

Comparing PH and DysG groups, dysgraphia is associated to PSR ( $P = 0.04$ ). 38% of abnormal MRI scans were heterogeneous and non-specific to the level of handwriting disorder and to PSR.

**Conclusions:** Dysgraphia appears to be a singular disorder as a comorbidity of DCD, which is significantly associated with a high incidence of motor impairments, suggesting a disturbance of the motor pathway (mild distal spasticity of the pyramidal corticospinal tract dysfunction). The presence of MND such as PSR highlights a mild impairment of the motor voluntary movement from the premotor cortex. PH appears primarily due to an immaturity of handwriting gesture consecutive to disorders of coordination programming in DCD.

Dysgraphia should be assessed not only with a simple handwriting test (legibility and speed) but completed with a developmental standardized physical neuropsychomotor examination assessing the presence of MND because to know the nature of the disorder is useful in clinical decision-making processes for handwriting remediation.

**Disclosure of Interest:** None Declared

## EPV0454

### Utilizing Artificial Intelligence to Predict Psychiatric Disorders in Patients with Inflammatory Bowel Disease (IBD): Insights Based on a Systematic Review

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**Introduction:** The scientific literature recognizes the Gut-brain axis (GBA) as a crucial connection between gastrointestinal health and mental well-being. Patients with inflammatory bowel disease (IBD) are at a disproportionately higher risk of developing psychiatric disorders due to factors including gut dysbiosis and chronic inflammatory changes. Recent developments in artificial intelligence (AI) and machine learning, provide novel opportunities to predict the comorbid psychiatric outcomes in patients with IBD by analyzing complex datasets including but not limited to the gut microbiome and neuroimaging data.

**Objectives:** This systematic review discusses the current evidence for AI-driven models to aid in the prediction of psychiatric disorders in IBD patients, with a focus on their performance and potential challenges around their clinical implementation.

**Methods:** A systematic search on PubMed, EMBASE, Scopus, and Cochrane databases, identified 28 studies utilizing AI-based models to examine gut microbiota and neuroimaging data in patients with IBD. Data extraction illuminated the following artifacts: classification thresholds (i.e. predictive), relevant supervised learning or deep learning modeling (e.g. random forest classifiers, convolutional neural networks, and unsupervised models like attention-based learning), sensitivity, specificity, accuracy, and both accuracy measures and AUC-ROC curve values.

**Results:** A pooled analysis of the included studies demonstrated an estimated sensitivity of 81% (95% CI: 77-85%) and specificity of 78% (95% CI: 73-82%) to predict psychiatric disorders in patients with IBD with the highest predictive accuracy elicited by studies based on microbiome and neuroimaging data. Yun et al. (2024), for instance, demonstrated a predictive accuracy of 86% using microbiome profiles and structural brain imaging data while Fil et al. (2024) elucidated the positive correlation between gut dysbiosis and psychiatric symptoms based on microbial signature models. Additionally, the variability noted in the predictive performance of the models was found to be based on the patient population, quality of data, and machine learning strategy.

**Conclusions:** AI models present promising evidence in predicting psychiatric disorders in IBD patients by leveraging microbiome and neuroimaging datasets. Overall, the meta-analysis reports strong predictive strength with high sensitivity and specificity. Future work in this field should focus on the validation of these prediction models in various clinical populations, improving their generalizability and standardization to enable widespread use and integration in the field of personalized psychiatry, especially in patients with IBD.

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## Consultation Liaison Psychiatry and Psychosomatics

## EPV0455

### Psychiatric Conditions Following Surgical Interventions: A Case Series

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**Introduction:** The surgical treatment process involves not only physical recovery but also the management of psychiatric and psychosocial issues. Psychiatric disorders can negatively affect postoperative recovery, complicate adherence to treatment and decrease the quality of life (Begum *et al.* World J Surg 2022; 46(6) 1408-1419).

**Objectives:** This case series highlights less commonly encountered psychiatric conditions that arise after surgery and emphasizes the importance of considering how these conditions interact with pre-existing diseases during postoperative follow-up.

**Methods:** This case series examines three distinct cases of psychiatric disorders following surgical interventions:

Delusional disorder after hypophysectomy

Somatization disorder after cystoscopy

Psychotic depression following colostomy creation

Informed consent was obtained from all patients.

#### Results: Case 1

A 62-year-old male patient diagnosed with hypophyseal macroadenoma underwent transsphenoidal hypophysectomy. Two months after surgery, he developed paranoid delusions, believing his wife was having an affair. Initially treated with aripiprazole 15 mg/day, the patient did not improve. His treatment was switched to risperidone 2 mg/day, resulting in resolution of his symptoms.

Case 2

A 58-year-old male with benign prostatic hyperplasia (BPH) developed persistent groin pain after cystoscopy. Despite urological treatment, the pain did not subside, and he was referred to algology for gabapentin, which was ineffective. Referred to psychiatry, he reported pain radiating to his back and arms, worsened by stress, and trouble sleeping due to his pain. Diagnosed with somatization disorder, he was treated with olanzapine 2.5 mg/day and cognitive interventions, which led to decreased pain.

Case 3

A 72-year-old male patient with rectal cancer, following abdominoperineal resection and colostomy creation, began consuming other people's medications. He exhibited disorganized behavior and suicidal ideation, and was diagnosed with psychotic depression. Treated with olanzapine 5 mg/day and venlafaxine 75 mg/day, his disorganized behavior resolved during follow-up, and olanzapine was discontinued. He remains in remission on venlafaxine 75 mg/day.

**Conclusions:** This case series illustrates the diversity of psychiatric conditions that can arise after surgical interventions and emphasizes the importance of postoperative psychiatric monitoring. Although there is a lack of sufficient studies on this topic, a post-operative follow-up study conducted with a group of 200 patients found that the risk of developing anxiety after surgery was 31%, and the risk of developing depression was 56% (Basak *et al.* Int J Surg 2015; 23 18-22). Psychiatric symptoms can complicate physical recovery, affect adherence to treatment, and reduce quality of life. A multidisciplinary approach is essential to support both physical and psychological recovery, ultimately improving the overall health status of patients.

**Disclosure of Interest:** None Declared

EPV0456

Evaluating the Psychometric Properties of Arabic Version of the Patient Health Questionnaire-9 (PHQ-9) among Omani Patients with End Stage Renal Disease on Dialysis

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**Introduction:** Depression significantly affects patients with chronic kidney disease (CKD), with prevalence rates reaching up to 39% among those on hemodialysis, and is often overlooked in screening. This study aims to assess the PHQ-9's effectiveness in Omani dialysis patients, potentially improving early detection and mental health care integration.  
**Objectives:** The objectives of this study are as follows: 1) To assess the sensitivity, specificity, positive predictive value and negative predictive value of the PHQ-9 in detecting depression among Omani renal dialysis patients at Al Seeb and Bausher dialysis units from October 2023 to January 2024. 2) To evaluate the psychometric properties of the PHQ-9, including the optimal cut-off score, internal consistency, and criterion validity, in Omani renal dialysis patients by January 2024

**Methods:** This cross-sectional study was conducted from October 1, 2023, to January 31, 2024, at two renal dialysis centers in Muscat, focusing on adults aged 18 and older who had undergone dialysis for at least three months. Data collection included a sociodemographic questionnaire, the Patient Health Questionnaire (PHQ-9) for depression symptoms, and the Structured Clinical Interview for DSM-5 (SCID-5) for psychiatric evaluation, with all ethical standards adhered to and Institutional Review Board approval obtained. Data analysis utilized MedCalc® software, with statistical significance set at  $p < 0.05$ , and the diagnostic accuracy of the PHQ-9 evaluated through ROC curve analysis.  
**Results:** The study included 209 patients with Chronic Kidney Disease (CKD), averaging 48.43 years, with demographics summarized in **Table 1**. The Patient Health Questionnaire-9 (PHQ-9) effectively screened for Major Depressive Disorder (MDD), achieving an AUC of 0.87, as illustrated in **Figure 1**, with an optimal cutoff score of 9, sensitivity of nearly 78%, and specificity of about 85%. Additional metrics are detailed in **Table 2**, confirming the PHQ-9's overall accuracy of 83.25% in identifying depression, highlighting the importance of clinical evaluation for diagnosis.

Image 1:

Table 1: Distribution of Patient Characteristics

Variables	n (209)	%
Age	48.43 ± 14.58	
Gender		
Male	126	60.3
Female	83	39.7
Employee		
No	156	74.6
Yes	53	25.4
Marital status		
Married	140	67.0
Single	40	19.1
Divorced	10	4.8
Widow	19	9.1
Educational level		
None	11	5.3
Can read	26	12.4
Elementary	23	11.0
Middle school	40	19.1
Secondary school	57	27.3
University	46	22.0
High educational	6	2.9
Financial stressors		
No	148	70.8
Yes	61	29.2
Family support		
No	33	15.8
Yes	176	84.2
Family history of mental illness		
No	203	97.1
Yes	6	2.9
Comorbid group		
No	37	17.7
Yes	172	82.3