution of suicidality and seemed to be driven by two specific factors. First, his anticipation of death, having watched his mother succumb to the same disease earlier in life, and second, his guilt for having to rely on his sister for such extensive care. Upon further interactions with the patient, however, it became apparent that his guilt for burdening his sister was the overwhelming driver of his suicidality. Social workers who were actively engaged with the patient at the Huntington's Clinic were unaware of the patient's distress. Our case underscores the need to understand a patient's perspective on their condition and social setting, factors that could easily be overlooked if a patient's perspective is not clearly investigated. In this case, the basic needs of the patient such as food, clothing, and shelter were provided, but his feelings about it were not addressed. This highlights the importance of engaging the feelings and perceptions of all patients who might have concerns about the terminal nature and dependency caused by their illness.



References

1. Bono, A. D., Twaite, J. T., Krch, D., McCabe, D. L., Scorpio, K. A., Stafford, R. J., & Borod, J. C. (2021). Mood and emotional disorders associated with parkinsonism, Huntington disease, and other movement disorders. *Handb Clin Neurol*, 183, 175-196.
2. Butenaite, A., Strumila, R., Lengvenyte, A., Pakutkaite, I. K., Morkuniene, A., Matuleviciene, A., Dlugauskas, E., & Utkus, A. (2021). Significant Association Between Huntingtin Gene Mutation and Prevalence of Hopelessness, Depression and Anxiety Symptoms. *Acta Med Litu*, 28(1), 77-85.
3. Gardiner, S. L., van Belzen, M. J., Boogaard, M. W., van Roon-Mom, W. M. C., Rozing, M. P., van Hemert, A. M., Smit, J. H., Beekman, A. T. F., van Grootheest, G., Schoevers, R. A., Oude Voshaar, R. C., Roos, R. A. C., Comijs, H. C., Penninx, B., van der Mast, R. C., & Aziz, N. A. (2017). Huntingtin gene repeat size variations affect risk of lifetime depression. *Transl Psychiatry*, 7(12), 1277.
4. Kachian, Z. R., Cohen-Zimmerman, S., Bega, D., Gordon, B., & Grafman, J. (2019). Suicidal ideation and behavior in Huntington's disease: Systematic review and recommendations. *J Affect Disord*, 250, 319-329.
5. Lotfaliany, M., Bowe, S. J., Kowal, P., Orellana, L., Berk, M., & Mohebbi, M. (2018). Depression and chronic diseases: Co-occurrence and communality of risk factors. *J Affect Disord*, 241, 461-468. <https://doi.org/10.1016/j.jad.2018.08.011>
6. Slaughter, J. R., Martens, M. P., & Slaughter, K. A. (2001). Depression and Huntington's disease: prevalence, clinical manifestations, etiology, and treatment. *CNS Spectr*, 6(4), 306-326.

Acknowledgement & Contact information

Authors have no conflicts of interest to report.

We would like to acknowledge the UAB Heersink School of Medicine Department of Psychiatry and Behavioral Neurobiology for offering valuable clinical experiences to medical students and excellent mentorship in research and clinical practice.