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Anxiety and depression in Parkinson's disease patients in Saudi Arabia Global neurology

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Parkinson's disease is the most common movement disorder in Saudi Arabia. Among the most common non-motor symptoms of PD are anxiety and depression. Mental health disorders, however, still remain taboo subjects in the region. This brief article sheds light on a small study conducted on Saudi PD patients, and discusses current challenges for managing them in the region. Given the wider readership of JNS's Global Neurology, this piece is hoped to appeal to the appropriate audience.

Classically a motor disorder, Parkinson's disease (PD) results in many non-motor symptoms, some of which have been recognised since the first description of the "*shaking palsy*" by James Parkinson [1]. Only recently, however, research on non-motor symptoms of PD has gained momentum [2–4]. The PRIAMO study evaluated 1072 Italian PD patients and observed that 98.6% of PD patients experienced such symptoms [5]. Psychological complaints were the most common, including anxiety in 56% and depression in 22.5% patients [5].

Sociocultural factors have been shown to influence the prevalence [6,7], perception [8] and even clinical presentation of anxiety and depression [9,10]. Large-scale epidemiological studies on mental health disorders are largely lacking in Saudi Arabia, as most studies involve selective patient samples (e.g. medical students or dialysis patients) [11–13]. In a cross-sectional study from South-eastern Saudi Arabia on general practice patients ($n = 280$), around 10% screened positively for depression [14]. Little is known about the prevalence and nature of anxiety and depression in PD patients in Saudi Arabia. In a clinical study [15] that alluded to non-motor symptoms in 54 PD patients in Saudi Arabia, depression was the second most prevalent symptom, exceeded only by constipation.

The only available data on anxiety and depression come from a small cohort ($n = 18$) of Saudi PD patients (Alamri, unpublished). When compared with another age- and sex-matched cohort from New Zealand ($n = 30$), Saudi PD patients scored significantly higher on the HADS depression subscale (mean 11.7 vs. 9.5, $p = 0.004$), but not anxiety subscale (4.7 vs. 5.6, $p = 0.36$) or the total HADS scores (11.7 vs. 9.5, $p = 0.23$).

A number of reasons could explain this observed finding. Saudi patients with mental health illnesses do not generally receive adequate care, possibly due to stigma relating to mental health disorders in Saudi Arabia [16,17]. This ranges from negative associations with mental illness diagnoses (depression, for example, is often associated with weakness or inadequate coping), to adverse social implications (e.g. workplace discrimination) once a diagnosis is made. Furthermore, there is a substantial negative connotation to receiving treatment, especially on an in-patient basis, probably related to a sense of shame and/or fear of being labelled 'crazy', not only by patients, but also their family members [16].

Future research should further explore mental health disorders, especially in a larger PD sample. This would allow for a more representative study and facilitate examination of associations between anxiety and depression on the one hand and sociodemographic and other PD patients clinical parameters (both positive and negative) on the other hand.

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