

Psychocrinology

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Abstract

Psychiatry and Endocrinology share a deep rooted, multifaceted bidirectional relationship. Both have seen a surge in cases due to change in lifestyle. Time has come where these two rapidly growing fields interact and exchange knowledge leading to emergence of Psychocrinology. This communication describes the rationale behind using the term psychocrinology, and provides an overview of its vast spectrum.

Keywords: Diabetes, endocrinology, psychiatry, psychodiabetology, psychology, psychosocial aspects

Interconnected etiopathogenesis and mistaken identities

The mind impacts hormonal function in many ways. Stress controls the secretion of cortisol and prolactin, and leads to a rise in plasma glucose which will not be addressed by diabetic medications till stress is addressed.¹ Psychological and psychiatric illness may lead to endocrine dysfunction, as in anorexia nervosa and bulimia nervosa.²

At the same time, endocrine function influences the mind. The major risk factors for dementia,³ such as diabetes, midlife obesity and midlife hypertension, are related to the endocrine system. Mood disorders are a significant part of many endocrine syndromes, such as Cushing's syndrome and hypogonadism and these patients can present to psychiatrists.^{4,5} The recognition of unique medical conditions such as diabetes distress and Hashimoto's encephalopathy,^{6,7} testifies to the close connections between psychology and endocrinology.

Interlinked Management

The management of psychiatric disorders and endocrine diseases is also intertwined. Poor glycaemic control may predispose to psychological dysfunction or psychiatric illness, and vice versa.¹ Glucose-lowering strategies associated with excessive glycaemic variability and

hypoglycaemia can hasten the progression of dementia. Some antipsychotic drugs, on the other hand, can predispose to hyperglycaemia. Dopamine modulating drugs, like bromocriptine QR, are approved for the management of type 2 diabetes, and the glucose-lowering drug metformin has been reported to improve cognitive function.^{8,9}

Integrated Approach

These multifaceted links suggest that the management of comorbid endocrine and psychological illnesses should not be performed in isolation. To promote a collaborative and comprehensive approach to these conditions, we propose using the term 'psychocrinology',

Psychocrinology

Psychocrinology can be defined as the discipline which deals with the interrelationship between psychological/psychiatric and endocrine function, dysfunction and therapy. The term 'psychocrinology' highlights that etiopathogenetic factors and clinical features may be common to psychologic /psychiatric and endocrine illness. It reminds us to screen for, manage, and monitor psychological health in endocrine disease, and hormonal status in psychological/psychiatric illness. From a public health viewpoint, psychocrinology calls for integration of non-communicable disease programmes with mental health intervention, and vice versa. It also sensitizes professionals working in mental health, and in endocrinology, to remain abreast of developments in each other's fields.

Psychodiabetology

A case can also be made for the term 'psychodiabetology'. This term communicates our understanding of the complex interrelationship between mental health and diabetes. Extensive evidence supports the bidirectional relationships between anxiety, depression, schizophrenia and dementia on one hand, and diabetes on the other. It also conveys our appreciation of the fact that the diabetes pandemic is perhaps the most important public health challenges faced by mankind today. Mental illness, (anxiety and depression for example) and diabetes occur together so often that they should be treated as a syndemic.

Summary

While the concept of psychodiabetology has significant

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clinical and public health relevance, it can be considered part of the discipline of psychoendocrinology. If brought into general use, the term 'psychocrinology' should help stimulate clinical interest as well as research in this important field. This, in turn, will improve the quality of care that we provide to persons living with comorbid psychological/psychiatric and endocrine dysfunction.

References

1. Balhara YP. Diabetes and psychiatric disorders. *Indian J Endocrinol Metab.* 2011;15: 274-83.
2. Keski-Rahkonen A, Mustelin L. Epidemiology of eating disorders in Europe: prevalence, incidence, comorbidity, course, consequences, and risk factors. *Curr Opin Psychiatry.* 2016; 29: 340-5.
3. Livingston G, Sommerlad A, Orgeta V, Costafreda SG, Huntley J, Ames D, et al. Dementia prevention, intervention, and care. *The Lancet.* 2017; 390: 2673-734.
4. Fujii Y, Mizoguchi Y, Masuoka J, Matsuda Y, Abe T, Anzai K, et al. Cushing's Syndrome and Psychosis: A Case Report and Literature Review. *Prim. Care Companion CNS Disord.* 2018; 20: 18
5. Smith JB, Rosen J, Colbert A. Low serum testosterone in outpatient psychiatry clinics: addressing challenges to the screening and treatment of hypogonadism. *Sex. Med. Rev.* 2018; 6: 69-76.
6. Kalra S, Verma K, Singh YB. Management of diabetes distress. *J Pak Med Assoc.* 2017; 67:1625-7.
7. Endres D. The role of Hashimoto's encephalopathy in psychiatry. *Pharmacopsychiat.* 2017; 50: A32.
8. Shivaprasad C, Kalra S. Bromocriptine in type 2 diabetes mellitus. *Indian J Endocrinol Metab.* 2011; 15 (Suppl1): S17-S24.
9. Guo M, Mi J, Jiang QM, Xu JM, Tang YY, Tian G, et al. Metformin may produce antidepressant effects through improvement of cognitive function among depressed patients with diabetes mellitus. *Clin. Exp. Pharmacol. Physiol.* 2014; 41: 650-6.