The impact of optimising hospital meals in patients with major depressive disorder.

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Description of the initiative

Major Depressive Disorder (MDD) is a leading cause of global disability with symptoms often worsened by **malnutrition** and **limited nutritional assessments**. The Global Leadership Initiative on Malnutrition (GLIM) proposed consensus diagnostic criteria for malnutrition, emphasising the clinical relevance across hospital populations (Cederholm et al., 2025). Observational evidence indicates that poor nutritional status/malnutrition is common in patients presenting MDD and **dietary macronutrient adequacy** (particularly, proteins and fats) may **influence** mood regulation/**depressive symptoms** (Hu et al. 2024, Forootani et al. 2025). Therefore, the **objectives** of this study are: **1)** to **identify** GLIM-defined **malnutrition** among hospitalised adults with MDD, **2)** to **assess** its relationship with baseline **depressive severity scores** and **3)** to determine whether a **hospital meal intervention** would improve depressive symptoms.

Planned activities & deliverables

This is a **single centre intervention** study conducted in one of the **largest psychiatric hospitals** in Lower Austria. We will select patients with malnutrition based on GLIM scores and randomly allocate them into either **standard** or **optimised hospital meals** (high on protein/fat and low in carbohydrates). We will collect standard care treatment data, depression scores, nutritional/anthropometric information and biological samples (for future analysis). All information will be securely store in the university serves and validated questionaries will be administrated via our REDCap system. We are anticipating recruiting around **100 patients over a period of 18 months** and presenting our data at national/international conferences (e.g. AKE, ESPEN, World Congress of Psychiatry). Biological samples collected during this study would form the basis for future projects facilitating collaborations/publications.

Resources & enablers

The requested MNI grant (€40,000) will be used to support a **clinical research coordinator/medical student** (€15,000); provision of additional **food and preparation** of optimised study meals (€10,000); resources, data analysis, supervision/**project management** (€10,000) and **dissemination** (publication, conferences), additional costs (€5,000), coordinated by the project team. Furthermore, the project is being **supported by internal seed funding**, covering collection and storage of biological samples. All additional tasks including general research framework and ethical approval are underway.

Results, expected outcomes & impact

Our study will **integrate** standardised **malnutrition diagnosis** into **psychiatric inpatient care** and facilitate the implementation of a practical, low-cost adjunctive **dietary treatment** that would **improve depressive symptoms** in MDD patients, directly contributing to their nutritional and psychiatric care. Findings from our intervention may **support routine GLIM screening** and **hospital meal optimisation** as adjunctive strategies **for improving depressive symptoms** in clinical practice, enabling clinicians identify MDD patients with malnutrition and promptly offer them a dietary treatment that would **enhance patient outcomes.**

We would also be able to provide much needed information about the **health economic benefits** of adjusting **hospital meals** and **compliance** with **clinical nutritional therapy**. We are unaware of similar strategies at national level, and we believe that this project has the potential to be **replicated nationally or internationally**. Finally, we are committed to **support medical students/health care professionals** to gain key research skills within clinical nutrition.

X **Please tick to confirm the PEN letter of endorsement is attached. Incomplete submissions will not be considered.**