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ORIGINAL RESEARCH ARTICLE

AN ASOCIATION BETWEEN ERECTILE DYSFUNCTION AND PSYCHOLOGICAL DISORDERS- A CROSS SECTIONAL STUDY

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ABSTRACT

Background: Erectile dysfunction is a major chronic condition affecting hundreds of millions of individual's worldwide and psychological experience of erectile dysfunction. **Aims and Objective:** To study an association between erectile dysfunction and its related psychological disorders. **Methods and Materials:** A questionnaire-based cross-sectional study conducted in the department of psychiatry in Madhubani Medical College, Madhubani, Bihar, from 20th October 2023 to 15th February 2024 after getting approval from institutional ethical committee of the college. Data from 126 patients with ED aged 18–50 years were collected. The 5-item International Index of Erectile Function (IIEF-5) questionnaire, self-rating anxiety scale (SAS) and self-rating depression scale (SDS) were used to evaluate erectile function, anxiety and depression, respectively. Univariate analysis and multivariate linear regression analyses were used to explore the associated factors of depression and anxiety.**Results:**The prevalence of anxiety and depression among ED patients was 37.26% and 63.84%, respectively. The mean anxiety index score was 44.26 ± 5.78 points, and the mean depression index was 53.86 ± 8.20 points. Multiple linear regression analysis showed that worse ED, low education level, and smoking were positively associated with increased risk of anxiety and depression. **Conclusion:**The findings of this research found evidence of a

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causal relationship between MD and ED. But the mechanism of the association between MD and ED remains to be discovered.

KEY WORDS: Impotence, mood disorders and sexual dysfunction

INTRODUCTION:

Erectile dysfunction (ED) is defined as the inability to achieve and maintain sufficient erection to allow for satisfactory sexual performance [1]. Epidemiological data have shown that ED is highly prevalence worldwide and is currently one of the most common sexual dysfunctions in men [2]. A previous study showed that the prevalence of ED varied from 37.2 to 48.6% in eight high burden countries [3]. In New Zealand, it was found that nearly a third of men aged 40–70 had ED but only 16% of them received a medical diagnosis and 22% are treated [4]. ED is described as a disrupted bio-psycho-social process involving the psychological, endocrine, vascular and nervous systems [5], which can significantly affect an individual's psychological well-being [6]. This suggests that the mental health of ED patients should be investigated and closely monitored.

Anxiety and depression can both contribute to erectile dysfunction (ED).Erectile dysfunction is most commonly defined as a consistent or recurrent inability to attain or maintain an erection that is sufficient for sexual satisfaction (McCabe et al., 2016). The fifth edition of the Diagnostic and Statistical Manual of Mental Disorders also considers that symptoms need to persist for more than 6 months and be causing significant distress in order to qualify as erectile dysfunction (American Psychiatric Association, 2013). This definition serves as a useful generalized description of the condition, but it is

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worth noting that it might be based on heteronormative assumptions, and it is unknown whether this definition is useful for individuals who identify as transgender or nonbinary (Whitney et al., 2022). Erectile dysfunction is a major chronic condition affecting hundreds of millions of individuals worldwide. Indeed, in healthy populations, the risk of erectile dysfunction increases across the adult life span, with prevalence rates at approximately 20% before age 30 years, 25% at age 30 to 39 years, 40% at age 40 to 49 years, 60% at age 50 to 59 years, 80% at age 60 to 69 years, and 90% in individuals above 70 years of age.Erectile dysfunction (ED) is an important part of sexual dysfunction and can cause a decrease in the life quality of the patient and his partner. From the National Institutes of Health, the most commonly cited definition of ED is the inability to obtain and maintain an erection for satisfactory sexual intercourse firm enough [7]. The European Association of Urology (EAU) 2021 Andrology Disease Guide indicated that the incidence of ED increased with age, ranging from 12 to 82.9% [8]. Although ED can be considered a vascular disease essentially, it is also closely related to neurological and mental health. For example, several studies report that ED is commonly found in some men with mental illness, including major depression (MD) [9], anxiety [10, 11] and schizophrenia [12]. In the 2017 Global Burden of Disease Study [13], depression is the third cause of non-fatal health loss, and affects over 300 million people worldwide [14]. According to previous literature, patients with ED often have MD [15, 16] with a frequency ranging from 8.7%14 to 43.1% [17]. Recently, a Meta-analysis reported that depression may lead to ED (OR=1.39, 95% CI: 1.35-42) [18].In this context, the weight of ED among the putative determinants of depression in men with SCI remains to be clarified. We surmise that ED could represent a key independent correlate ofdepressive symptoms in this population.

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AIMS AND OBJECTIVE:

To study an association between erectile dysfunction and its related psychological disorders

MATERIAL AND METHODS:

Study design

This was a questionnaire-based cross-sectional study conducted in the department of psychiatry in Madhubani Medical College, Madhubani, Bihar, from 20th October 2023 to 15th February 2024 after getting approval from institutional ethical committee of the college. Data from 56 patients with ED aged 18–50 years were collected. The 5-item International Index of Erectile Function (IIEF-5) questionnaire, self-rating anxiety scale (SAS) and self-rating depression scale (SDS) were used to evaluate erectile function, anxiety and depression, respectively. Univariate analysis and multivariate linear regression analyses were used to explore the associated factors of depression and anxiety.

Participants

Participants were only men, aged 18 years or older but not more than 50 years, who were being seen in an outpatient psychiatry department.Patients who complained of erectile dysfunction and visited the outpatient department were consecutively enrolled, and all participants were required to complete the questionnaire independently in a separate room after obtaining informed consent. Consultation was allowed when confused about any options, and the

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completed questionnaire would be checked by staff. A total of 56 respondents were recruited during this period.

The inclusion criteria were as follows:

(1) Men aged 18–50;

(2) Sexual life history over 6 months;

(3) Scores of the 5-item International Index of Erectile Function (IIEF-5) questionnaire are between 5 and 21.

(4) Age ranging from 18 to 50 years.

(5) Only men were included.

The exclusion criteria were as follows:

(1) Cognitive or communication disorders;

(2) Previous serious mental illness;

(3) History of severe chronic diseases.

(4)Medical (ie, severe pain), cognitive (eg, dementia), or psychiatric (eg, psychotic) illness that would preclude the successful completion of study.All participants gave informed consent and could withdraw or interrupt from the study at any time.

STATISTICAL ANALYSIS:

Data were analyzed using the Statistical Product and Service Solutions SPSS software. Frequencies were used to describe categorical variables, and means ± standard deviation (SD) were used to represent scale scores.In the study, we applied the random-effects inversevariance weighted (IVW) method as the main analysis toevaluate the casual relation of genetically predicted Depression with that of ED.

RESULTS:

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The prevalence of anxiety and depression among ED patients was 37.26% and 63.84%, respectively. The mean anxiety index score was 44.26 ± 5.78 points, and the mean depression index was 53.86 ± 8.20 points. Multiple linear regression analysis showed that worse ED, low education level, and smoking were positively associated with increased risk of anxiety and depression. In addition, younger age, longer onset time, and irregular sleep were positively associated with high risk of anxiety, and irregular exercise was associated with severe depression.

Univariate analysis

Univariate analysis was performed to assess the association between depression and anxiety and demographic variables, including age, BMI, education level, occupation, hobbies, smoking, alcohol drinking, coffee drinking, regular sleep, regular exercise, treatment history, regular sexual partner, onset time, frequency of intercourse, and severity of ED. The factors associated with depression and anxiety are not always the same.

Multiple linear regression analysis

Factors with statistical significance in the univariate analysis were used as independent variables and anxiety or depression index scores were used as dependent variables for multivariate analysis. Results showed that a worsening ED (48.76 ± 5.87), low education level (48.48 ± 7.83), smoking (47.35 ± 5.23), younger age (51.02 ± 8.77), longer onset time (47.33 ± 7.82), and irregular sleep (47.34 ± 5.87) were positively associated with a high risk of anxiety. In addition, worse ED

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(55.76 ± 7.35), low education level (57.79 ± 6.05), smoking (54.59 ± 9.08), and irregular exercise (55.70 ± 9.01) was associated with increased risk of depression.

DISCUSSION:

Adequate sexual expression is an essential part of many human relationships, and may enhance quality of life and provide a sense of physical, psychological and social well-being. Epidemiological and clinical studies show that depression is associated with impairments of sexual function and satisfaction, even in untreated patients. Most antidepressant drugs have adverse effects on sexual function, but accurate identification of the incidence of treatment-emergent dysfunction has proved troublesome, as disturbances of the sexual response can only be detected in a reliable fashion when systematic enquiries are made before and during the course of treatment. Growing awareness of the adverse effects of many antidepressants on sexual function has led to attempts to resolve dysfunction though adjuvant or substitution treatment approaches.

Erectile dysfunction is one of the more common male sexual dysfunctions encountered in the clinical setting. Comorbidity between erectile dysfunction and depressive illness is high, but the causal relationship is unclear. The psychosocial distress that often accompanies erectile dysfunction might stimulate the development of depressive illness, or, as some data suggest, depression might cause erectile dysfunction. This article reviews the literature on the relationship between depression and erectile dysfunction, as well as the design of a new study that may provide some answers, and concludes that erectile dysfunction is a common, treatable condition that may cause or be the result of depression.

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CONCLUSION:

Erectile dysfunction is a major chronic condition that can have substantial implications for well-being and quality of life for both the affected individual and their partner.

There is evidence that psychological factors such as personality, depression, stress, and cognitive interference such as performance worry, shifts in attentional focus contribute to erectile problems. There is also evidence that the experience of erectile dysfunction can have negative psychological effects, including feelings of emasculation and humiliation, decreases in self-confidence and feelings of self-worth, feelings of isolation and loneliness, increases in depression, and decreases in subjective well-being. Effects on the affected individuals' sexual partner include feelings of being unattractive, feelings of rejection, feeling unloved, decreases in self-esteem, and frustration. This review will benefit researchers aiming to develop a program of research in sexual health psychology that focuses on the psychological experience of erectile dysfunction.

REFERENCES:

1. NIH Consensus Conference NIH consensus development panel on impotence. JAMA. 1993;270(1):83–90.

2. Salonia A, Bettocchi C, Boeri L, Capogrosso P, Carvalho J, Cilesiz NC, et al. European association of urology guidelines on sexual and reproductive health-2021 update: male sexual dysfunction. Eur Urol. 2021;80(3):333–357.

3. Goldstein I, Goren A, Li VW, Tang WY, Hassan TA. Epidemiology update of erectile dysfunction in eight countries with high burden. Sex Med Rev. 2020;8(1):48–58.

4. Quilter M, Hodges L, von Hurst P, Borman B, Coad J. Male Sexual function in New Zealand: a population-based cross-sectional survey of the prevalence of erectile dysfunction in men aged 40–70 years. J Sex Med. 2017;14(7):928–936.

5. Melman A, Gingell JC. The epidemiology and pathophysiology of erectile dysfunction. J Urol. 1999;161(1):5–11.

6. Nguyen HMT, Gabrielson AT, Hellstrom WJG. Erectile dysfunction in young men-a review of the prevalence and risk factors. Sex Med Rev. 2017;5(4):508–520.

7. NIH Consensus Conference.Impotence.NIH Consensus Development Panel on Impotence.JAMA. 1993;270(1):83–90.

8. Salonia A, Bettocchi C, Boeri L, et al. European Association of Urology Guidelines on sexual and Reproductive Health-2021 update: male sexual dysfunction. Eur Urol. 2021;80(3):333–57. https://doi.org/10.1016/j.eururo.2021.06.007.

9. Huang SS, Lin CH, Chan CH, et al. Newly diagnosed major depressive disorder and the risk of erectile dysfunction: a population-based cohort study in Taiwan. Psychiatry Res. 2013;210(2):601–6. https://doi.org/10.1016/j.psychres.2013.06.012.

10. Mourikis I, Antoniou M, Matsouka E, et al. Anxiety and depression among greek men with primary erectile dysfunction and premature ejaculation. Ann Gen Psychiatry. 2015;14:34. https://doi.org/10.1186/s12991-015-0074-y. Published 2015 Oct 29.

11. Wang YT, Chen HH, Lin CH, et al. Newly diagnosed panic disorder and the risk of erectile dysfunction: a population-based cohort study in Taiwan. Psychiatry Res. 2016;244:229–34. https://doi.org/10.1016/j.psychres.2016.07.037.

12. Montejo AL, Majadas S, Rico-Villademoros F, et al. Frequency of sexual dysfunction in patients with a psychotic disorder receiving antipsychotics. J Sex Med. 2010;7(10):3404–13. https://doi.org/10.1111/j.1743-6109.2010.01709.x.

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13. GBD 2019 Diseases and Injuries Collaborators. Global burden of 369 diseases and injuries in 204 countries and territories, 1990–2019: a systematic analysis for the global burden of Disease Study 2019. Lancet. 2020;396(10258):1204– 22. https://doi.org/10.1016/S0140-6736(20)30925-9.

14. World Health Organization. Depression and Other Mental Disorders: Global Health Estimates. Geneva; 2017.

15. Seftel AD, Sun P, Swindle R. The prevalence of hypertension, hyperlipidemia, diabetes mellitus and depression in men with erectile dysfunction. J Urol. 2004;171(6 Pt 1):2341–5. https://doi.org/10.1097/01.ju.0000125198.32936.38.

16. Martin-Morales A, Sanchez-Cruz JJ, Saenz de Tejada I, et al. Prevalence and independent risk factors for erectile dysfunction in Spain: results of the Epidemiologia de la DisfuncionErectilMasculina Study. J Urol. 2001;166(2):569–75. https://doi.org/10.1016/s0022-5347(05)65986-1

17. Weber MF, Smith DP, O'Connell DL, et al. Risk factors for erectile dysfunction in a cohort of 108 477 australian men. Med J Aust. 2013;199(2):107–11. https://doi.org/10.5694/mja12.11548.

18. Liu Q, Zhang Y, Wang J, et al. Erectile Dysfunction and Depression: a systematic review and Meta-analysis. J Sex Med. 2018; 15(8):1073–82. https://doi. org/10.1016/j.jsxm.2018.05.016