

**Method:** A systematic literature review (using PRISMA guidelines) identified factors associated with the development and severity of AWS used to develop a 10-item scale to predict alcohol dependent patients at risk for developing complicated AWS (i.e., seizures and DT). We prospectively recruited all consecutively hospitalized subjects to the general medicine units over a 3-mo period to test PAWSS' validity and reliability. Subjects were independently and blindly assessed daily with PAWSS, CIWA-Ar, and clinical monitoring throughout their admission to determine the presence and severity of AWS.

**Results:** 409 patients were tested and grouped by PAWSS score: Group A included those with a PAWSS < 4 and were considered to be at low risk for AWS; while subjects in Group B obtained a PAWSS > 4 and were considered at high risk for complicated AWS. Two patients in Group A experienced elevated CIWA scores or were treated for AWS. As predicted, all but two subjects in Group B required pharmacological treatment for AWS. The results of this study suggest that, using a PAWSS cut-off of 4, the tool's sensitivity is 93.5%, specificity is 99.5%, positive predictive value is 93.5%, and negative predictive value is 99.5%.

**Conclusion:** PAWSS appears to have excellent psychometric characteristics and predictive value among medically-ill in-patients, helping clinicians identify those at risk for complicated AWS and allowing for timely prophylactic treatment. The use of PAWSS will minimize the excessive use of medications in those at low risk for complicated AWS, thus minimizing undesirable side effects.

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### Neuroimaging of the joint hypermobility syndrome: The role of interoception

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**Background:** Joint hypermobility, an expression of a common variation in the connective tissue protein collagen, is increasingly recognized as a risk factor to anxiety, pain, fatigue and related disorders (including anxiety disorders, fibromyalgia, irritable bowel syndrome, temporomandibular joint disorder). However the neural underpinnings of these associations still remain unclear. This study explored brain responses to facial visual stimuli with emotional cues using fMRI techniques in general population with different ranges of hypermobility.

**Method:** The final sample consisted of fifty-one non-clinical volunteers (thirty-three women) that were assessed with a clinical examination for hypermobility, completed state and trait anxiety questionnaire measures and performed an emotional face processing paradigm during functional neuroimaging.

**Results:** Trait anxiety scores significantly correlated with state anxiety and hypermobility scores. BOLD signals of the hippocampus positively correlated with hypermobility scores for the crying faces versus neutral faces contrast in ROI analyses. No results were found for any of the other preselected regions of interest (ROIs, previously described as important affective processing regions). However, hypermobility scores were associated with key affective processing areas (i.e. the middle and anterior cingulate gyrus, fusiform gyrus, parahippocampal region, orbitofrontal cortex and cerebellum) in the whole brain analysis.

**Conclusion:** Hypermobility scores are associated with trait anxiety and higher brain responses to emotional faces in emotion processing brain areas (including hippocampus) described to be linked to anxiety and somatic symptoms. These findings increase

our understanding of emotion processing in people bearing this heritable variant of collagen and the mechanisms through which vulnerability to anxiety and somatic symptoms arises in this population.

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### The impact of baseline and persistent symptoms of depression and anxiety on long-term physical health outcomes and response to treatment in rheumatoid arthritis

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**Background:** Mental disorders are highly prevalent in rheumatoid arthritis (RA) and are associated with poorer physical health outcomes in cross sectional studies. The aim of this analysis is to examine the longitudinal impact of symptoms of depression/anxiety on treatment response and long-term physical health in rheumatoid arthritis.

**Method:** Secondary analysis of clinical trial data was performed. Data were collected at baseline and at 6-monthly intervals for 2 years. The EuroQol (EQ-5D) identified depression/anxiety symptom severity. Our primary outcomes of interest were 1) disease activity (DAS-28) and its components: tender and swollen joint counts, patient global assessment and erythrocyte sedimentation rate (ESR); and 2) physical disability measured via the Health Assessment Questionnaire (HAQ). Secondary outcomes were assessor global assessment (AGA), Larsen score, pain levels, and odds of reaching clinical remission. Multi-level models assessed the impact of baseline and persistent depression/anxiety on outcomes over 2-years.

**Results:** Data from 379 patients were included. After adjusting for covariates, baseline depression/anxiety symptoms were associated with increased tender joint counts (TJC) and DAS-28 outcomes. Persistent depression/anxiety symptoms significantly predicted increased DAS-28, HAQ, TJC, patient and assessor global assessment, pain, reduced Larsen scores, and reduced odds of reaching clinical remission at 2-years. Patients with symptoms of depression/anxiety at baseline had a reduced treatment effect of prednisolone on HAQ by almost half, in comparison to patients with no symptoms of depression/anxiety at baseline.

**Conclusion:** Baseline and persistent symptoms of depression/anxiety predict several objectively- and subjectively-measured physical health outcomes over time, as well as substantially reducing prednisolone treatment response. We suggest that mental health should be routinely measured both in clinical practice and in research, and managed alongside rheumatological disease to optimise health outcomes. Further research is required to examine whether treatment of mental disorders can improve rheumatological outcomes.

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### Association between anxiety and depressive symptoms with metabolic syndrome in primary care: Results of an Italian cross-sectional study involving outpatients

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**Background:** Metabolic syndrome (MetS) is a heterogeneous entity represented by the coexistence of multiple alterations: abdominal

adiposity, impaired glucose tolerance, hypertriglyceridemia, HDL hypocoesterolemia and hypertension. Symptoms of anxiety and depression are frequently comorbid with MetS. Aim of the present study was to measure the association between symptoms of anxiety and depression with the five criteria of MetS in outpatients attending GPs' practices.

**Method:** This is a cross-sectional study, involving male and female patients aged 40–80 attending five GPs' practices within one month in Modena, Northern Italy approved by the local Ethical Committee. All patients were screened for the presence of MetS and depressive/anxiety symptoms, using the Hospital Anxiety and Depression Scale. Exclusion criteria: age <40 or >80; use of antidepressants or antipsychotics; previous stroke, heart attack or cardiovascular disease; diagnosed psychotic or mood disorder (according to the DSM-IV-TR); diabetes; pregnancy; hereditary disease linked to obesity. All data were adjusted for socio-demographic confounders. Multiple logistic analysis performed with STATA 13.0.

**Results:** 128 subjects were enrolled in the study (55 men and 73 women), 48 presented with MetS (ATP-III-Revised criteria). MetS was associated with depression only in the female group (OR = 6.33,  $p = 0.01$ ), also when adjusting for age (OR = 5.13,  $p = 0.02$ ). MetS was not associated with anxiety in both males and females, and with depression in men. Among the individual components of MetS, only waist circumference was associated with anxiety in the female group (OR = 4.40,  $p = 0.04$ ) also when adjusting for age (OR = 4.34,  $p = 0.04$ ).

**Conclusion:** Women aged between 40 and 60, presenting with MetS and attending the primary care services should be regularly screened for the presence of depression. Chronic systemic inflammation could represent the biological link between MetS and psychological symptoms. Further researches are needed to better clarify this possible relation.

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### PHQ-2 and GAD-2 scores predict mortality in patients undergoing oral anticoagulation

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**Background:** The typical patient needing long term oral anticoagulation is elder and highly comorbid. Elevated symptoms of depression and anxiety are highly prevalent in chronic medical conditions. However, studies are sparse investigating the impact of elevated depressive symptoms on patients undergoing term oral anticoagulation (OAC). Therefore, we examined in outpatients with long term oral anticoagulation (OAC) whether symptoms of depression and anxiety are associated with all-cause mortality.

**Method:** For determining depression and anxiety we applied the PHQ-2 and GAD-2 respectively. The sample comprised  $n = 1384$  patients from a regular medical care setting receiving long-term OAC with vitamin K antagonists. At baseline, symptoms of anxiety and depression were assessed with the PHQ-2 and GAD-2. The past medical history was also taken. The outcome was all-cause mortality in the 24 months observation period.

**Results:** The mean follow-up period per patient was 15.8 months with a standard deviation of 7.9 months. The death rate was 13.8%; 191 patients from  $n = 1384$  died. Clinical significant depression as determined by PHQ-2  $\geq 2$  was associated with a 51% increase in mortality (hazard ratio [HR] 1.51, 95% confidence interval [95%CI] 1.12–2.04) after adjustment for age, sex, high school graduation, partnership, smoking, obesity, frailty according to the Barthel Index, Charlson Comorbidity Index and CHA2DS2-VASc score. Anxiety as determined by GAD-2  $\geq 3$  increased mortality by 65% respectively (HR 1.65, 95%CI 1.08–2.52) in the fully adjusted regression model. In contrast with current symptoms of depression and anxiety a past medical history of any mental disorder did not predict excess mortality.

**Conclusion:** The ultra short screening instruments, PHQ-2 and GAD-2, provide valuable prognostic information. These results emphasize the need for implementing regular screening procedures and the development and evaluation of appropriate psychosocial treatment approaches for OAC patients.

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### Physical activity and cognitive functioning in patients undergoing bariatric surgery

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**Aim:** To investigate the relationship between daily physical activity (PA) and cognitive performance in extreme obesity.

**Method:** Seventy-one participants (77.5% women) with a mean body mass index (BMI) of 46.9 kg/m<sup>2</sup> (SD 6.0) and a mean age of 41.4 (SD 11.9) years completed Sense Wear Pro2 activity monitoring for a period of seven days. Neurocognitive functioning was assessed by a computerized test battery, including tasks of executive function (Iowa Gambling Task), visuospatial short-term memory (Corsi Block Tapping Test) and verbal short-term memory (Auditory Word Learning Task). Furthermore, questionnaires assessing eating disturbances and depressive symptoms were administered. Somatic comorbidities were assessed by medical chart review.

**Results:** Physical activity level in the sample was low with mean steps per day within wear time being 7140 (SD = 3422). The majority of participants were categorized as sedentary (31.0%) or low active (26.8%). After adjusting for multiple testing, no significant association between PA estimates and cognitive performance was found. Lower PA was modestly correlated with higher BMI but not with age, somatic comorbidity or depressive symptoms. Group comparisons of patients with (29.6%) and without (70.4%) regular binge eating did not reveal significant differences in PA or cognitive function.

**Conclusion:** The findings indicate no association between daily PA and neurocognitive performance in morbidly obese patients. Future studies should explore the relationship between the variables with regard to a broader BMI range and with respect to potential changes after substantial weight loss due to bariatric surgery.

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### A systematic review of the current barriers to diagnosing somatoform disorders in primary care

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